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## ANNUAL REPORT ON THE

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1926-27.
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## ANNUAL REPORT

OF THE

# DEPARTMENT OF AGRICULTURE AND STOCK 

FOR

## THE YEAR 1926-1927.

PRESENTED TO PARLIAMENT BY COMMAND.

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# REPORT OF THE DEPARTMENT OF AGRICULTURE AND STOCK FOR THE YEAR 1926-27. 

TO THE HONOURABLE THE SECRETARY FOR AGRICULTURE AND STOCK.

Sir,-I have the honour to present herewith my Report for the year ended 30th June, 1926.

Seasonal conditions in the course of the year under review served to demonstrate more strongly the inter-dependence of the agricultural and pastoral industries of Queensland. The failure once again of the normal wet season in certain of the pastoral areas created an extraordinary demand for farm produce as stock foods, both in bulk and concentrated form. High prices for fodders were the rule, and these, in the circumstances, often far exceeded their true economic value. Graziers in the dry country were faced with the necessity of keeping their stock alive at almost any cost, and this had naturally an important influence on the farming industry. A corollary of this condition and its possible cyclical recurrence is that, in districts suited to agricultural development by modern methods of cultivation, more land will be brought into production and cropped primarily for stock foods.

The dependence of districts of low annual rainfall and restricted water resources on more favoured regions for fodder supplies in dry times became more and more evident in the course of the year. This fact must influence largely agricultural development along the lines of fodder production and conservation, and become no inconsiderable factor in the extension of land settlement in the State.

An example of this inter-relationship of our more important rural industries was provided in the North, where the bulk of the season's maize yield, which approached the millionbushel mark, went to relieve the shortage of sheep feed in the Central-Western areas. The maizegrower experienced the satisfaction of a settled and insistent demand for his grain.

In the wheat belt the season was unsatisfactory, lack of timely rains being responsible for reduced yields. Crops that failed to reach maturity, however, proved of excellent green-feed
grazing value for dairy cattle and, to a lesser extent, sheep. There was a slight increase in the area cultivated, and the methods employed were generally satisfactory. The Maranoa district was more fortunate than the Darling Downs in respect to rainfall. On the Downs, precipitation was light generally, and at no time in the course of the growing season was anything like a good soaking rain recorded.

An examination of rainfall figures for several centres in the wheat belt for 1926, covering the land preparation and growing periods, will give some idea of the severity of a season in which the rainfall was much below the average.

The quality of the grain grown in the Maranoa district was exceptionally good. A sample of "Watchman" wheat, a variety bred at the Roma State Farm, reached the extraordinary weight of 68.2 lb . per bushel. Quickmaturing varieties were the more dependable on the Downs, and made better use of the limited moisture available.

As an outcome of a conference between representatives of the Department and the Wheat Board, it was decided to continue the premium system for seed wheat grown under the supervision of field officers of the Department. In the report of Mr. Clydesdale, Assistant Agricultural Instructor, appended hereto, details of the season's work in this connection are recorded. The linking up of the wheat-breeding operations conducted at the Roma State Farm with the activities of the Departmental Field Staff is, it is satisfactory to observe, having a beneficial influence on the industry. The seed wheat improvement scheme is producing useful results.

Planting conditions for the 1927 wheat crop were not altogether favourable. Generally, a fair germination was reported, but in some localities a deficiency of subsoil moisture was evident.

The season for early maize was too dry in its first months to ensure a full yield. It was December before useful rainfall occurred. A
good germination resulted from December and January plantings. The February rainfall in the maize districts was somewhat patchy, but March and April gaugings were more general. By May, which was a dry month, the grain had become set and a fairly satisfactory harvest assureā. Though some good yields were obtained, the aggregate returns for the season were just about the average.

As maize is cultivated more or less from the Tweed to Atherton, districts over 1,000 miles apart, seasonal variations were naturally considerable. A cyclone in the second week of February caused serious crop damage on the far Northern Tableland, forward crops being levelled to the ground. In some localities there was a partial recovery, however; later planted maize survived the effects of the blow. A crop survey in May made plain that the general damaging effect of the cyclone was considerable. Excessive rain and insufficient sunlight induced, in addition, the forming of mould in the Northern field crops.
The report of Mr, McKeon, Assistant Agricultural Instructor, which is among the appendices hereto, contains much detailed information respecting the improvement of seed maize, a work in which this officer is specialising. The evidence of improvement in type, quality, and yield of varieties produced from seed supplied by the Department under the existing scheme is indisputable. That this is recognised by farmers is shown by the regular and strong demand on the Department for seed of improved varieties.

Promising results have followed an effort to evolve a variety to suit the peculiarly moist conditions of the Atherton region. Until this variety-"Durum maize"-has been tried out completely on jungle lands, the evidence in its favour as a type particularly adaptable to the wet climate of the North, conclusive evidence of its value will not be available. On the isolated forest-land area chosen as the propagation centre the results were, however, very encouraging. Yield comparisons on unmanured control plots at Burnside Seed Propagation Farm showed that the new variety returned 61.33 bushels per acre, while local seed on three experiment plots in other portions of the district returned 44.46 bushels on forest and 33.33 and $33 \cdot 15$ bushels on jungle soil, respectively. What was of greater significance, however, was the comparative freedom of the ears of "Durum" from Diplodia fungus. Careful examination showed that on three of the Departmental maize plots planted with local seed the respective percentages were $2,7.9$, and 11.7 , whereas "Durum" showed only 0.7 per cent.

Peanuts are being cultivated more extensively in the South Burnett, where the cultivation of this legume already covers several thousands of acres. The returns from this activity should constitute a record for Queensland. Excellent farming, which is an essential of success, is a feature of the peanut fields around Kingaroy and other centres in the same region. The value of this good husbandry was made manifest during an unusually dry spring. The harvest was good, and the product is being marketed on the co-operative principle under the control of an elected board. Under helpful administration and effective tariff protection this new rural industry is being established firmly. Fertilising, spacing, and variety trials were carried out by the Department in suitable localities in the course of the year. Attention is also being given to the question of peanut and maize rotation in the same district.

Under the oversight of the Departmental Manurial Experiments Committee useful investigation in the application of fertilisers is proceeding. Pasture improvement experiment plots have been established in suitable districts, and the outstanding feature of the trials entered on is the pronounced improvement in growth, appearance, and yield of succulent grasses on ploughed plots as compared with those unfurrowed. Generally, results of fertiliser topdressings were negative. Extension work on contiguous lands is planned for the approaching season. Details are set out in supplementary reports.

Crop experiment work has also claimed a full measure of attention, and good results are accruing from the efforts of the field officers engaged. The Northern Instructor in Agriculture reports good progress in the trial cultivation of many varieties of English potatoes within his territory; and also in extending the cultivation of wilt-resistant tomatoes, particularly in the Bowen district, which has an important commercial connection with Southern markets.

Cassava cultivation for the production of power alcohol is receiving attention. The work of testing varieties of this and other plants of high starch content and other related investigations are proceeding. The opening of the Power Alcohol Factory at Sarina in the course of the year marked an important step forward in the economic development of the State.
In Southern Queensland the Instructor in Agriculture has obtained good results from fodder experiment plòts, which are set out in detail in an appended report.

A remarkable acreage increase of Sudan grass, a fodder plant introduced by the Department a few years ago, and which soon became popular on account of its hardy habit and general suitability to Queensland conditions, is also recorded.

At this year's Royal National Show at Brisbane the Department again staged its annual display of primary products-tropical, subtropical, and temperate-together with examples of the work of its scientific and technical services. Its agricultural extension efforts and effective publicity agencies were also illustrated in its own Court.

## The Sugar Industry.

Due to the severe dry time in 1926 the yield of sugar was considerably less than that manufactured in 1925. The dry weather principally affected those districts south of Townsville, the crops at Bundaberg, Childers, and Moreton being light, while other districts south of Townsville also showed a falling off in production. The crops from Cairns to the Herbert River, however, were good.

The total area under cane in 1926 was 266,519 acres. This was about 3,000 acres less than the total area cultivated in 1925, and the first reduction for some years, as the acreage had been increasing every year from 1920, when it was only 162,619 acres.

The area from which cane was crushed in 1926 was 189,312 acres-practically the same as in 1925.

The tonnage of cane per acre, 15.45 tons, was not so high as in 1925, when it was 19.36 tons. The yield of sugar per acre was 2.06 tons in 1926 and 2.56 in 1925.

The total amount of cane harvested reached the figure of $2,925,662$ tons, from which 389,272 tons of 94 net titre raw sugar was made. The cane harvested in 1925 was $3,668,252$ tons, giving a yield of 485,585 tons of raw sugar and constituting a record for Queensland.

The quantity of cane taken to marufacture 1 ton of sugar was 7.52 tons. This figure is to an extent the index of the efficiency of the sugar mills, and has greatly improved in recent years, but it is also due to the better varieties of cane now grown by the farmers. This phase of the work is assisted by the Regulation of Cane Prices Act and the Bureau of Sugar Experiment Stations.

The yield of sugar in 1926 being larger than the Australian consumption, it was necessary to export 74,777 tons, but this was 136,223 tons less
than was exported in 1925. The price per ton of sugar paid to the mills was $£ 2410$ s. 10d., as against $£ 19$ 10s. 7 d. paid for the 1925 crop. The percentage of the sugar made which went into home consumption was 81.3242 , and the net value of the surplus sugar exported was $£ 14$ 18 s .10 d . per ton. It is satisfactory to note that this was a much better price for export sugar than was received in 1925, when it was only £11 5s. 9d. per ton.

The estimated consumption of sugar in Australia is now stated to be some 330,000 tons.

The production of molasses in 1926 was about $14,500,000$ gallons, of which $4,748,000$ gallons were run to waste. The manufacture of power alcohol from waste molasses, however, has now been commenced, and commercial power alcohol is being turned out at the National Power Alcohol Distillery at Plane Creek, near Mackay.

The utilisation of the fibre of sugar-cane, which is now burnt as fuel in the sugar mills, is also to be taken in hand for the making of a building board known as "celotex." This manufacture has been profitable and successful in the United States.

The outlook for the present season from a climatic standpoint is good. The dry spell in the sugar districts broke up in December of last year, and all the sugar districts received good rains. Unfortunately, the heavy rains in February last on the Herbert River caused severe floods, attended by considerable loss of life and much damage to property. Some damage to cane was also done in the cyclone at Cairns in the same month.

The work of the Sugar Experiment Stations connected with this Department continues to expand along agricultural, chemical, entomological, and pathological lines. The Sugar Experiment Station at. South Johnstone has been for some years past engaged in the direction of raising varieties of cane from the seed found in the arrows. This important work requires the utmost care and skill. Several of the new seedlings raised are of high promise as croppers and sugar producers. Work at the Station also comprises the study of soils, cultivation, and fertilising. Investigation and research work in connection with many serious insect pests of the sugar-cane is carried out at Entomological Laboratories at Meringa, near Cairns, and Bundaberg. It is hoped to establish a Pathological Laboratory next year, and in the meantime officers are advising farmers as to the control of diseases in cane. The location of Fiji disease in sugar-cane in Southern Queensland is a very serious matter, and steps have been taken
to confine this disease to South-eastern Queensland and to eventually eradicate it. A proclamation forbidding the transfer of plants in the infected areas without permission was issued last October, and officers have been set aside to grant the necessary permits where they are satisfied that the cane is clean.

A complete report of the activities of the Sugar Bureau will be published later in the year as statutorily provided.
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## State Farms.

At Gindie the water question was a very live one in the course of the year, the rainfall and its distribution being much below the average. Notwithstanding seasonal severity stock losses from all causes were remarkably low, and had the September showers been succeeded by a good soaking downpour, these losses would have been even smaller. All the stock is in good condition. The value of native grasses in their droughtresistant properties particularly was demonstrated over the whole of the holding. Fodder conservation was practised to vast advantage. The value of ensilage as a succulent supplement to parched pastures could not have been demonstrated more impressively than it was on Gindie. The Shorthorn stud maintained its high standard, and continues to be popular as a source of general district herd improvement.

It was observed that among the heavy horses the Suffolk Punches were more thrifty under adverse conditions. Field operations were affected rather seriously by the general seasonal setback, but as a result of careful husbandry some useful fodder crops were harvested. Stock from the farm exhibited successfully at the chief district shows kept up their high ring reputation.

At Roma good soaking rains gave the 1926 wheat crop an excellent start. An opportune downour at the end of September ensured well-filled grain, and this was reflected in the high bushel weights recorded on delivery. The highest officially declared weight per bushel68.2 lb .-was for Watchman wheat, a variety bred at and distributed from this farm. The scientific and technical side of the farm operations were satisfactory. The work in the selection and fixation of a large number of crossbred wheats was advanced sufficiently to arouse optimism in respect to a number of varieties now available for extension work, both at the farm and in other chosen testing fields. The production of pure strains of seed of standard commercial varieties in conformity with the
departmental wheat improvement policy was continued. Field research work was also carried out satisfactorily according to plan.

At Kairi good field work was accomplished, and the value of economical farm and animal husbandry demonstrated. There the dairy stock has been brought to a high plane of production, and this fact has directed attention to the farm stud as an accessible source of district herd improvement. Pig breeding is also proving a profitable activity on the farm from all points of view.

Progress in experimentation and field practice marked the year's work at Home Hill. In addition to cane, several varieties of maize were also grown either experimentally or by way of demonstration. Other crops were also grown for similar purposes. Economic production tests were also worked out. Tomatoes gave good promise commercially. Costs, including irrigation, were checked at just over £10 per acre as against a return of $£ 2510 \mathrm{~s} .7 \mathrm{~d}$. per acre. The cultivation of lucerne and the production of citrus and other suitable fruits were also included in the successful farm operations for the year.

## Cotron.

The transitional stage in the development of cotton growing in Queensland has now been entered. Last season was the terminating one under the system of Government guaranteed advances. The marketing arrangements are now controlled by a Pool Board, which is responsible for the handling of the crop on its rail delivery and its financing and disposal. The work of seed cotton and lint grading, and the maintenance and supply of pure seed is performed by the Department; the interests of the farmers are thus conserved. The present season marks the inauguration of a system of Commonwealth bounties on seed cotton and on cotton yarn manufactured in Australia. Under this system the Pool Board has been able to sell the whole of the season's crop within the Commonwealth at appreciably higher prices than could be obtained overseas.

Selling direct to the mills the Board, too, has been able to ensure a greater return to the grower. Other phases of cotton economics are covered by the Cotton Specialist in his detailed report which is submitted herewith.

The cotton grower, in the course of the year, met with the most extreme combination of elimatic conditions that he has experienced since the revival of the industry in Queensland in 1919. The lightness of winter rains generally
made field work both difficult and expensive. Dry conditions continued until the end of September, when light to medium rains occurred over most of the cotton sections. From then on there was practically no more rain until midDecember when precipitations were bountiful and general over the cotton belt. January rainfalls were heavy, amounting to as much as 15 inches for the month in some of the sections. Mid-February was hot and dry, but March was marked with copious rains over nearly the whole of the cotton areas. Later precipitations were lighter. It is obvious, then, that cotton-growing was subjected to a fairly severe test as to its cultivable suitability in the inland regions under heavy rainfall conditions. Results indicate, as a whole, that cotton can be grown with profit in these areas under such conditions.

Experiments and results over the previous five years demonstrated thoroughly the value of cotton as a dry-weather crop. The experiences of the past season indicate certainly that good yields may be obtained under conditions of heavy rainfall. It has been shown that the cotton plant will yield well over a series of seasons in the main regions selected for its cultivation in Queensland. It requires but the careful observation of demonstrated methods of cultivation to make cotton growing a profitable enterprise, bearing favourable comparison with other forms of agriculture conducted in what is called the cotton belt.

A dry winter and early spring affected decidedly ultimate yields in divisional areas. Insect damage also affected returns considerably. Late-planted cotton failed in some localities as a result of maize grub attack; consequently considerable acreages went under other crops which ordinarily would have remained under cotton. Early-planted crops were successful as a whole, in spite of the unfavourable spring. Round about Mundubbera in the Central Burnett especially good pickings came from early-planted crops, some growers obtaining as much as $1,000 \mathrm{lb}$. per acre of good quality fibre.

Unfavourable early-planting conditions restricted acreages in the Upper Burnett. Cutworm attack was particularly severe in some sections. Comparatively early hard frosts checked crop development on a number of the alluvial areas; reduced yields were consequently common. Despite unfavourable results, however, interest in cotton-growing in that division has been maintained and a considerable acreage . increase there, as elsewhere, is in prospect for the coming season.

The Callide Valley again demonstrated its capacity for producing heavy crops against
hard-growing conditions. The March rains developed bolls which were set in the dry period, with the result that a very heavy crop matured.

Late-planted crops in the Dawson Valley and contiguous territory developed an excellent yield of good-sized bolls, and had the April rains been more generous a much heavier return would have been obtained. The seasonal results in general have proved a stimulant to the industry and extended acreages are anticipated.

Standards of cultivation, in spite of meteorological disadvantages, have been improved and good farming practice was generally applied.

When complete returns are computed it will be found that the cotton yield for the whole of the State is the lowest of any received in recent years. This is explained by the erratic season and the industrial uncertainty which marked the transitional period between Government and Pool Board control. Low world's cotton prices, lack of understanding of the situation, and pessimism as to probable financial returns all contributed to acreage restriction. The unfavourable planting conditions increased this tendency, with the result that only 21,161 acres were planted by 2,351 growers. Climatic effects and insect attack reduced this acreage. The estimated ginning for the year is $6,964,368 \mathrm{lb}$. as compared with last season's total of $9,007,022 \mathrm{lb}$.

From these figures it might be deduced that the industry is losing favour. It is stressed that the position outlined is due largely to the transitional effect already mentioned. Present prices and prospects are having a stimulating effect, and in nearly all the main cotton-producing regions a decided feeling of optimism prevails. This is further strengthened by a widespread belief that a return of good seasons is at hand. The June rains of this year have induced a thorough seed-bed preparation, and a decidedly larger acreage will, it is believed, be planted for the coming season.

Satisfactory field and laboratory work was carried out at the Callide Cotton Research Station. This work was affected, of course, by weather vagaries. From bulk plantings, despite dryness at critical stages in development, by the same methods employed in similar work of the previous season, returns varying from 925 to $1,473 \mathrm{lb}$. of seed cotton per acre were received. The condition of the present season's plots indicate that yields ranging from 703 to 1,708 lb . of seed cotton per acre, with most of the early-planted plots ranging round $1,000 \mathrm{lb}$., are in prospect.

Pure-seed propagation was also continued with satisfactory results. The "bulk selected" breeding plot again produced a good crop averaging per acre $1,224 \mathrm{lb}$. of seed cotton. The breeding work in the progeny block was carried on, but with no remarkable results.

The development of locally-adapted strains of Durango and the breeding of uniform lots of seed of other cottons for testing with this variety also engaged attention. The Acala variety investigations are also proceeding.

Experimental plots have been increased, and each season this phase of departmental policy is becoming more valuable.

The development of cotton-growing in the State has further increased the activity and value of the grading staff.

The length and strength of the fibres of the season's crop have, as a whole, been decidedly better than those of any crops grown in the past five years. A very fine quality lint has been produced in nearly every district where conditions were at all favourable to the production of an average crop.

The extent and value of entomological effort in respect to the industry may be appreciated by a perusal of the details in the accompanying appendix.

## Fruit.

The year was a fairly satisfactory one to the fruitgrower. As in other branches of primary industry, the season was not altogether favourable, and this was reflected in banana and citrus crop returns. The quality of the latter, however, showed a notable improvement.

Banana prices were well maintained. In marketing arrangements there is still room for improvement, the competition of three sales organisations suggesting an absence of a true co-operative spirit. There is still a tendency among growers to market immature fruit, and this carelessness as to the true interests of the industry must react to the detriment of the producer, particularly those whose product is protected by the Commonwealth tariff. The industry generally was reasonably productive and remunerative. The total disregard of sound marketing practice in some instances raised the question as to the necessity of fixing maturity standards and insisting on their strict observance.

The industry showed normal expansion, but it still suffers from the wrong classification of unsuitable country as orchard lands by com-
mercially-interested people. This system of unregulated land-selling and mis-description of soil capacity makes the elimination of inferior fruit production increasingly difficult. Not only does the unsophisticated purchaser suffer, but fruit-farming generally is affected adversely by the optimism of the persuasive salesman whose interest in the deals ends with the collection of his commission.

Arrangements were made for propagating a limited number of citrus and other varieties of tested merit to overcome the economic loss following the planting of unproductive trees in new orchards. The Department arranged for bud-wood supplies from approved trees for this purpose.

Due attention was given to cultural methods by means of demonstration plots; also to scientific measures respecting the control of pests and diseases.

Banana-growing is extending steadily, despite some besetting difficulties, and, in values, still leads, particularly in respect to the export trade. Northern plantations are increasing, and there bunchy top, which made its appearance in one or two localities, has apparently been eradicated. In the South, however, that disease has not been checked with the same degree of success, but where growers have recognised their own responsibility it has been demonstrated that control measures are reasonably applicable and ultimate eradication possible.

Banana weevil borer investigations are proceeding, and substantial inducement has been offered by the Committee of Direction of Fruit Marketing towards the discovery of an economic remedy for this imported pest.

The industry generally was marked by reasonable progress, and there is no reason why it should not continue to be a substantial factor in the successful settlement of small holders in profitable rural enterprise. This, of course, is dependent largely upon the continuance of the embargo against the importation of the product of coloured labour.

To Queensland is due the credit of raising the first entirely seedless orange of prime quality. In the citrus section, as in other branches of fruitgrowing, the marketing of inferior fruit affects seriously its general prosperity.

Regular and reliable marketing conditions have brought about a further improvement in pineapple prices and consequent extension of the cultivation of this fruit. Excellent quality throughout marked the season's output.

Deciduous fruit growers in the Granite Belt experienced a fairly good season, but there is still an urgent necessity of accepting the fruitfly problem seriously and directing widespread action against it.

The dryness of the season affected production of other fruits, but compensation for reduced yields was found in increased prices.

General marketing conditions have improved; and this more satisfactory state of affairs has been influenced largely by the activities of the Committee of Direction of Fruit Marketing both in the home and interstate trade.

## Dairying.

An unfavourable season was experienced in most of the dairying districts of the State. The first half of the term was dry and conducive to minimum milk yields; it was mid-December before substantial relief came in the form of good general rains. From then on rapid recuperation of natural pastures enabled dairy cows to recover condition, with the result that present prospects are encouraging.

Fodder conservation, both in stack and silo is now more extensively practised, and dairymen are coming to recognise more readily that systematic storage of stock foods is essential to their success. The national economic aspect of this ordinary provident measure is also becoming more widely appreciated by the stockowners of the State.

Dairying has become one of the most important of our primary enterprises, its present annual value being well over six millions sterling. Steady extension, particularly in newly-settled areas, is characteristic of the industry.

The adoption of a uniform brand for all choice dairy products of the Commonwealth has proved of immense benefit.

Improvement in quality, grades, and manufacturing processes is gratifying evidence of industrial betterment. Our choice butters have merited a reputation second to none in keen competition with the products of other States, New Zealand, and Denmark. The question naturally arises: Why do we not secure the same place continually on the oversea markets? The answer is that other competing countries, notably New Zealand and Denmark, produce a higher percentage of choice butter, and little, if any, butter of second or lower grades. The moral is
obvious- the production of second or lower grade butters is detrimental to the dairying industry and our reputation as a dairying country. Its sale overseas must influence prejudicially our produce on our more important markets outside the Commonwealth. With the co-operation of all engaged in the industry it is anticipated that the difficulty created by the output of any product but the best will be soon overcome.

Rapid rail and motor delivery, where available, has benefited the industry immensely and an extension of this service, influencing as it does the quality of the manufactured product, is advocated where possible.

Butter export returns show a decrease of $13,779,853 \mathrm{lb}$.; this is accounted for by the seasonal circumstances of the first six months of the period, to which is also attributable the decline in the export of cheese of $2,937,859 \mathrm{lb}$.

It is satisfactory to report that 35 per cent. of our butter manufactured during the past year graded over 93 points, as against only 8.3 per cent. for the previous year, 1925-26. This is gratifying and is substantial evidence of sound improvement in our processes of manufacture.

Another satisfactory feature of the year's operations was the position attained by Australian ("Kangaroo" brand) butter on the London market. It was quoted to within a few shillings of the value of New Zealand butter and, on occasion, reached the price of the Danish production. The London values for "Kangaroo" butter varied per cwt. from 149s. 3d. to 171s. 6 d .

Cheese-making was confined chiefly to the Downs, where sixty-six factories are operating out of a total of seventy-three registered in Queensland, which is the largest cheese-producing and exporting State in the Commonwealth group.

In interstate competitions Queensland butter and cheese were awarded the highest position of merit, this despite the fact that seasonal conditions over most of the year were unfavourable to high-grade production.

Most dairy farmers are alive to the necessity of first-quality deliveries to the factory, but their efforts are discounted, to some extent, hy the careless producer.

The principle of milk pasteurisation is being applied gradually, and its application should become general. The result should be uniformity in the product, which should have a strongly beneficial market effect, particularly overseas.

Milking machines are coming more into general use, and as their operation calls for particular care and cleanliness, special attention has been given to instruction in ordinary sanitary principles relating to such equipment.

Instructional work was carried out efficiently by the dairy staff in the course of the year. Numerous applications were received for the services of departmental dairy instructors, who gave valued assistance towards improving methods and in other matters bearing on industrial improvement and efficiency.

Systematic inspection of all factories, cold stores, and dairy premises was carried out to advantage.

The operations of the Butter and Cheese Boards exert an important and beneficial influence on dairying economics.

Further progress towards the adoption of a uniform system of grading and pointing of dairy products was made, and it is expected that the negotiations will be advanced to finality this year.

Progressive dairymen throughout the State have recognised the importance of systematic herd-testing, but the ruling dry weather was against a very great extension of this work, of which details are appended.

## Pig Raising.

Pig-raising is receiving much greater attention in the dairying and diversified farming districts than formerly, largely as a direct result of an intensive instructional campaign carried out by officers of the Department. As in other rural callings, progress was checked by the prevailing rain shortage, but when more normal conditions returned the industry received a distinct impetus. Better prices for all grades of porkers and baconers materially improved industrial prospects. The industry is regarded as still in its infancy, though eight bacon factories are in operation, some slaughtering as many as 1,000 pigs a week.

The Pig Clubs established under a scheme of co-operation with the Department of Public Instruction now number more than sixty. They are proving useful auxiliaries in the work of improving breeding and general husbandry standards.

There was observed a considerable improvement in the type and quality of pigs coming forward for factory treatment. Generally the quality of pig products, which are worth to the

State nearly a million and a-quarter pounds sterling annually, has improved to such an extent as to bear very favourable comparison with those of other States. Another phase of the industry which is receiving increased attention is frozen pork for export.

The pedigreed pig studs at the several State farms continue to show good returns. The improved strains of pigs distributed from these farms are, it is believed, having no small influence as a factor in animal husbandry in the districts which they serve.

## Poultry Raising.

Poultry keeping is now claiming much more attention, both as a specialised industry and as an adjunct to other branches of farming. Good results have followed the Departmental activities of recent years and with improved marketing arrangements, particularly in respect to the export trade, the industry has been placed on a sounder and more profitable basis.

Expectations in regard to overseas sales were not realised, however; this was due to a combination of circumstances on the English market which are unlikely to recur. This year it is probable that Queensland's export business will be practically doubled.

The development of the oversea trade had the effect of relieving the home market considerably. The speculative element, however, was not absent from export shipments, and this was not altogether to the advantage of the producer.

With better organisation covering efforts to increase the per capita consumption at home, poultry raising is becoming one of our most stable country callings. It is obvious, as with other of our primary industries, that really more substantial results will accrue from the stimulation of a stronger home demand.

The question of a general agreement among producers as to egg standards was prominent in the course of the year, and efforts towards that end are being continued.

Prices for both eggs and table birds were regarded as fairly satisfactory. Production costs were heavy, but this was largely due to the seasonal setback that affected agriculture in Queensland generally.

One hundred and eighty thousand dozen of eggs were shipped oversea by the Queensland Egg Board; this is apart from the large consignments that went to supply the interstate
trade. Queensland shipments, with the exception of a small New Zealand parcel, obtained, from data at present available, the best average price. This is distinctly encouraging in view of the fact that it was only our third attempt at direct export. Through co-ordination of efforts of merchants and the Egg Board, which was effected in the course of the term, the Queensland egg-selling system should, if the industry is guided rightly, soon be placed in a position more advanced than that of most countries.

High costs of production led to a more rigid culling of flocks, which was not without its advantage to the poultryman, who in one year learnt what the Department has emphasised again and again-i.e.; not quantity alone, but quality is necessary for success in the industry.

Egg production is the Queensland poultrykeeper's main aim and only scant attention is given to the marketing of table fowls.

The quality of the stock compares favourably with any in the Commonwealth, and in egg-laying our records also show well with those of other countries.

## The Division of Entomology and Vegetable Pathology.

Systematic investigation of the problems created by pests and diseases affecting plant life was continued along well-defined lines throughout the year.

Special attention was given to insect pests affecting the banana. The beetle borer still gives gravest concern, and specialised studies are being directed towards the discovery of effective combative measures. Work towards biological control is also in progress.

Perhaps the most important advance in the fruit fly (Chcetodacus tryoni Frogg.) investigation was the successful mating of the fly in captivity. This should have an important bearing on the ultimate success of efforts to control this pest effectively

Much other important work in economic entomology and vegetable pathology, referred to in detail herein, was accomplished by the officers of the Entomological Division in the course of the period under review.

## Bünchy Top Disease in Bananas.

Investigation into bunchy top diseases in bananas, the means of combating this disease, and methods for the eradication of the trouble,
have received the continuous attention of Professor E. J. Goddard, of the Queensland University, and associated scientists, during the past twelve months. Work of a scientific nature has been carried out in the field and in the laboratory by observational and experimental methods, with a view to determining factors in the life-history of the aphis which transmits the disease, and such important points as swarming and distance of flight of the aphid.

Very great attention has been devoted to the field aspect of the problem, and visits have been made to lightly affected and heavily affected areas. It is interesting to record that in lightly affected areas where the advice of the scientific investigator has been followed, the disease has been held in check, and those growers who have reported the disease on its first occurrence, and co-operated with the investigator and the officials of the Department of Agriculture and Stock in discharging the recommendations made in respect of destroying affected stools, and exercising the greatest caution in respect of shifting of suckers, have been able to satisfy themselves that the disease can actually be kept in check. Such growers now view the position with much greater confidence than at the time of their first discovery of bunchy top in their plantations. It can be safely stated that such field experiments as have been carried out in the course of the past twelve months have demonstrated conclusively that if banana growers will all individually discharge their responsibilities in respect of destruction of affected stools, and observe the regulations in relation to the shifting of suckers, avoid planting-up until officially recommended to do so in certain areas, and if a proper cleaning-up of deserted plantations is effected, not only can the disease be checked to such an extent as to render bunchy top a less important disease and little harmful on the economic side, but also the disease can be completely eradicated from Queensland.

It is satisfactory to record that no further cases of bunchy top have been reported from the area north of the Herbert River, and it can now be stated that that area is absolutely free from the disease.

In the kourse of the past year a serious endeavour was made to initiate a thorough cleaning-up of some of the badly affected areas. Meetings of growers were addressed in several centres, and an endeavour made to secure their co-operation in a proper onslaught on the disease. This lead to the elaboration of a scheme which consists in dividing the southern zone of Queensland, which stretches from the northern
boundary of the parishes of Maleny and Maroochy to Coolangatta, and which represents the only part of Queensland in which bunchy top occurs, into a series of small centres. An effort is now being made to work each of these centres, starting simultaneously at Currumbin, the southern extremity of the zone, and Wamuran, its northern extremity, in such a way as to effect a thorough eradication of the disease. It is proposed to work gradually north and south from these respective centres, and eventually to concentrate on the meeting-point of these two attacks-namely, Brookfield. The work is very well in hand at Currumbin, where all but a few growers have completely cleaned their estates. Unfortunately, there is a certain percentage of delinquent growers. The intention is that these growers, on whom orders to clean-up have been served, shall be immediately forced to do their duty.

Early in 1927 three 1-acre plots were planted out at Currumbin with healthy suckers from Bribie Island, and it is interesting to note that whereas in previous years the whole lot of these would have become infected with bunchy top, no more than five cases of the disease out of 900 plants have been recorded. This demonstrates conclusively what can be accomplished through even an incomplete cleaning-up.

As each of the centres is cleansed, several 1-acre experimental plots will be set out in each centre, say, three or four months ahead of the time which it is proposed to recommend to each contre as safe for replanting at the centre. The behaviour of the plants on these plots will make the outlook much more certain. The experiences at Currumbin strongly support this procedure.

Taking Currumbin as a typical centre where bunchy top ravaged the industry and completely destroyed it, it is hopeful when one can anticipate the successful planting-up of that centre possibly as early as February or March, 1928. Whether this will be accomplished or not depends on the action taken towards recalcitrant owners at that centre. With success demonstrated at Currumbin, and the same procedure adopted as is now being done in Professor Goddard's scheme in visiting in succession Tallebudgera, Nerang, Pimpama, Ormeau, and other sections along one line, Wamuran, Moorina, Dayboro, \&c., along another line, there can be little doubt that with firmness and thoroughness the disease can be eradicated, and the industry restored within a very short time in areas where planting-up to-day would amount to complacent over-optimism.

## "Squirter" Disease in Bananas.

Investigations into "squirter" disease in bananas were continued during the year, and much important information bearing on 'the cause of this transport trouble has been gathered. It has been definitely demonstrated that the disease is not due to any organism, and is in no way connected with the happenings in the ripening chambers in the Southern capitals.

Experimental consignments from a number of plantations in Northern Queensland and Southern Queensland have been forwarded to Melbourne by rail and steamer. Those sent by rail represent two-thirds of the consignment from each plantation, and of these one-half is transported via Wallangarra, the other via the Northern Rivers route, the remaining third of each consignment is sent by boat. An officer attached to the Investigation was stationed in Melbourne during the winter and was responsible for examining all experimental consignments on their arrival, in the ripening chambers, and after leaving the ripening chambers. This has enabled the Investigator, Professor E. J. Goddard, to gather the fullest and most important information of a reliable character.

With the help of the Committee of Direction for Fruit Marketing, which has rendered assistance in many ways in connection with the "squirter" investigation, it has been possible to arrange for the sending of a practical bananagrower with some of the fruit trains, with a view to determining the temperature at the bottom, middle, and top of selected wagons en route from several loading centres right through to Melbourne. This work is now being carried on, and a knowledge of the temperature conditions will not only help towards the solution of the "squirter" problem, but also contribute to knowledge with respect to summer transport of fruit. It is proposed to continue these temperature observations, at least over the period which represents the grading from the "squirter" season to the "non-squirter" season. The conditions with respect to temperature and humidity in the ripening chambers in various cities of the Commonwealth are also being recorded.

Several very important conclusions have been arrived at with respect to "squirter" but it would be premature and not in the public interest at this stage, to make them public, especially in view of the fact that means may yet be devised of circumventing difficulties which at present exist.

It is pertinent to this report to record the necessity for greater attention on the part of the banana-grower to the quality of bananas forwarded to the Southern capitals. Not only has the quality of the banana an important bearing on the "squirter" problem, but further, the very poor quality of a very big percentage of the Queensland fruit sent to the Southern markets is doing very much towards bringing the industry into disrepute.

Climatic and transport factors are concerned in the "squirter" problem, but these difficulties may not be insuperable. The problem is a very complex one, but everything is being done to hurry on the investigation to a definite conclusion. Before any recommendations can be made, however, it is necessary that our knowledge of the disease must be made more complete than at present. The investigation is being carried out by Professor Goddard of the University, assisted by Mr. H. Collard of the Department of Agriculture and Stock, Brisbane, under the auspices of the Commonwealth Government and the Queensland Government.

## The Stock Division.

The severity of the season in some of the pastoral areas is shown in diminished stock returns for the period.

The year was marked by an extraordinary development of mechanical transport in the dry country, and its value to the pastoral industry was demonstrated convincingly, not only in respect of the rapid transport of fodder and water, but also of the carriage of sheep to more favoured pastures. One of the biggest enterprises of this character was the successful conveyance by motor truck of 10,000 fullwoolled wethers a distance of 180 miles to relief country.

The economics of the cattle industry are still a matter of serious concern to graziers. Values were slightly lower than last year, the best prices being obtained in the metropolitan market.

Wool prices for the year indicated that, while not as high as those of recent years, they have become stabilised with no present prospect of lower values marring the market outlook.

Queensland remains remarkably free from infectious stock diseases. Pleuro-pneumonia contagiosa is the most serious with which we have to contend, but only fifty-one outbreaks occurred as compared with sixty-one in the
previous year. Mammitis was more prevalent, but effective remedial measures wherever applied checked its spread.

Within the year 525 horses were shipped overseas.

Work in tick-cleansing areas is proceeding satisfactorily. Registered cattle dips within the State now number 4,407.

Fat stock values at Newmarket were averaged as follows:-Sheep (plus skin value), $3 \frac{3}{4}$ d. per lb .; lambs (plus skin value), $6 \frac{1}{2} \mathrm{~d}$. per lb .; bullocks, 26s.; cows, 22s. 6d.; calves, 22s. 6d.; pigs-suckers, 10 s .6 d .; slips, 17 s . 6 d .; stores, 25 s. ; porkers, 37 s . 6d. to 42 s . 6 d .

New slaughter-houses to the number of 27 were erected in di,fferent parts of the State, making the present total for the whole of Queensland 894.

There was no shortage of stock for slaughter, and those treated were of fair butchering quality.

Figures for the year show a decrease in cattle killings within the metropolitan area, but a marked increase in all other animals treated. It will be observed from the details supplied by the Chief Inspector of Stock, in his appended report, that there was a considerable decrease in the number of pigs treated at the several bacon factories; the number of condemnations is in excess of those of the previous year. A big decline in the slaughter of fat stock for overseas markets is also observed from the statistics supplied.

The metropolitan slaughter-houses and meat inspection continues to be satisfactory under present circumstances.

Interesting accounts of the work at the Stock Experiment Stations at Yeerongpilly and Townsville are included among the appendices hereto.

The report of the Instructor in Sheep and Wool, which is appended, shows that interest in the Departmental wool scheme for small grazing farmers is growing, the number of clients and quantity of wool received showing a substantial increase. Interest in the running of sheep on small holdings is also extending.

The Deputy Registrar of Brands reports a decrease in registrations and transfers, with the exception of those in connection with sheep brands and earmarks, which are slightly in advance of last year's figures.

## The Chemistry Branch.

The Agricultural Chemist completed 3,057 analyses in the course of the year. In addition, 4,184 samples of glassware were tested.

Out of 568 samples of butter taken by officers of the Commonwealth Dairy Produce Inspection Branch and analysed in the Departmental laboratory, only 34 contained an excess of moisture. Samples of cheeses for export were all found to be up to standard.

Other analytical work covered dipping fluids, pest destroyers, viscera and stomach contents of stock, paper butter wrappers, and stock foods. Of the lastnamed a greatly increased number was examined.

The use of licks and specially prepared foods containing mineral matter has become much more general, and it has become necessary in consequence to include such preparations, which may be called mineral foods, under the provisions of the Stock Foods Act.

The importance of the work of the Chemist and his staff is well illustrated in the accompanying account of the activities of the Branch.

Seeds, Fertiuisers, Pest Destroyers, and Stock Foods Investigation Branch.
The activities of this Branch are fully set out in the attached survey of the year's work. In all, 1,809 seed samples were tested. Results as tabulated among the appendices hereto indicate the value to agriculture of the vigilance of this section of the Department.

Since January of the present year licenses to 123 dealers in fertilisers were issued. In the course of the same period 643 certificates of registration of fertilisers were received from licensed dealers. An examination of the present list of registrations will show that many new preparations have been placed on the market.

The importance generally of the operations of this Branch is made fully manifest in the appended report of the officer in charge and the supplementary tables which he has submitted.

## Government Botanist.

Important field work was carried out by the Government Botanist and his assistants in the course of the year. Considerable time was devoted to the collection of herbarium specimens of grasses and fodder plants.

Educational work included public lectures on different phases of plant life, and lectures to the senior students of the Teachers' Training

College. The latter were designed to give teachers, particularly those of country schools, something tangible on which to base Nature Study.

A course of University lectures on Forest Botany for third-year science students and forestry cadets was inaugurated at the commencement of the academic year. This course is designed to provide not only a sound basic knowledge of native trees, but also of exotic flora likely to be of sylvicultural value to Queensland.

Many new specimens were added to the herbarium, which is becoming increasingly valuable for reference purposes. A large quantity of undetermined material is still awaiting classification, but the work is proceeding steadily.

Many papers on Forest Botany and kindred subjects were prepared and published by the Botanist and his assistant in the course of the term.

## Co-operative Associations.

Fourteen additional rural co-operative associations have been registered within the year, the total registrations now numbering 112.

## Pools.

Action was taken with respect to the following pools in the course of the year:-
Butter.-An Order in Council of the 27th August, 1926, made provision for a more satisfactory adjustment, from a pooling point of view, of the local and overseas sales of butter by the various factories. On the 26th May, 1927, provision was made to permit of the far Northern butter factories having direct representation on the Pool Board.

Cheese.-The Cheese Pool, which was first started in 1921, expired on the 30th June, 1927, but by Order in Council dated 28th May was extended to the 31st July, 1927. On the 14th July, 1927, it was again constituted for three years as from 1st August, 1927.

Cotton.-On the 23rd December, 1926, provision was made for the board administering the pool to be elected for two years instead of annually as in the original constitution.

Honey.-A referendum was held on the 16th August, 1927, to decide whether a Honey Pool should be constituted. As a two-thirds majority was not obtained in favour of the pool, the pool was not constituted.

Peanuts.-On the 31st July, 1927, the life of the Peanut Board was extended to the 30th June, 1932. This extension was made after a referendum conducted on the 16th June, 1927, when 153 growers voted for and 17 growers against the extension. On the 26th May, 1927, power was given to the pool, by Regulation, to make a levy on growers at the rate of $\frac{1}{4} \mathrm{~d}$. per lb . for the purpose of building up a fund, providing storage facilities and treatment plant, and for research and advertising.

Queensland Maize.-A Notice of Intention to create a Maize Pool for three years for the whole of Queensland (with the exception of the Atherton Tableland) was issued on the 26th May, 1927. The result of the referendum was-

> 1,924 growers in favour of, and 3,225 growers against the pool.

The proposal accordingly lapsed.

## Administration of the Animals and Birds Acts.

During the open season for opossums in the months of June and July, 1926, a total of 9,610 permits were issued to trappers by the eight opossum boards which functioned in the State. A total of $2,485,876$ opossum skins was secured, and the proceeds of the sale of these skins reached a sum of $£ 592,096$, of which royalty at the rate of 5 per cent. totalled $£ 29,6046 \mathrm{~s} .10 \mathrm{~d}$., and was collected by the Government and credited to the Trust Fund established under the Act for the protection and propagation of our native fauna.

Rangers have been appointed to exercise supervision over sanctuaries, to prevent breaches of the Act in relation to the destruction or captivity of protected native animals and birds, and to report on the increase or decrease in the numbers of native animals and birds as the case may be.

For protective and propagative purposes it is recognised that sanctuaries are required to be proclaimed in areas where conditions exist which are especially favourable to the conservation of native fauna. At present there are about 200 sanctuaries in the State, with a total area of approximately $1,500,000$ acres. Provision has been made for the proclamation of additional sanctuaries when advisable; also where practicable for the wider distribution of protected furred animals within the State.

## Dingo and Marsupial Destruction.

During the year 1926 a total of 43,664 dingo scalps was paid for, representing an increase on the figures for each of the previous two years.

Only 7 of the 36 dingo boards operating in the State paid bonus on scalps of marsupials. The payment of marsupial bonus is optional under the Act.

The attached is a table of operations in connection with dingo and marsupial destruction since the inception of legislation in that connection :-

| Year. | $\begin{aligned} & \text { Kangaroos } \\ & \text { and } \\ & \text { Wallaroos. } \end{aligned}$ | Wallabies. | Bandicoots, Paddamelons, and Kangaroo | Dingoes (including Foxes). | Total. | Bonus Paid. | Government Endowment |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | $\begin{array}{ccc} \mathfrak{f} & \text { s. } & d . \\ 541,435 & 6 & 6 \end{array}$ | $\stackrel{£}{243,558}$ |  |
| From 1877 to 30 th June, 1906 | 7,935,175 | 10,665,694 | 639,936 | 279,873 | 19,520,678 | $541,435 \quad 6 \quad 6$ | 243,558 |  |
| 1906-7 . . |  | 398,284 | 81,746 | 9,758 | 489,788 | 11,990 11 | 3,146 | 51 |
| 1907-8 |  | 474,387 | 127,618 | 11,493 | 613,498 | 13,259 148 | 5,515 | 42 |
| 1908.9 |  | 509,006 | 105,110 | 13,897 | 628,013 | 16,063 $16 \quad 4$ | 5,399 | 36 |
| 1st July, 1909, to 31st Dec., 1910 |  | 1,198,059 | 103,534 | 23,828 | 1,325,421 | 31,419 $17 \quad 6$ | 5,260 | 79 |
| 1911 |  | 708,501 | 40,055 | 21,508 | 770,064 | 18,657-19 9 | 5,887 10 |  |
| 1912 | . | 912795 | 43,267 | 23,743 | 979,805 | 25,340 88 | 6,271 16 | 69 |
| 1913 |  | 787,558 | 18,627 | 18,757 | 824,942 | 19,535 $18 \quad 2$ | 6,541 8 |  |
| 1914 |  | 433,325 | 9,044 | 21,061 | 463,430 | 15,665 46 | 3,467 19 | 98 |
| 1915 |  | 319,437 | 14,048 | 25,924 | 359,409 | 17,596 119 | 4,063 | 70 |
| 1916 |  | 202,612 | 5,330 | 26,525 | 234,467 | 17,143 318 | 3,596 | 56 |
| 1917 |  | 220,721 | 4,197 | 18,916 | 243,834. | 14,472 1110 | 3,223 19 | 93 |
| 1918 |  | 211,306 | 5,287 | 22,206 | 238,799 | 17,264 1910 | 3,450 18 | 86 |
| 1919 |  | 154,246 | 7,882 | 42,292 | 204,420 | 43,781 18 4 | 5,000 | 00 |
| 1920 |  | 129,980 | 35,215 | 52,333 | 217,528 | $54,721 \quad 1 \quad 2$ | 5,000 | 0 0 |
| 1921 |  | 86,869 | 3,198 | 40,427 | 130,494 | 43,041 $13 \quad 4$ | 5,000 0 | 0 |
| 1922 |  | 155,932 | 7,300 | 54,369 | 217,601 | 58,421 $17 \quad 1$ | 5,000 0 | 0 |
| 1923 |  | 53,568 | 13,511 | 54,562 | 121,443 | 55,439 4 4 3 | 5,000 0 | 0 |
| 1924 |  | 46;717 | 2,197 | 44,251 | 93,165 | 34,793 78 | 5,000 | 0 |
| 1925 |  | 46,111 | 3,858 | 48,282 | 98,251 | 33,879 | 5,000 | 0 |
| 1926 |  | 65,227 | 3,873 | 52,249 | 121,349 | 36,337 011 | 5,000 0 | 0 |
| Totals | 7,935,175 | 17,780,335 | 1,274,833 | 906,254 | 27,896,399 | $1,120,260 \quad 1 \begin{array}{lll}5\end{array}$ | 339,382 3 | 36 |

"The Stallions Registration Act of 1923."
This Act did not operate during the year 1926 except in the case of blood horses in the metropolitan area and stallions required to be examined at the Brisbane Exhibition.

## Publications

A stronger popular appeal and a substantially increasing circulation among farmers were particularly notable features of the year's progress of the "Queensland Agricultural Journal." As a publication dealing with the principles and practice of agriculture, both technically and scientifically, it is proving of definite value and is appreciated accordingly. It is accepted as an authority on matters relating to the industry it serves efficiently, not only in Queensland but in other States of the Commonwealth and countries oversea. As a medium for disseminating information of educational and economic importance, and working field notes it is highly valued. Officers of the Department engaged in directive and specialised work have been generous in their contributions in regard to their frequency, regularity, and practical value, and their material assistance has enabled the Editor of Publications to maintain the high reputation of the Journal as a useful and authoritative publication.

In addition, many new or revised pamphlets and bulletins on subjects of especial cultural and scientific importance were published by the Department in the course of the year.

Many requests from the Director of the State Radio Station, $4 Q G$, for addresses on agricultural subjects suitable for broedcasting were received by officers of the Department. These calls, which involved much time and research in acceptance, were regarded as an essential part of the work of the Department in disseminating information, and in rendering an added personal service to that provided in its established machinery. The response made by officers concerned met with a cordial reception and apparent approval.

The making of a series of cinematographic films, showing the development and progress of our chief primary industries, was also an important feature of the year's work of the Publicity Branch.

## Library.

In the course of the year seekers after agricultural and related industrial and scientific information made 1,156 visits to the Departmental library. Its value for general reference purposes was appreciated by officers in every branch of the Department, as well as University students and members of the general public.

Three thousand seven hundred and eleven new publications were received, classified and indexed; and also listed in monthly circulars for the information of officers of the Department. Ninety-four translations, including 22 for other Departments, from foreign languages were made by the Librarian, whose services as interpreter were also enlisted on numerous occasions.

## Conclusion.

A study of the general weather reports for the year will show that rainfall registrations in the agricultural districts for at least six months of the term, including the periods from July to November (with the exception of September), and from April to June, were below the average. In the other months the rainfall equalled or exceeded the average. December was a month of good general rains. The January gaugings were well above the average, and in that month heavy floods occurred in many of the farming districts. A comparatively dry February was succeeded by a wet March, when averages were again well exceeded. The remaining months of the term were unusually dry.

Since the reports incorporated herein were received, beneficial rains over the wheat belt and in the dairying and other agricultural regions occurred, and a much brighter outlook is now general throughout the more closely settled divisions of the State. The prospects of the coming wheat harvest have been substantially improved, and the position in the drier dairying areas has been greatly relieved. The cotton belt participated in the generous rainfall and coastal lands received a thorough soaking. Further early falls, for which the changed conditions are favourable, are an anticipated prelude to the opening of another cycle of good seasons.

The question of instituting a general agricultural survey of Queensland was considered in the course of the year, and to that end an Agricultural Survey Committee was appointed to ascertain definitely, among other matters, the character, location, and extent of the various soils throughout the State. This work will naturally take years to complete, but the information obtained in the course of the committee's investigation will, from time to time, be made available for practical application. In addition to the study of soils, information is being collated as to climatic conditions, vegetation, insect life, and accessibility to markets of the regions over which the survey will extend. A preliminary survey is now in progress. Further investigation is designed to produce more definite and accurate information relative to the agricultural possibilities and prospects of a fuller development of the rural resources of the State.

A Departmental Economic Committee was also appointed to investigate thoroughly the business side of farming. It is at present engaged on a general inquiry into the position of the dairying industry.

The wide range of all the factors governing the industry adds to the complexity of the inquiry which, it is recognised, must be complete and accurate if its results are to have any real practical value. It is realised, too, that much more than a mere academic investigation is necessary if we are to arrive at satisfactory conclusions on which sound recommendations for industrial betterment may be based. The wide variation of climatic and physical features which have an influence on dairying has also been taken into account. The work up to the present has entailed a complete survey of existing conditions; the importance of the industry; the number of people engaged in it and the capital invested; the value of herd testing and how it could be put into general practice ; fodder conservation in all its aspects; a study of manufacturing processes and factory efficiency ; and present mar. keting conditions and the possibility of their appreciable improvement.

In regard to dairying in Queensland generally there is convincing evidence of steady progress, and the confidence of those engaged is expressed in the construction and equipment of larger modern butter factories and in the remodelling of others in a number of regional centres.

The industry is also receiving the benefits of more studied organisation as expressed in uniform grades and standards, commercial stability, and economic production. It is realised that dairymen throughout the Commonwealth and New Zealand are faced with similar problems, ind co-operative effort is being directed towards their satisfactory solution. The wisdom of a more effective co-ordination of our co-operative activities is also being accepted to a much greater extent.

Agricultural organisation generally is becoming more consolidated, and primary production is becoming to be regarded more as the dynamic force that generates the current which keeps the wheels of industry revolving. The peak point of primary production is the peak point of general prosperity, and the general welfare of the whole community is based largely on wellbalanced and well-paid rural industry.

The value of primary industry in Queensland is indicated by the impressive figures supplied by the Registrar-General, details of which are appended. In the $1925-26$ period agriculture was worth to us $£ 12,552,936$; dairying, poultry
raising, and beekeeping values amounted to $£ 6,379,904$; pastoral production, $£ 21,117,845$; mining, £2,174,187; forestry, fisheries and miscellaneous, £2,882,750-making the total value of primary production in Queensland, computed on calendar year figures, $£ 45,107,622$.

Over a vast extent of territory the foundations of productive economy have been laid. Our great task is to develop these beginnings and exploit the soil more intensively and diversely.

More attention is being given to the cultivation of tropical crops. The production of power alcohol is among the newer activities. It is realised that, generally, tropical products call for a high degree of cultural skill and organisation on account of their greater production costs, and, therefore, a better-developed market than can be provided in an under-populated country. More specialised tropical industries, which could produce a greatly increased amount of new wealth per acre remain, to a large extent, undeveloped. The prospect of over-production is ever present and the existing home market restriction adds to the economic hazard. All the conditions necessary for success exist with, possibly, the one vital exception of stable home markets. With better and more accessible markets and industrial organisation the experimental and precarious would soon become the prosperous and assured, and wealth, now potential, would become actual.

Consideration is being given to a wider variation of crops, but, so far our main efforts have been directed towards establishing firmly every form of primary industry that has definite prospects of success.

Queensland has a diversity of climate and a wide range of soils that develop fine qualities in all products. What is needed for its fuller development is the concentration of brains and energy-and capital which follows naturally the cconomic employment of both.

The hard, cold logic of economic conditions is proving a powerful stimulant to more intensive and extensive co-operative effort. Its general practical application calls for the guidance of leaders of first-rate business acumen. The interests of primary industry calls, too, for the abandonment of barren debate (which is, after all, often based on mere abstractions) and concentration on the application of the principles of better business. This has been done in the sugar industry, the practical economics of which have become the concern of everyone engaged in it, and who are benefited by its stabilisation, progress, and profits.

We have to regard agriculture allied with animal husbandry as a well-rooted industry, and not as a hand-to-mouth, year-to-year proposition. That suggests the need for the wider adoption of the longer view that leads to the creation of a proper perspective of the economics and general conditions of rural industry, and relieves us from alternating periods of undue elation and undue depression.

From past experience we know that, on the average over a term of years, conditions in Queensland are distinctly favourable to further development, in a vast degree, of our great and extending primary enterprises. In Queensland good farming, though perhaps not spectacularly profitable, is a safe and sound business.

When agriculture meets with economic difficulties through seasonal adversity, or other causes, all the world is told about it; but when other businesses are under the weather financially every effort is made to suppress the fact. Wide advertisement of adversity is, in every calling but farming, regarded as bad business. This psychological contrast, if it can be so termed, leads often to an over-estimation of commercial prosperity and agricultural depression. Taking the longer view, and contrasting it with other callings in which financial mortality is often high in comparison, we come to a clearer appreciation of agriculture as a commercial undertaking.

We are sometimes inclined to base the adoption or the continuance of a practice upon extreme conditions rather than upon average conditions. This is illustrated in the tendency to extend acreages for a particular crop when its market price is high and reduce them when the price is low. As a result the production of a given commodity often exceeds the demand and prices become unprofitable. Wisdom suggests the due regard of climatic variability and the wider distribution of hazards as expressed in the homely advice against putting all our eggs into one basket.

It is suggested that agricultural practice should be based on average conditions over a number of years, rather than on what might happen next year. Reasonable diversity in enterprise distributes business risks. Sound diversity in farming in respect to both crops and live stock reduces the possibility, or probability, of net loss in either.

Another point in favour of looking well ahead in farming is that agriculture cannot be hurried like manufacture. The farmer works with nature and nature moves slowly. Many farm enterprises, such as crop and stock breeding and the improvement of the physical condition of soils, takes, ordinarily, years to develop.

What are required are balanced production in industry and the more general recognition of the mutuality of community interests. Agriculture deserves the application of the clearest and best umprejudiced thought to its conditions, development, and welfare, for every person in the community is affected directly by its progress and is interested vitally in the solution of its problems.

Appended are reports from the Director of Agriculture; the Supervisor of Dairying; the Acting Director of Fruit Culture; the Chief Entomologist; the Chief Inspector of Stock; the Cotton Specialist; the Agricultural Chemist ; the Officer in Charge of the Seeds, Fertilisers, Pest Destroyers, and Stock Foods Investigation Branch; the Government Botanist; and the Registrar of Co-operative Societies.

With this report are also statistical tables compiled by the Registrar-General, and containing much interesting and valuable information bearing on the position of agriculture and its allied industries in Queensland.

## E. GRAHAM,

Under Secretary.

## REPORT OF THE DIRECTOR OF AGRICULTURE.

I have the honour to submit herewith my Report for the year ending 30th June, 1927, together with reports from officers on my staffviz., the Instructors in Agriculture for the Southern, Central, and Northern Divisions, Messrs. Gibson, Brooks, and Pollock; Assistant Instructors Clydesdale and McKeon, who are more particularly engaged in wheat and maize improvement; Instructors in Pig and Poultry Raising, Messrs. Shelton and Rumball; and the reports of the managers of the State Farms, Roma, Hermitage, Gindie, Kairi, and Home Hill, which latter for lack of space have been summarised. These reports furnish detailed information on the general nature of the work undertaken by officers attached to this branch of the service.
Seasonal Conditions.-A continuation of droughty conditions in certain of the pastoral districts was the chief reason for an extraordinary demand for farm produce used principally for sheep feeding. Certain lines favoured for this purpose brought high figures; with the additional transport and landed charges prices were, however, forced up far in excess of the economic value of the fodder. The preservation during drought periods of the life of sheep is one of the most important problems facing not only the Queensland sheepmen, but all stockowners throughout the Commonwealth.
It follows as a natural corollary in districts where agriculture is possible under modern methods of cultivation, that more land will be hrought under the plough and cropped primarily for sheep-feeding purposes. In districts with a low rainfall, dependence for fodder supplies must obviously be placed on that grown on irrigated lands and in localities where farming is carried out under natural rainfall conditions.

Agricultural development of this character in association with fodder purchases and storage by pastoralists, who, if unable to irrigate, are largely dependent in drought time on artificial food supplies, would undoubtedly prove to be a big factor in settlement. Apropos of this interrelationship between these two primary industries, reference is made to the large transactions in last season's Atherton-grown maize for sheepfeeding purposes. The crop at Atherton was close to the million-bushel mark, and the extensive storage plant there was fully availed of. For once, the maize grower experienced high prices and an insistent demand for his produce.
Wheat.-The season generally left much to be desired, with the result that the aggregate yield of grain suffered accordingly. Use was made, however, of many crops for grazing off by sheep, but principally with dairy cattle. In this way the wheat crop was of considerable assistance to dairymen by providing their stock with green feed, which proved invaluable for supplementing pastures affected at the time of the prevailing drought.
The area cultivated was slightly in excess of that of the previous year. Methods of cultivation were for the most part very satisfactory, growers having worked the major portion of
their land early in the season, with the result that on the summer fallowed areas the tilth at planting time was good and the subsoil in moist condition. The Maranoa district was more lucky than the Darling Downs in respect to rain, as in the former area between 3 and 4 inches fell at planting time, and this was followed in June by another $\frac{3}{4}$ inch: The Downs rainfall was light generally, and rains of a soaking character were not experienced at any time during the growing season.

On examining the rainfall figures for several centres in the wheat belt from January to December, 1926, which include the period for the preparation of the land and that during which the crop was grown, these serve to illustrate the severity of the season. To bring the rainfall up to the average for the respective localities it would have required the following number of points :-Roma 754, Dalby 357, Toowoomba 731, Pittsworth 1,005, Clifton 720, Warwick 1,068, Killarney 782, Inglewood 1,092.

The quality of the Maranoa district grain was exceptionally good, it being on record that sample of "Watchman" wheat, a variety bred at the Roma State Farm, when tested by the manager of the Wheat Board, reached the extraordinary weight of 68.2 lb . per bushel. Quickmaturing varieties were the more dependable on the Darling Downs, and made better use of the limited amount of moisture.

Seed Wheat Propagation Scheme.-Prior to the commencement of the sowing season, a conference was held between the Department's representative and the Wheat Board. The proposals brought forward by the Department for consideration were approved of by the Board, which decided to continue the premium system for seed wheat grown under the supervision of officers of the Field Branch of the Department. Details of the season's work are shown on Mr. Assistant Agricultural Instructor Clydesdale's report. It is satisfactory to note that the scheme for linking up the wheat-breeding operations at the Roma State Farm with the activities of the Field Branch, and giving practical expression to same by the institution and carrying on of a system of propagating supplies of pure seed of approved varieties, is gradually exercising a beneficent influence on the industry.

A continuity of the seed wheat improvement scheme during the 1927 season was arranged for. One event of interest to record is the sending out this season to departmental propagation plots for more extensive trial of a new variety "Duke of York"-a Cretan-Bunge-Gluyas combination, bred at Roma and tested out by officers of the Field Branch over a series of seasons on stud plots, on which it has given very good promise.

Conditions for planting the 1927 wheat crop were not quite as satisfactory as they might have been. Generally speaking, a fair germination resulted, but in several localities the subsoil is not holding anything like its complement of moisture to ensure carrying on the crop, should dry weather be experienced.

Maize.-In the maize belt the season for early corn was rather too dry, as the drought did not effectively break until December; however, planting was general throughout the maize districts during this latter month and January, and the germination was good. In February the rainfall was somewhat patchy, but in March and April was of a general nature. May proved dry, but luckily the grain was well set beforehand.
Taking the season as a whole, it was fairly satisfactory ; some good yields were obtained, and when the harvest is finished there is reason to expect that the aggregate return will be well about the average.
As maize is grown more or less from Atherton to the Tweed, which are more than 1,000 miles apart, it was only to be expected that in some localities abnormal weather conditions would prevail. The Atherton Tableland crop experienced a rather severe setback from a cyclone in the second week of February. The more forward crops were flattened to the ground; however, the stalks lifted again but were afterwards very crooked. Later planted maize, which had not made much growth at the time the cyclone occurred, did not experience the smashing effect of the blow.
Personal observation of the district's crop in May indicated that the cyclone undoubtedly exercised a deleterious effect on the prospective yield, as the ears lacked size and development. There was evidence also at the time, of potential damage to the quality of the resultant grain. Moist atmospheric conditions induced by scrub rains and all too little bright sunlight during the wet season, were responsible for mould (Diplodia) forming in the field crops, and there is every indication of the trouble assuming somewhat serious proportions this year.

Seed Maize Improvement Work.-Detailed information under this heading appears in the report of Mr. C. J. MeKeon, Assistant Agricultural Instructor, who is specialising in this class of work. There is indisputable evidence of the improvement in the type, quality, and yield of crops grown from seed supplied by the Department under the existing scheme, and the demand for the seed for planting purposes is well maintained.

An extension of the work of seed improvement to the Atherton Tableland gave very promising results. Ever since the inception of maizegrowing in the district, difficulty has more or less been experienced in obtaining a variety of corn which would give satisfactory results under existing climatic conditions. Conclusive evidence will not be available respecting the departmental variety, which was named "Durum Maize," until it has been tried out on the scrub country. So far, on the isolated area in the forest chosen as the centre for the seed propagation work, the results are very encouraging. A comparison in yield on urmanured control plots showed that the "Durum Maize" at the Burnside Seed Propagation Farm returned 61.33 bushels per acre, whilst local seed on three experiment plots in other portions of the district returned 44.46 bushels on forest, and 33.33 and 33.15 bushels on scrub land respec-
tively. The more significant fact, however, was the comparative freedom of the "ears" of the Durum variety from Diplodia fungus. Careful examination showed that on three of the departmental maize plots planted with local seed the respective percentages of mouldy ears were 2 per cent., 7.9 per cent., and 11.7 per cent., whereas the Durum showed only 0.7 per cent.
Peanuts.-An appreciable increase took place in the area cropped in the Kingaroy district, where several thousand acres were put under peanuts ; the returns should constitute a record. Good cultivation in respect to peanut production is a sine qua non of success, and it is to be remarked that the fields generally in this locality were most carefully prepared and cultivated. Had it not been so the early planted crop would not have hung on as it did through a rather dry spring. Early harvested fields gave splendid promise of a bumper crop, induced by good summer rains, which is being handled on the co-operative principle. Improvements at the Kingaroy depôt in the way of new machinery and silo accommodation for storage were decided upon by the Board, and with the present tariff protection, the future seems assured.
Experiments with fertilisers were carried out by the Department on two separate farms at Memerambi and Wooroolin; here also, spacing and variety trials were conducted. Threshing results were not available at the time of writing this report. It is proposed this season to arrange for a crop of maize to follow on after peanuts, and to continue this rotation, which is likely to be followed to some extent by farmers at these centres.

Fertiliser Tests.-Results from the four experiment plots on the Atherton Tableland were forwarded by the Northern Instructor in Agriculture on the completion of the season. On receiving these, the Manurial Experiments Committee decided to withhold the publication of the results until more data was available.

Reports submitted by the Agricultural Instructors in the Central and Southern Divisions furnish certain details of the work in these sections. The Agricultural Chemist, as chairman of the abovementioned committee, is submitting results obtained from the several grass experiment plots where fertilisers were used on ploughed and unploughed areas of paspalum at Atherton, Cooroy, Maleny, and Runcorn. The outstanding feature throughout these trials was the pronounced improvement in the growth, appearance, and yield of succulent grass on the plots which were ploughed, when compared with the unploughed portions. Gencrally speaking, the results from topdressing with different applications of artificial fertilisers were of a negative character. Extension work on paddocks in the vicinity of the plots is contemplated for the approaching season.

Crop Experiment Work.-In the general programme conducted under the supervision of the Instructors in Agriculture, particular attention was paid to certain crops. In the North it is of interest to note that progress in the cultivation of English potatoes was maintained. About sixty varieties were under trial, and the yields
compared favourably with those secured in wellknown potato-growing districts. Best results were fortheoming at Evelyn, details of which are to be noted in the report of the Northern Instructor in Agriculture. This officer has also assisted in the popularising of wilt-resistant tomatoes, the introduction and cultivation of which has done a great deal towards stabilising the industry at Bowen, which has a big trade connection with Southern markets.
In Central Queensland, the Instructor in Agriculture has been actively engaged on behalf of the Department in promoting the growing of cassava for the production of power alcohol Good progress has been made in testing out a number of different varieties, valuable data thus being secured for any extension work in the future.
The opening of the Power Alcohol Factory at Sarina in the early part of the year, and the treatment thereat of large quantities of molasses promises to develop into an important industry
In Southern Queensland, the Instructor in Agriculture obtained some good returns from fodder experiment plots, and has drawn attention to the remarkable increase in the area under Sudan grass, a crop which only a few years ago was introduced by the Department, and as a result of a number of trials subsequently carried out, soon became popular on account of its hardy nature and general suitability to Queensland conditions.

The experiments designed for the purpose of effecting an improvement in old-established paspalum pastures at Maleny, Cooroy, and Atherton, clearly demonstrated that the most effective means of resuscitating these was the breaking up of the old rootbound sod by ploughing. Extension work as the outcome of these experiments is being designed for the approaching season.
Brisbane Royal National Show.-Officers of the Department took part in a display representative of technical and other work being carried out respectively by them, which was of a most educational character.

Instructional and Staff Work.-During the year the several instructional officers have had difficulty in keeping pace with the demand for their services, which had to be fitted in with a number of other duties attached to their positions. The whole period has been a very busy one, and I wish to place on record the conscientious work done by all officers on my staff:

Committees.-The formation of a number of committees to deal with agricultural economics, fertiliser experiments, and a soil survey of the State marked an era of departmental development. A good deal of work was accomplished by the various committees and officers detailed for special duties in connection therewith.

State Stallions (Season 1926-27).-Four Clydesdale stallions were used for the improvement of farmers' horses, and altogether 206 mares were served

The following table shows the names of the sires used, their respective location for the season, and the number of mares served by each :-


The State Clydesdale stallion "Glenalla" did not stand the season, as, owing to the fact that he was suspected of having developed an unsoundness, it was not deemed advisable to use him.

It is, of course, too early to obtain any reliable information in respect to the number of mares in foal, but as all of the districts were in the throes of the drought until the rains came in December, it is anticipated that the foaling percentage will be below the average.

The following table will give an indication of the foaling percentage resulting from the previous season's operations:-

| District. | Stalion Used. | Number of Mares Served. | Number <br> known to be in Foal. | $\begin{aligned} & \text { Number } \\ & \text { known to } \\ & \text { have Failed } \\ & \text { to Prove } \\ & \text { in Foal. } \end{aligned}$ | Information not <br> A vailable | Approximate in Foal. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Laidley | General Wallace | 74 | 40 | 27 | 7 | 60 |
| Murgon | Bold Wyllie | 55 | 32 | 23 | . | 58 |
| Cunningham | Premier Again | 70 | 35 | 25 | 10 | 58 |
| Crow's Nest | Glenalla | 57 | 36 | 13 | 8 | $-73.5$ |
|  |  | 256 | 143 | 88 | 25 | . |

## EXTRACTS FROM AGRICULTURAL INSTRUCTORS' REPORTS.

## SOUTHERN DIVISION.

The Instructor in Agriculture for the Southern Division, Mr. A. E. Gibson, reports:-

Contemplated from the agricultural and pastoral outlook, the period under review must be regarded generally as one of the worst experienced in this State. Commencing as it did with a failure of the usual rainy season in 1926 , the drought continued without any marked relief except in isolated instances until the 7 th of December, when a satisfactory rainfall was recorded over the major portion of Queensland.

The rainy season set in early in January, lasting well into the month of April, during which period some districts received excessively heavy precipitations resulting in a series of floods.

Wheatsowing operations were carried out under conditions that were not too favourable as regards subsurface moisture, and the resulting crops in a majority of instances, after struggling against adverse conditions, were fed off to stock. In parts of the Maranoa district, owing to the incidence of occasional showers, conditions were greatly improved, and fair crops, considering the season, were in many instances harvested. The wheat harvest of 1926 resulted in a yield of 274,000 bushels-more than double the seed requirements of this State.

In connection with the wheatgrowing industry it is worthy of note that considerable improvement is apparent in the matter of cultural operations and the initial preparation of land for wheatgrowing.

The economic use of tractors and power implements is placing the farmer in a position to prepare larger areas in a shorter period, and at the same time give a better class of tillage to his wheat paddock; in short, lowering the cost of production which, under present economic conditions, appears to be the only solution of the agricultural problem. Similarly, the use of these up-to-date methods is met with amongst dairy farmers throughout the Darling Downs, who are following the practice of growing large areas of fodder crops for grazing off rather than for the purpose of conserving in the form of silage or hay, and whilst it is conceded that certain economic advantages are gained, it must also be admitted that this policy is of the hand-to-mouth type that must sooner or later emphasise the necessity of reserving at least a portion of the fodder so provided as an insurance against periods of low production.

Some years ago this Department introduced Sudan grass to the notice of the farmers, and to-day throughout the Darling Downs its drought-resisting qualities are recognised to the extent that it is almost universally grown throughout that area as a fodder.

Its suitability also for conversion into hay or silage appeals strongly, whilst if used intelligently it forms a valuable grazing fodder. Below the range and within the immediate coastal area

Sudan grass as a grazing-off proposition does not appear to be so popular, although its value for silage or hay purposes is acknowledged.

The high prices ruling for maize during July, lugust, and September induced many growers to plant early corn in anticipation that a break in the drought conditions might enable them to reap the benefit of an early crop. Unfortumately, no relief was experienced until early in December, and, as a consequence, many of the early-sown crops failed to mature. Following on altered weather conditions, however, every farmer who could do so placed a maximum area under maize. Excessive moisture damaged large areas of early-maturing maize, and considerable losses were experienced in some districts by floods. Values have been sustained in spite of increased production, due to the fact that a considerable amount of grain is still being absorbed for stock-feeding purposes in the Western drought-stricken areas, and to the fact that pork prices are comparatively high.

Fodder Plots.-Following on the policy of former years, arrangements were concluded for pig and dairy winter fodder trials, on this oceasion at Beaudesert and Wangalpong, on the farms of F . W. Thiedeke and P. Caswell respeetively. Unfortunately, owing to unfavourable weather conditions, these plots were not sown till early in June; Mr. Thiedeke's plots being planted on the 9 th and 10th, and Mr. Caswell's on the 12 th and 14 th. Rainfall experienced between the 9th June and 23rd September (the date of harvesting) at Mr. Thiedeke's being 36 inches, but it must be noted that a fall of 1.06 inches was experienced two days prior to sowing. At Mr. Caswell's the rainfall received between the 12 th June and 24 th September totalled .91 inches, the previous rain to that date being 1.25 inches, registered on the 14 th and 17th May.

The following weights of fodder were recorded:-


The pig fodder plots were not sufficiently far advanced in crowth on 24th September to justify their harvesting, consequently this matter was
deferred till 24 th November, but during this period a further rainfall of 326 points was registered.

The following yields were recorded:-

| Thousand-headed Kale | Tons 11 |  | qr. | 3 |
| :---: | :---: | :---: | :---: | :---: |
| Dwarf Essex Rape | 6 | 9 | 2 | 16 |
| Yellow Globe Mangels | 29 | 8 | 1 | 20 |
| Long Red Mangels | 23 | 19 | 2 | 12 |
| Purple-top Swede Turnips | 14 | 18 | 0 | 27 |
| Elephant Swede Turnips | 12 | 13 | 3 | 18 |
| Sugar Beet | 17 | 6 | 2 | 12 |
| White Belgian Carrots | 12 | 13 | 3 | 18 |

Mr. F. Thiedeke's pig fodder plot was entirely eaten out by caterpillars early in November.

## Runcorn Pasture Improvement Trials.

During the off season cattle were depastured over the experimental areas. Subsequent to their removal and following on the rain received early in December, the whole of the plots were raked and harrowed to remove all foreign matter, and at the same time facilitate the operation of a power lawnmower which had been used to cut portion of the plots.

Following on this treatment, however, it was found that the surface was still too irregular to permit of the satisfactory use of the mower, consequently cuttings were confined to fixed areas 6 feet by 6 feet, and weights per plot computed.

Excessive rain during the early part of the year hindered operations considerably, whilst the low-lying position of the plots and the lack of efficient drainage were contributing factors.

The following yields were recorded:-

| Number of cuttings 2-19-1-27-8-1-27-Green Weights. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Number of cuttings 2-17-2-27-8-4-27-Green Weights.


Following on the fertiliser fodder trials conducted on this area during the previous season, a similar set of plots was arranged for during the present year and sown on 30th September as under; plots were each one fiftieth of an acre.
White Panicum
Setaria Italica
Maize
Black Cowpeas
Saccaline
Sudan Grass $\quad$ Manured and unmanured.

Conditions were favourable for rapid growth, but the whole of the plots were more or less damaged by trespassing stock, added to which almost continuous rainfall seriously delayed harvesting, eventually carried out on 5th February. The following yields were obtained :-

|  | Tons ewt. qr. lb. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| White Panicum, manured | 3 | 7 | , | 23 |
| White Panicum, unmanured. | 4 | 1 | 2 | 12 |
| Setaria Italica (damaged beyond harvesting) |  |  |  |  |
| Maize (damaged and dried off) |  |  |  |  |
| Cowpeas, manured | 8 | 12 | 3 | 8 |
| Cowpeas, unmanured | 7 | 8 | 3 | 7 |
| Saccaline, manured | 17 | 5 | 2 | 16 |
| Saccaline, unmanured | 13 | 13 | 2 | 15 |
| Sudan Grass, manured | 4 | 1 | 2 | 12 |

This latter crop was too ripe to determine the correct yield as a green fodder. Little or no difference was discernible between the manured and unmanured plot, weight of which was taken mostly for reference purposes.

## Electro-culture.

During the spring of last year considerable interest was aroused by articles which appeared in the Press dealing with electro-culture, and somewhat extravagant claims were put forward on behalf of the apparatus of at least two inventors viz., Rushworth and Christofleaus.

With the object of testing out the two systems on their individual merits, twenty perches of land were selected at Yeerongpilly Stock Experiment Station, and trials conducted thereon.

The results obtained have formed the subject of a special report furnished to the Chairman of the Fertilisers Experimentation Committee.

## Conservation of Fodder.

The complete reversal of climatic conditions during December of last year was followed by the profuse growth of all varieties of crops. As these reached maturity, in many instances, during February and March, difficulty was experienced in harvesting, and the conservation of fodder in the form of hay was practically an impossibility, consequently this Department received a considerable number of inquiries relative to ensilage matters, and visits were paid to Buderim, Brigalow, Belmont, and Goodnight Scrub in connection with fodder conservation, and particularly for the purpose of affording information on ensilage making.

Taking into consideration the amount of fodder that was available for conservation as silage during the months of March and April, it is a matter to be regretted that a more general use of this method of conserving fodder was not made by stockowners generally and dairymen in particular.

Although considerable areas of fodder are annually grown for grazing-off purposes for dairy stock, it is only in exceptional cases that advantage is taken of a surplus growth to provide some form of insurance against a period of scarcity. From inquiries made the question of the cost of labour appears to be a deciding factor. The advantage of fodder conserved in the form of silage during a period of drought, and consequent scarcity of all forms of sweeulent feed, is universally acknowledged. Instances were met with during the early part of the year where farmers who had experienced heavy losses only a few weeks previously had, since the advent of more favourable weather conditions, surplus quantities of fodder which they were unable to conserve owing to the cost of such being beyond their financial abilities. Consequently they were forced to turn their cattle into the crops for grazing-off in order to reap any benefit therefrom. Such methods; are appallingly wasteful, but at the same time the solution of the difficulty is a economic matter quite apart from its agricultural aspect.

At a Dairy Inspectors' School held at Gatton College in 1917, the opportunity was taken to give instruction on matters pertaining to ensilage, both stack and silo.

In view of the fact that transfers and new appointments have had the effect of placing officers in close proximity to the metropolis who were lacking in a practical knowledge of silage matters, the opportunity was taken to ascertain what facilities exist in certain districts for silage stack demonstrations.

Officers were asked to ascertain if any dairy farmers in their respective districts would be agreeable to departmental officers holding such
demonstrations on their farms, and at the same time give practical instruction to a small class of Dairy Inspectors. Inquiries were directed practically over the whole of the coastal and semi-coastal areas of the southern portion of the State. Favourable replies were distinctly limited, but ultimately arrangements were concluded with Mr. H. Muller, of Harrisville, who had a fine crop of Saccaline suitable for silage.

Dairy Inspectors from Beenleigh, Brisbane, Esk, and Harrisville attended the demonstration and obtained practical experience in silage stack building under conditions that are usually found on an average dairy farm.

The usual preparation and display of exhibits in the Departmental Court at the Royal National Association's Exhibition claimed the attention of this branch, and an invitation to act as Judge of Agricultural Produce in the One Farm Section was accepted.

Invitations to act in a similar capacity at - Mundubbera and Gin Gin Agricultural Societies' Shows were received. Unfortunately, pressure of official duties prevented acceptance of the latter.

A considerable amount of instructional correspondence has been handled during the year covering a wide range of agricultural interests.

Following on a request of the Economic Committee that certain investigations be made into the cost of dairying operations in the Darling Downs, the Supervisor of Dairying and mysclf paid a visit to the Oakey, Pittsworth, Warwick, and Toowoomba districts and furnished a report thereon.

## CENTRAL DIVISION

The Instructor in Agriculture for the Central Division, Mr. G. B. Brooks, reports :-

The severe drought that prevailed during 1925-26 did not terminate in the agricultural areas until October. Unfortunately to the west of Emerald dry conditions are still in evidence, and although artificial feeding has been extensively resorted to the losses of stock have been enormous.
The monthly precipitations recorded at Rockhampton are as follows:-July, 26 in . August, 8 in.; September, 5.26 in.; October, 6 in.; November, nil; December, 7.74 in. ; January, 9.56 in.; February, 3.67 in.; March, 5.66 in.; April, 2.03 in.; May, 9 in.; June, 3.97 in.; total, $43 \cdot 38 \mathrm{in}$.

The heavy rains experienced during January and February hampered field operations to the extent that there was considerable difficulty in utilising cultivators to keep weeds in check.

Fine rain fell along the coast during June which permitted the planting of fooder crops, which will ensure a supply of feed throughout the winter.

Experimental and demonstration crop work which received a setback on account of the drought, in now again in active operation. The earrying out of these trials which are locatcd over an enormous area of country-extending
from Bundaberg to Mackay-necessitates that the services of Field Assistant Straughan be given almost wholly to this work.

Much attention has also been given to crops in the Mackay district associated with the production of power alcohol.

The keeping in touch with farmers new to the land and more particularly to Queensland conditions, is a matter of much importance. Every effort is made to visit the various agricultural districts periodically and to discuss with settlers matters relating to farming methods. There is, however, considerable difficulty in putting this into effect, the existing staff being quite inadequate to deal with the various activities associated with such a large district.

## Experiment Work-Sorghum Variety Trials.

Although the raising of sorghum both for fodder and grain production is largely on the increase, the value and importance of this crop to the Queensland farmer is by no means fully realised. There is probably no cultivated plant that will provide such a heavy return of suceulent material under varying conditions of soils and climate as sorghum.

For a number of years this Branch has given special attention to the improvement of the
sorghum crop, and to demonstrate its usefulness both as a fodder and grain. Trials have been conducted over a large portion of Central Queensland-extending from Bundaberg to Mackay and as far west as Capella-to determine the most suitable varieties to grow for the respective districts.
The propagation of pure high-yielding strains of the various sorts are carried out on specially selected isolated areas in order to eliminate the possibility of cross fertilisation.
A dwarf variety, some 3 feet 6 inches tall with open seedhead, introduced from Java, is being tried out as a grain producing type that could be harvested with a wheat stripper or header directly from the standing crop. From a planting made to raise seed for next season's operations the results obtained were most promising, a return being secured of 130 bushels per acre.

Recently a consignment of twenty-five new rarieties came to hand from Nigeria in the seedhead. In addition to the heads being very long and heavy, the colour of the grain is quite distinct to what has hitherto been grown in Australia. Those will be sown during the coming season in specially selected areas.

The results from the 1926-27 variety trials are as follows:-



Note.-Rainfall includes the total rain which fell during growth and for the month previous to planting.

## Sudan Grass Stud Plot.

Much of the Sudan grown is by no means true to type, showing that crossing has taken place with sorghum, of which it is a variety.

In order to provide a supply of pure seed and at the same time improve the yield and feeding qualities of the plant, a stud plot was arranged for on the farm of Mr. W. A. Rake. Marlborough.

As a result of unfavourable climatic conditions subsequent to sowing, germination was somewhat irregular. The height averaged 8 feet, while the yield of green material amounted to 8.8 tons per acre. A selection of seed was made for further propagation work in other districts.

Soy Beans.-Trials have been carried out with this crop extending over many years, but the results obtained have on the whole not been satisfactory, although occasionally good crops were secured. During the past summer four varieties-Biloxi, Tokio, Laredo, Mammoth Yellow-were planted on the farm of W. R. Lamain, Milman. All sorts made very good growth. The crop has been harvested but not yet threshed out.

An attempt was made to try Soy beans as a winter crop, but owing to the prevailing drought the experiment was not a success.

## Fodder Conservation:

The conservation of fodder is a matter that has been given much consideration by the Instructional Staff. Although conditions in Central Queensland invariably permit of the raising of summer-growing erops-such as sorghums-which will stand in the field over winter to be cut as required, steady progress
is being maintained in storing green crops in the form of silage. There are over twenty concrete silos in the Central Division, while quite a number of stack, pit, and trench silos are also to be found in the various districts.

The question of raising a grain crop for storage purposes will be investigated during the coming season. When in Java, I located a promising type of dwarf sorghum-a new variety -and was successful in procuring a quantity of seed. This was planted and has given very encouraging results; sufficient seed is now in hand to permit of the carrying out of trials on a fairly extensive scale. The more western areas, which at the present time are considered as being outside the safe limit of cultivation, will receive attention. The objective aimed at is to raise sorghum giving a yield of from 60 to over 100 bushels of grain per acre, dwarf in habit, and with sufficiently open head to allow of the securing of the grain with a wheat stripper or header.
A large amount of valuable feeding material in the shape of sorghum grain could be stored in comparatively small bulk.

## Root Crop, Etc., Demonstration Plots.

The objective in growing the various crops is to demonstrate what can be done in the way of providing a supply of material for an extended period, to be used principally for pig raising purposes. Providing conditions are favourable for planting-say about the beginning of April -the crops selected would become available in rotation from June to December.

Several plots were arranged for, but owing to the almost entire absence of winter rains the results were so unsatisfactory that only in two
instances were comparative yields ascertained, viz. :-

Yields-Root Crop Variety Trials.

| Varieties. | S. Larson. | G. F. McRae. | A verage. |
| :---: | :---: | :---: | :---: |
| Dwarf Essex Rape | $\begin{gathered} \text { Tons cwt. } \\ 22 \quad 7 \end{gathered}$ | $\begin{array}{cc} \text { Tons } & \text { ewt. } \\ 0 \end{array}$ | Tons cwt. - 143 |
| Silver Beet .. |  | 811 | 811 |
| Chou Moellier | 125 | 416 | $8-10$ |
| White Belgian Field Carrot |  |  | . . |
| Yellow Aberdeen Turnip | $25 \quad 4$ | $12 \quad 19$ | 191 |
| Grand Master Swede | $30 \quad 5$ | 1117 | 21 |
| Purple-top Swede. | $27 \quad 7$ | 118 | 197 |
| Sugar Beet . . | .. |  |  |
| Drumhead Cabbage |  | 15 3 | $15 \quad 3$ |
| Long-red Mangel . |  | 15 - | 15 |
| Yellow Globe Mangel |  |  | . |
| Rainfall during growth | Not pro- | turnip $5 \cdot 84$ |  |
| and for month previ- | curable | cab'ge $5 \cdot 84$ |  |
| ous to planting |  | other 2.98 | . . |

A further series has been arranged for during the coming winter in the following localities:Miriam Vale, I. Larsen; Rosedale, J. Hales; Wowan, J. Lindley; Marlborough, A. Rake; Decford, A. P. Lawton; Biloela, S. E. McRae; Mount Larcom, J. J. Kelly ; Sarina, J. Nicholson; Rockhampton, Conaghan Bros.

All the above plots have been recently sown under very favourable conditions.

## Winter Fodder Demonstration Plots.

As a result of the unfavourable conditions prevailing last winter, no arrangements were
made-apart from the fertiliser trials-for the growing of cereal crops.
Demonstration fodder trials have, however, been arranged for in the following localities for the present, winter:-Jambin, J. R. Adsett; Wowan, J. Lindley; Alton Downs, S. Hoare; Ambrose, H. Wolff.
These plots have recently been sown in good order.
Winter Fodder and Fertiliser Crop Trlals. A. J. Turner, Ubobo.

The plot which for the three previous years has been planted with cereals was put under roots, mangels, turnips, \&c., suitable for pigraising purposes. The varieties were planted following a light fall of rain in April. As no further precipitations occurred for several months, the results obtained were too irregular to permit of a comparison being made. Following the root crop, the land was prepared and sown with Liberty Millet, which made very good growth. Unfortunately, very heavy rains fell when ready to harvest, damaging it to such an extent that reliable yields in regard to the fertiliser portions could not be secured.
The plot was again planted in May with cereals, in conjunction with the fertilizer trials. As a result of Mr. A. J. Turner giving up farming, these trials are to be discontinued at the end of the present season.
The following table gives the results obtained from the use of various fertilisers for a period of three years :-

Winter Fodder and Fertiliser Crop Trials for a period of Three Years.
Fertiliser Trial with Cereals-A. J. Turner, Ubobo.

| Fertilisers-Cwt. per A cre. | Wheat. | Oats. | Barley. | Rye. | Totals. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Control Plot (nil) | $3 \cdot 6$ | $3 \cdot 2$ | $3 \cdot 2$ | $2 \cdot 3$ | $12 \cdot 3$ |
| Basic Super. (2) | $3 \cdot 65$ | $3 \cdot 65$ | $3 \cdot 5$ | $2 \cdot 6$ | $13 \cdot 4$ |
| Super. (2) .. | $3 \cdot 9$ | $3 \cdot 3$ | $3 \cdot 4$ | $3 \cdot 15$ | $13 \cdot 75$ |
| Meatworks Manure (3) | $4 \cdot 5$ | $3 \cdot 9$ | 3.95 | $3 \cdot 65$ | 16.00 |
| Dried Blood (2) . . . . | $4 \cdot 75$ | $4 \cdot 35$ | $3 \cdot 8$ | $4 \cdot 0$ | $16 \cdot 9$ |
| Basic Super. (2), Potash (1), Dried Blood (1) | $4 \cdot 1$ | $3 \cdot 85$ | $3 \cdot 85$ | $3 \cdot 5$ | $15 \cdot 3$ |
| Control Plot (nil) . . . . . | $3 \cdot 9$ | $3 \cdot 35$ | $3 \cdot 35$ | $3 \cdot 0$ | $13 \cdot 6$ |
| Super. (2), Potash (1), Blood (1) . . | $4 \cdot 25$ | $3 \cdot 45$ | $3 \cdot 45$ | $3 \cdot 5$ | 14.65 |
| Basic Super. (2), Potash ( $\frac{1}{2}$ ), Dried Blood ( $\frac{1}{2}$ ) | $4 \cdot 35$ | $3 \cdot 55$ | $3 \cdot 6$ | $3 \cdot 6$ | $15 \cdot 1$ |
| Basic Super. (4), Dried Blood (2) Basic Super. (2), Dried Blood (1) | $4 \cdot 3$ $4 \cdot 25$ | $3 \cdot 45$ $3 \cdot 65$ | $3 \cdot 6$ $3 \cdot 3$ | $2 \cdot 9$ $3 \cdot 3$ | $14 \cdot 25$ $14 \cdot 5$ |
| Potash (1) .. .. .. . | $4 \cdot 15$ | 3.45 | $3 \cdot 35$ | $3 \cdot 35$ | $14 \cdot 3$ |
| Control Plot (nil) . . | 3.95 | $3 \cdot 5$ | $3 \cdot 1$ | $3 \cdot 0$ | 13.55 |

In 1923 oats failed, and in 1925 rye failed.

Winter Fodder and Fertiliser Crop Trials. A. E. G. Barnard, Wowan.-Season 1926.

The land was put into good condition and fertilisors applied; but, unfortunately, no rain fell throughout the winter months to permit of putting in the seed. A fine summer crop of Liberty Millet was, however, secured, which yielded an average of 13.10 tons of green material per acre. Planted, 21st December, 1926; harvested, 17 th February, 1927. Weights were taken on the control and fertilised portions, but there was found to be practically no variation between the treated and untreated.
The sowing of the crop for the present season's trials was carried out during the first week in June following a fall of over 3 inches of rain. This ensured a very satisfactory germination.
Starch-prodteing Crops for Power Alcohol Production.
The erection of a distillery in the Central district for the manufacture of power alcohol is
now an accomplished fact. The factory erected at Sarina, at an approximate cost of $£ 120,000$, cmbraces the latest devices used in the production of spirit from molasses and starch-producing crops. An interesting feature is that a considerable portion of the cost incurred is due to the inclusion of equipment for distilling spirit from soil products, such as cassava, arrowroot, and sweet potatoes. Distillery operations commenced in April, steam being supplied by the adjacent Plane Creek Sugar Mill. It was intended after a trial run on the molasses to treat the cassava crop. Unfortunately, the sugarmill furnaces could not withstand the heat from the coal used, necessitating the distillery closing down for a few weeks in order to install its own steam plant.

Cassava.-The cassava varieties grown in the various districts have made very satisfactory growth in several localities, single plants have given over half a hundredweight of tubers. In a few instances rotting of the tubers took place
during the heavy rains in January. This was to be expected. Although cassava will withstand very moist conditions of soil, stagnant water will induce decay. Whether cassava will become a popular crop with cane farmers has yet to be determined.
Arrowroot.-Many are impressed with the possibilities of arrowroot as a rotation crop, on account of the heavy yields obtained and its being less troublesome to harvest than cassava. From a small planting made on Bolingbroke, single stools gave a yield of over 90 lb . Small areas have been planted out with many high-yielding varieties of sweet potatoes that would be likely to prove suitable for power alcohol production. The value of the crop for the above purpose has not so far been ascertained on account of the damage done to the tubers by bandicoots. One farmer reported that bandicoots had been feeding on his cassava crop, and that dead bodies were to be found in the neighbourhood. This statement I have not so far been able to confirm. I noted that in numerous localities bandicoots had scratched the soil off the tubers, but in no instance was any damage done to the roots.
Comparative trials-starch-producing crops.Two trial areas have been established in the district from which the Sarina distillery will draw its supply of raw products-one plot is located on the farm of Mr. C. Edmunds, Upper Plane Creek, the other on the Salter Estate, Koumala.
The crops under observation are cassava, arrowroot, and sorghum. Sweet potatoes were eliminated on account of the damage done to the crop by bandicoots.

Planting which should have been carried out in August was delayed until the latter end of October on account of the dry conditions prevailing during the spring months. This, although not affecting the subsequent growth of cassava, was detrimental to the arrowroot, in that the bulbs had sprouted considerably before planting. In all probability it would have been more satisfactory to have harvested and stored the sets intended for planting, instead of allowing the crop to stand over in the field.
The cassava varieties under trial are similar on each plot, and are as follows:-Basiorao, Seedling No. 1649; Creolinha, Singapore Red; Itaparica, Tapicuru; Mangi, Trapicuma; Mantiega, Valenca; Sao Pedro Preto, six selections from unspecified varieties.

An excellent germination was secured at both places. Although a fairly long dry spell followed, the growth made was extraordinarily rapid. By the end of January some varieties had attained a height of over 8 feet.

The tubers will not be sufficiently mature until about August, when the yields of the respective varieties will be determined as well as the arrowroot.

When the cassava cuttings were introduced from Java, a collection of seven selected varieties was planted out at the Mackay and Bundaberg Sugar Experiment Stations, respectively.
At Mackay the growth was somewhat irregular, hence the variation in yield. That made at Bundaberg was much stronger and more ever. Portion of the Bundaberg plot was under water for several days, rotting the tubers of one variety.

The weights of tubers from a single piant of each variety taken when about twelve months old were as follows:-

|  | Bundaberg. | Mackay |
| :---: | :---: | :---: |
|  | Lb. | Lb. |
| Basiarao | $22 \frac{1}{2}$ | 211 |
| Creolinha | 13 | 21 |
| Mange | $12 \frac{1}{2}$ | 22 |
| Itaparica | 27 | 7 |
| Sao Pedro Preto | 16 | $22 \frac{1}{2}$ |
| Tapicuru | 141 | $13 \frac{1}{2}$ |
| Valenca | Waterlogged | 14 |
| Average | $17 \cdot 3$ | $17 \cdot 2$ |

The above results are most satisfactory. Planting was carried out on the square 3 by 3 feet apart, consequently each pound of tubers represents 2 tons per acre.
Sorghums.-Several grain and saccharine varieties were planted adjacent to the cassava varieties. These made excellent growth. Parrots, however, cleaned the seed heads shortly after the grain had reached the milky stage. In future it will be necessary to either protect the heads or raise the crop on a more extensive scale.
Arrangements are being made to establish two plots in the Bundaberg district in order to ascertain the suitability of soils and climatic conditions in that area for the production of starch-producing crops to manufacture power alcohol.

## Onion Variety Trials.

Four trial areas were arranged for, but owing to the lack of moisture, germination was unsatisfactory, and the resultant crops practically a failure.
During the present season plots have been established in the following districts:--Jambin, J. R. Adsett; Wowan, G. Payne ; Mount Larcom, J. C. E. Jacobsen.

These trials have been recently planted under very favourable conditions.
The varieties under trial are Brown Spanish, Early Golden Globe, Early Silver, Skin, James Long Keeping, and Italian Queen.

## Rice.

Arrangements were made to try this crop out on a small scale in four divisions. One plot was destroyed by grasshoppers, while another became overgrown with weeds to such an extent that it was impossible for reliable yields to be obtained.
The varieties grown on the farms of Mr. James Edminstone, Pink Lily, near Rockhampton, and Mr. S. Hoare, Alton Downs, made exceptionally good growth, the latter giving 5.8 tons of green fodder per acre. Both areas have been harvested, but the grain has not yet been threshed out.

The varieties under trial are as follows:Owari, Sensho, Tamasari, and Kirishima.

## Sweet Potatoes.

A constant demand has been maintained throughout the year for cuttings and tubers for propagation purposes. These applications cover a very wide field-the Southern States, Darwin, Java, South Africa, \&c. As no facilities are provided at this office for propagating material for distribution, the bulk of the orders were supplied by Messrs. Pritchard and Wannup, Archer, who for several seasons co-operated with this Department in carrying out variety trials on their farm.

From reports appearing in the Journals issued by the Departments of Agriculture in the Southern States, it is noted that a number of varietics propagated by this Department are being grown on an extensive scale on the respective Experimental Stations with very satisfactory results.

## Agricultural Shows.

In addition to giving assistance in the capacity of judge at the Bundaberg, Miriam Vale, Gladstone, Rockhampton, Mackay, and Wowan Shows, an exhibit was prepared consisting of starchproducing crops and products suitable for power alcohol production, and displayed at the Royal Agricultural Society Show, Brisbane.

On the occasion of the opening of the Australian National Power Alcohol Company's distillery at Sarina a display was made in the building of starch-producing crops, including cassava varieties, arrowroot, and sweet potatoes. Descriptive placards showing the yields of spirit per ton of the respective products gave the exhibit added interest, more particularly to the numerous visitors from the Southern States.

## Agricultural Survey of Queensland.

The Agricultural Survey of Queensland, which was commenced on the 21st April, is a departure of the greatest importance, and one that will undoubtedly have a most beneficial effect on the development of our great State.
The first section undertaken was the portion of country lying between Flaggy Rock Creek and Sarina, including the Bolingbroke Holdings, on the western slopes of the Connor's Range. The following officers of the Department were delegated to this work:-

Mr. W. D. Francis, Botanist-Grasses, timbers, \&e.
Mr. J. H.' Smith, M.Sc., EntomologistCrop pests.
Mr. W. R. Winks, B.Sc.-Soil geology.
Mr. G. B. Brooks-Crop production, water supplies, temperatures, transport facilities, \&c.

## Agricultural Expansion.

The drought that prevailed during the whole of the preceding year and part of the year under review has to some extent retarded agricultural development.
A new butter factory is in course of erection at Rockhampton, and will make the third in mperation at this centre.
${ }_{\mathrm{D}}^{\mathrm{D}} \mathrm{H}$
$\mathrm{D}_{\mathrm{f}}$ Negotiations are in progress for the erection of a butter factory at Mackay. This movement has been initiated by the South Kennedy Co-operative Company, Limited, Mackay.
The distillery in course of erection at Sarina when compiling last year's report is now an accomplished fact. The official opening held in February was attended by many visitors from the Southern States, as well as a large number representing the sugar industry throughout Queensland.
It is reported that the Megass Products' Company, formed to utilise the waste megass or cane fibre into board, had arranged to erect their first manufacturing unit at Sarina. This rumour has, however, not yet been confirmed by those concerned.

## NORTHERN DIVISION.

The Instructor in Agriculture for the Northern Division, Mr. N. A. R. Pollock, reports:-
The extremely dry conditions, mentioned in the last Annual Report as prevalent throughout the Northern Division to the end of June, 1926, continued through the following months of July and August, which were rainless in all the pastoral areas and very much below the average in the agricultural centres, until September, when an over average precipitation, for that month, occurred throughout almost the whole of the State. October and November continued dry with a much under average fall, and it was not until December and the succeeding months that more or less normal seasonal conditions were restored, the only portion of the Northern Division not participating being a triangular part extending from Winton at the apex southeastward and south-westward into the Central Division. Except for this comparatively small portion, the season since December throughout the North has been good, and though crops sown to mature during July, August, and September of 1926 largely failed, those sown from December onward have made excellent progress, and generally resulted in good returns. A very good general fall of rain this month of June, 1927, over almost the whole of the North will greatly benefit the winter crops, and do an immense amount of good in the pastoral areas. Should further falls occur in July, as is probable, the outlook for the coming year will be brightened still further.

## Drought Safeguards.

During all dry periods in which losses of stock occur, interest, often too shortlived, is displayed in means to obviate future losses, the possibility of fodder conservation on the holding or elsewhere and transportation of animals to relief country being discussed until a suifficient fall of rain occurs to restore the pasturage, when action ${ }^{-}$ is deferred, thus allowing an extra dry season to approach without any preparations having been made to meet it.
During the year an article entitled "Drought Safeguards," dealing with the possibilities of fodder conservation on pastoral holdings with notes on animal nutrition and mineral requirements, was published in the "North Queensland Register" and "Queensland Agricultural Journal," as well as in pamphlet form, the latter being available on application to the Department. This has been well received and favourably commented on.

## Animal Nutrition.

The notes on the subject of animal nutrition explaining the economy of the balanced ration, and instancing the values of the various fodders capable of growth as well as ready purchase, proved of especial interest, as a knowledge in this direction is very limited not only amongst graziers, but amongst the majority of men on the land.
Mineral requirements of stock have also been widely discussed, a mistaken belief being held that supplies in a dry time would compensate for much of the lack of nutriment in the old pasturage.

In seasons of plenty, as well as of scarcity, a necessity exists in many pastoral districts for mineral matter in the shape of a lick, especially
in those deficient in phosphates, where bone development is not satisfactory. On all holdings it can be confidently asserted that supply of mineral matter, in a form from which stock can partake as they feel impelled, will be productive of much good. The general health of animals will thereby be promoted, and in instances reproduction should be much improved.

## Fodder Conservation Scheme.

Attempts in growing fodders for conservation or otherwise on the rolling downs country of the North, where sheep are almost wholly depastured, have been conspicuously absent. The only months in which success with crops under a natural rainfall would be possible are from December to March or April. Mr. A. B. Docker, of Blairmoor, some 38 miles westward from Olio, in the Western district, had previously some success in experiments with sorghums, including Sudan grass, and was able under irrigation by natural gravitation from a bore drain to provide a certain amount or sorghum during the latter portion of 1926 to feed to his sheep.

As beyond the making and stacking of bush hay, stores of which proved of great value recently to their owners, the absence of data in the growth and conservation of fodders there, together with the lack of finance, is considered likely to prejudice a practice it is desired to popularise.
Crops in General and Experimental Work.
Maize.-The Tableland growers who produce practically the whole of the maize crop marketed from the North obtained exceptionally high prices for last year's output, due to the smaller crop in the South, and to the very great demand for feeding to starving stock. As noted in last report, the crop was unusually large and of prime quality. The amount dealt with by the Maize Pool Board was between 22,500 and 23,000 tons, which, with the addition of that consumed on the farms, must have given the million-bushel yield predicted.
This year, although much the same acreage has been cropped, the yield will be considerably lowered, due to the erop being levelled by a cyclone on 9th February, at which time the earlier planted crops, comprising much the greater part of the total area sown, were approaching the tasselling period. The heavy rain accompanying and succeeding the blow helped to batter the plants, and though the plants that were not broken off resumed a somewhat upright position and subsequently flowered and set grain, the check sustained was reflected in the production of generally small cobs. The crops sown even a fortnight later escaped much damage, recovering an upright position immediately, and later presenting no indication of any setback; here the average cob is very much larger, many crops showing promise of a yield of 60 bushels and upward, which will materially assist to raise an average thaf would otherwise be greatly lowered.

With the check from the cyclone and the damage from moulds engendered by wet conditions, it is considered that the grain to be handled by the Maize Pool Board from this year's crop will hardly exceed 16,000 tons.

## Tableland Matze Improvement Scheme.

In view of the unsatisfactory quality and lowering yields of the Tableland crops in normal years or years of heavy annual rainfall, as set
out in the article "Tableland Maize" ("Queensland Agricultural Journal" for October, 1925), arrangements were made with Mr. W. S. Allen, of "Burnside," Tolga, who has proved a most competent farmer in the conduct of many field experiments, to crop in the interests of the Department an area of some 60 acres, so isolated from any other variety of maize as to prevent any danger of interpollination therefrom, with a special variety of the Flint type, being bred up by Mr. C. J. McKeon, the. Departmental Maize Specialist, and calculated by him to be suitable for Tableland conditions. From this area, while at the same time making careful selection from year to year to thoroughly fix the type and improve the yield, it is expected to supply seed first of all to farmers nearby, gradually extending until seed is available for the whole of the Tableland crop.
The behaviour of the first crop now in process of harvest, under the very adverse conditions experienced-for it was levelled and badly knocked about in the cyclone-is distinctly encouraging, proving its cropping capacity and resistance to attack by the Diplodia fungus, responsible for what is locally known as "dead grain," since, by actual count in a measured acre, the cobs showing the affection (all departures from the desired type) were returned as 0.7 per cent. of the total produced. In comparison counts on measured acres on three other farms where selected local seed was used produced 2 per cent. on a crop later sown and less damaged by the cyclone- 7.9 per cent. and 11.7 per cent. respectively.

Mr. McKeon, who displays conspicuous ability in his speciality of maize-breeding, when attending prior to the commencement of harvest to examine and select from the standing crop the seed for next year's planting, expressed satisfaction at the increased percentage of cobs that were coming true to the type in view. He is certainly to be commended on the fine result achieved in the short time in which he has been evolving this variety.

Estimates of yield in four measured portions, each one-tenth acre in extent, averaged 50 bushels 42 lb . per acre of grain, with moisture content reduced to the standard 14 per cent.

On another part wheh was subsoiled and an experiment with and without fortilisers carried out, the yield of three check plots (viz., without fertilisers), was 64 bushels $20 \mathrm{lb} ., 58$ bushels 32 lb ., and 61 bushels 41 lb . respectively, or an average of 61 bushels 33 lb . per acre-a most excellent return under the adverse conditions to which the crop was subjected.

## Potatoes.

In the report for the year 1925-26, mention was made of the greater attention that was being paid to cropping potatoes in the North, and the increase in acreage that had resulted therefrom. It is gratifying to note that, though the adverse seasonal conditions on the coastal areas that year did not permit of a very remunerative return, the acreage on the coast as well as on the Tableland was further increased this year.

The Tableland crop grown during the summer months was on the whole very successful, some excellent yields being secured, not only on the forest soils where the crop has been mostly grown, but on the serub soils. In these latter, the best success has been obtained where the departmental advice to plant deeply, about 7 inches, has been followed.

Two fertiliser trials with a mixture designed by the Fartiliser Committee were arranged at Tolga on forest, and at Evelyn on scrub soil. That on the forest soil was not estimated, as, owing to a cyclone damage and frequent misses due to the use of cut seed, a sufficient unbroken area to allow comparison was not obtainable. At Evelyn, where whole sets were used, not-
withstanding much washout by the heavy rains accompanying the cyclone, sufficient unbroken areas of each plot were harvested to allow comparison.
The area was divided into three plots each one-third of an acre, and the yield estimated on the acre basis.


A complete manure has previously given the highest yield in fertiliser trials with potatoes, but a series both complete and incomplete should be of greater value. It is desirable that further trials be conducted during the coming year. In last Annual Report reference was made to trials to be made with a large number of potato varieties in the North. On the cost, trials were made on four farms, but owing to
the dry season the result on one farm only where the crop was irrigated was worth recording. Further trials were conducted during the summer months on the Tableland, at Evelyn, and Tolga, respectively. Small quantities of seed were necessarily used, so that the results, though of comparative value, may not be altogether indicative of results on larger areas.



The outstanding feature in the trials so far is the generally better cropping capacity of the white-skinned varieties in which Carmens, Up-to-Dates, and Scottish Triumphs are prominent. Gold Coin, Witch Hill, Great Scott, and Ally, amongst several others, are very encouraging, whilst of the newer varieties with coloured skin, Kerr's Pink is the most promising. After the trials now proceeding in the coastal districts, it is anticipated the number of varieties for further trials can be very considerably reduced to allow of comparisons being made on larger areas, with more conclusive data on keeping quality as well as that of cooking. At the Herberton and Atherton Shows, samples of fortyfive varieties grown by Mr. S. E. Thomas of Evelyn were exhibited, which excited a great deal of interest as well as appreciation of departmental enterprise. These samples have been received at Townsville and will be displayed at the forthcoming Townsville Show early in July.

An experiment arranged in conjunction with the Secretary of the Townsville P.A. and I. Association in the cold storage of seed potatoes was most successful. Small quantities of several varieties supplied by the Department were railed to Brisbane in October, and stored there at a constant temperature of 34 degrees Fahr. until March, when they were railed back to Townsville, and were in perfect condition for planting later in that month. The difficulty of carrying seed of any special varieties over the hottest months can thus be overcome.

## Rice.

The excellent results with Upland varieties recorded in the previous year were unfortunately not repeated this year owing to too much rain, which may seem a paradox as rice is usually associated with flooded conditions. This is true with the Lowland types, but not so with Upland varieties, of which latter, trials at present are only possible. Two comparative trials were arranged in the Tully and Proserpine districts. The area to be seeded at the Tully when prepared was flooded to a depth of 12 feet during the cyclone in February; and kept so wet with subsequent heavy rain that planting was not gone on with. At Proserpine, seed of each variety was sown, and an excellent
strike obtained, but the impossibility of cultivation through the continuous heavy rains at the time allowed such an excessive weed growth that the yields, where obtained, were very low.
From the same cause an experiment with fertiliser was void of useful result,
Weed Killers.-As Upland rice is a summer crop and grown during the months when wreds are most aggressive, some experiments with various weed killers were conducted with a view to determining if any success could be found in spraying the crop to check weed growth, without acting injuriously on the rice, during a time in which it was not possible to cultivate. Solutions of sulphate of ammonia, washing soda, blue stone, caustic soda, and arsenite of soda were tried as sprays on measured areas.

Owing to intermittent showers, the sprays did not have an opportunity of demonstrating their full usefulness, but showed in most cases some injurious effect on weed growth, especially star burr, pig weed, and growths other than grass, while doing no damage to the rice.

It was found, however, that while the sprays at strengths which did not injure the rice tended to kill the young growths of some weeds, the check given to the summer grasses, Panicum sp. and Eleusine indica particularly, which are most persistent, was insufficient to be of value.

## Cigar Leaf.

As predicted in my last Annual Report, the farmers in the Bowen and Proserpine districts have not placed any areas under tobacco, in consequence of the very low prices received for the leaf last marketed.

The situation was fully set out in a report sent in on the 7 th January of this year, together with a list showing prices for leaf received by various growers between and including the years 1913 and 1925, statistics relating to importation, \&c., and some recommendations calculated to place the industry on a payable basis.

While leaf of satisfactory quality is capable of growth in many districts of the North, the curing of the crop leaves much to be desired, and it is in this diroction, quite as much as in the marketing, that improvement is necessary. The appointment of an expert in the cure of cigar leaf has been advised and an organisation
under the Pools Act recommended, as likely to stabilise an industry that should be of great value to North Queensland.

During the year under review, the only crops of cigar leaf grown in the North were those of Mr. R W. Geary and Mr. C. R. Geary in the Townsville district, both of whom it is understood secured satisfactory yields of leaf.

## Tomatoes.

A considerably increased area of tomatoes was cropped last year principally in the Bowen (Edgecumbe) district, when, though the average yield was reduced owing to the dry season, the quantity marketed was in excess of 160,000 cases.

The amount paid out by tomato growers in marketing costs, including timber for cases, is estimated to average 3 s . $3 \frac{1}{4} \mathrm{~d}$. per case. On last year's crop this would total $£ 26,16613 \mathrm{~s} .4 \mathrm{~d} .$, and as this is distributed through many channels and of assistance to other industries, an idea of the importance of the industry can be obtained.
The acreage placed under crop this season promises to eclipse all previous records, and as there has been a very satisfactory rainfall, the output should be well in excess of that of any previous year.
Attention has been directed on the Atherton Tableland to the supply of Northern markets during the summer months when coastal crops are not available, the success attendant on the growth there of wilt-resistant varieties being
demonstrated over several years. From the interest aroused, it is expected quantities will be so marketed in the coming year.

## Cucumbers.

Some excellent returns under prevailing good prices were secured by Bowen growers last year, though the total acreage under crop was not large. Cucumbers, unlike tomatoes, which are used in many ways, are almost if not wholly used as salad, the demand appearing regulated by the severity or otherwise of the winter in the southern centres where the northern crop is marketed. As a consequence, there is not sufficient inducement to appreciably extend the areas at present devoted to the crop.
An experiment with fertilisers personally designed was arranged to be carried out in the year 1925-26, but owing to misadventure was delayed until last year. In view of the results secured in the year 1924-25, which were included in the Annual Report for that year, some of the mixtures were altered. The following table will show the mixtures used and the results obtained on the farm of Thos. Moller, Bowen, in ten plots against which the fertiliser applications and yields have been set down at the rate per acre. The fertilisers were broadeast on strips 3 ft . wide, and worked into the soil with a cultivator, the seed being sown in a line along the centre of the strips, which were 12 ft . apart, the irrigation furrow adjoining one side of each strip. Filler was used to facilitate evenness of application. $\mathrm{P}=$ Phosphoric Acid, $\mathrm{K}=$ Potash, $\mathrm{N}=$ Nitrogen.


The fertiliser mixture on Plot 7, which gives the greatest increase in yield, is identical with that which gave the best return in the year 1923-24. It is notable that the application of double quantities of the mixture on No. 8 gave a much lower increase, which bears out the experience in practice that fertilisers can be applied with benefit up to a certain amount, beyond which they may exercise a prejudicial effect on yield. The higher percentages of potash in any mixture do not appear to be of any value on Bowen soil.
The result of these trials, together with those of a previous year, indicate a 200 lb . application of a mixture approximating that of No. 7 as the most effective.

## Pumpieins.

Bowen farmers produce pumpkins of much better cooking quality than is possible in districts of higher rainfall, and frequently obtain remunerative prices in the Sydney market, but never in any farmer's thoughts was it expected that prices would touch $£ 45$ a ton, which was ©
obtained in the Sydney market during the past year.

Southern markets demand the hard-skinned types, which do well in the Bowen and Lower Burdekin districts, and will not consider Gramma varieties, which crop so much better in the northern districts of heavier average rainfall.

## Cotton.

As stated in my last Annual Report, this crop is receiving practically no attention, the only grower with any area being at Carbeen, where present results could be bettered by more efficient cultivation.

During a visit to the Chillagoe district, a very good sample of Durango was shown by a rather enthusiastic grower of a small plot, but though cotton would no doubt succeed there, the impossibility of marketing other crops successfully precludes consideration.

## Sorghum Varieties.

Two trials were arranged at Atherton and Charters Towers with twelve varieties of sorghums as a comparison with Honey Sorghum
which has given such heavy yields in the North and become firmly established as first favourite of the fodder varieties. Unfortunately, owing to Field Assistant Hamilton being away on accumulated leave, it was not possible to record the yields of the plots at Charters Towers, but the grower avers the Honey Sorghum to have proved its undoubted superiority in yield.

The results of the trials at Atherton, which experienced a cyclone and very heavy rain, tending to reduce yields, were:-


## Winter and Summer Fodders.

In pursuance of the policy of encouragement to dairy farmers and other owners of live stock to improve their returns by better feeding methods, the usual demonstration plots of summer and winter green feeds were arranged. Owing, however, to the extremely low rainfall during the first half of the year, a very poor growth was made in the winter green feeds on the Tableland, while elsewhere the seed was not sown or the crops resulted in total failure. From quite an opposite cause, many of the summer green feed plots on the Tableland were spoiled, the heavy rains of the cyclone on 9th February washing the newly-sown seed or seedlings out and so battering more forward crops as to preclude accurate estimations of yield. Farmers are encouraged to feed these crops to stock in the young stages of growth, when their nutritive ratio being narrow, a better balanced ration is made when combined with the pasturage. Most of the plots during the past year were fed off in this manner.

## Demonstration Plots.

The very great interest aroused by the growth of small plots of all summer and winter fodders in their season on a small area immediately fronting the main road a little over a mile from the town of Atherton, by arrangement with Messrs. Pink and Sons, suggests an extension of the practice to other centres and districts. It is found that plotwork on a farm, though valuable to the farmer and his immediate neighbours, is not visited by other farmers as might be expected, while plots right on the main road offer every facility, and by their appearance arrest the attention and invite inspection from the passer-by.

## School Plots.

Series of small plots of varied crops for growth during their seasons were arranged with the

Head Teachers of the Silkwood (South Johnstone), Jervisfield (Lower Burdekin), and later Malanda (Tableland) State Schools, respectively.

The difficulty in getting the area broken, and subsequent absence of the Head Teacher through illness prevented the Silkwood school scheme coming to fruition, whilst the dry season and subsequent flood in the Burdekin River greatly delayed operations at Jarvisfield. This latter area, however, comprising one acre, is now divided into plots and seeded with a great variety of crops.

The Malanda School plots which were arranged too late for summer crops have been seeded for winter crops. Where a Head Teacher is enthusiastic and energetic as are Mr. Ward at Jarvisfield, and Mr. Baker at Malanda (Mr. Ward has a Pig Club amongst his scholars now entering its third year), school plots should not only be of value to the children attending these schools, but through their interest to their parents also.

## Insect Pests.

After every season of exceptionally light rainfall many species of insects injurious to crops appear in greater numbers than usual, this past season not being an exception. Whether this is due to the eggs laid remaining dormant until suitable conditions obtain for the emergence of the larve, or whether the dry conditions acting adversely on the natural enemies are responsible, is a matter of conjecture. Most probably a combination of the two is effective, though entomologists, it is understood, rather lean towards the idea of a depletion of natural enemies.

A Grasshopper plague at the Gilbert River destroyed the whole of the crops in that locality, including small areas of pearl millet, teosinte, velvet beans, and cowpeas on departmental seed selection areas, as well as larger areas of maize, cotton, \&c.

Citrus piercing moths were reported as being in great numbers and doing much damage in nearly every Northern centre where citrus fruit is grown. Failure to deal with these moths, which were noticed attacking mangoes in January, no doubt tended to increase the numbers later on.

Catching by hand when on the fruit or by hand net when flying under artificial light in the few hours after darkness sets in appears the only effective means of protecting later-maturing varieties. This course is generally pursued, but requires pertinacity, as several individuals quoted tallies of over 2,000 killed before the visitation eased off and ultimately ceased.

Fruit Fly.-This pest was also destructive in the early months, prior to the advent of the moths. Quite a number of citrus growers, notably around Charters Towers, are using traps with the fruit fly lure with considerable success.

Green Fly.-The green fly (Jassid) was particularly plentiful on the early tomato bushes in the Bowen district; but upon good rains falling to produce a vigorous growth of bush further damage was greatly minimised.

It has been noted that the plants most heavily infected with green fly in any area are those in which the vitality has been lowered, especially by nematodes causing "knotty roots." It is also noteworthy that, in areas under cabbage, while many plants may be riddled by the larvæ of the cabbage moth, other plants showing vigorous growth will be untouched, which evidence stresses the importance of good cultivation and reasonable application of fertilizer to promote vigorous growth with increased vitality to resist the insect attack and plant diseases.
Nematodes, or eel worms, were prevalent in some of the lighter sandy loams of the Bowen district amongst tomatoes, and also on some of the Tableland potato crops in the scrub soils. Without effective control economically with a soil fumigant, the only advice possible is to rotate susceptible crops, where practicable, with those not liable to attack.

Cane Grub.-Some alarm was occasioned on the Tableland during the past year amongst the maize growers there by the attack on crops here and there, in the youngest stage of growth, of the grubs of a particular species of beetle which also affects sugar-cane. The occurrence was not held to be of serious import, as the particular beetle responsible is natural on the Tableland, while its larve have been noted previously on maize, but doing negligible damage. Most probably the extra dryness of the previous season was responsible for the greater number appearing, which may not be repeated for many years.
Destructive Coccid.-The attention of the Chief Entomologist was drawn to an attack on Rhodes grass by a coccid, which appeared on the roots and inside the base of the leaf sheaths just where the stems emerged from the soil on the farm of MeGeehan Brothers, near Kairi. Mr. P. McGeehan stated that, while the Rhodes grass grew splendidly the first year from seed, subsequent growth was much retarded, and plants gradually died out. The genus was identified by the Entomologist as Antonina, while the species will be arrived at after further examination.
In the year 1925 , evidence of a coccid attacking Para grass ( $P$. muticum) at Myola was obtained, but in this instance attack was manifest inside the base of the leaf sheaths at their attachment to the stems well above ground. The material then submitted to the Entomologist also allowed an identification as an Antonina sp.
It does not appear certain at present whether the species at present under observation is identical with that found destructive to nut grass or not, but suggests caution in distributing the latter before certainty is reached.

## Plant Diseases.

Fungoid diseases are not usually associated with dry conditions, so that in the year under review, as might be expected, instances of damage thereby were less than usual.

Maize troubles on the Tableland were noticeably less, the proportion of cobs affected with Diplodia, Penicillium, \&ce., being very small in the crop harvested from July on, allowing an excellent sample of grain to be marketed. The maize crop now being harvested will, owing to the damage sustained by the cyclone and heavy rain, show much more infection.

The special variety now being raised by the Department for Tableland seed supply will, however, very greatly minimise damage from these affections.

Head smut on the Tableland is very much less in evidence than a few years ago.

## Offictial.

Travel on instructional matters has been increased through the interest in fodder conservation, stock feeding, \&c., especially in the pastoral districts of the West, and though the appointment of an Assistant Instructor for the Tableland gave a good deal of relief in that direction, the work has increased to such an extent that application has been made for the further appointment of an Assistant Instructor for the coastal areas south of Townsville.

The staff of assistants have worked admirably, displaying an interest and keenness in their work which is praiseworthy, and in keeping with the tradition of officers of the service.

## WHEAT IMPROVEMENT.

The Assistant Instructor in Agriculture (Mr. C. S. Clydesdale) reports:-

In the season under review the wheat crop throughout the State was very much below the average, yielding 274,000 bushels. The weather conditions that prevailed previous to planting were very dry, but the light rains that fell during the early part of June were just sufficient for planting purposes and to ensure a satisfactory germination of seed. Unfortunately, a continuation of dry weather proved detrimental to a large percentage of the crops on the Darling Downs. The Maranoa district crops were better developed than those on the Downs, and yielded a very good quality of grain.

The wheat improvement work of the Department in relation to the breeding and evolving of new varieties to suit Queensland conditions is gradually exerting a beneficial effect; there is also a slight increase in the area cropped this season.

Growers generally have also kept themselves right up to date in the matter of modern laboursaving machinery, and a marked improvement has taken place in methods of cultivation and in varieties now cultivated.

Notwithstanding certain disabilities which growers in different localities had to put up with during the past season; there is every reason for an optimistic opinion regarding the future development of the wheat industry in Queensland.

It is pleasing to note that several varieties raised at Roma State Farm have again shown out prominently during the past season. A crossbred Cx B2d x Gluyas No. 2, now named "Duke of York," did remarkably well in the Cunningham district, when grown under similar conditions, alongside of standard varieties.

This variety was first tried out in the Allora district three years ago, in single drills, and gave excellent promise in the way of resistance to rust, toughness of straw, capacity to hold grain, and high-yielding capacity, therefore it should become a very popular kind to grow. The following year this variety was tried out again on a small field area, and again gave good
promise. Last season, a propagation plot of 5 acres was planted, and gave a good return of fair quality grain.

Wheat propagation plots and variety trials were carried out on the farms of Messrs. H. C. Murray, Southbrook; W. A. Lyell, Bony Mountain; E. Rowlings, Inglewood; and Geitz Brothers, Allora.

These trials represent a continuity of the work that is being carried out each year. The system in vogue is the testing out of Roma crossbred wheats, under field conditions, and the elimination of any undesirable varieties from the small plots, and extending those varieties which have proved suitable to the district.

The results obtained from the variety trials and propagation plots were generally very satisfactory, and additional supplies of seed were obtained of those kinds which complied with the Department's somewhat exacting requirements.

## Seed Wheat Improvement Soheme, 1926 SEASON.

In connection with the seed wheat improvement scheme which was introduced by the Department of Agriculture, and accepted by the State Wheat Board for the purpose of raising pure supplies of seed wheat (which include 60 per cent. of Departmental varieties), an active campaign was initiated in company with the members of the Wheat Board; an itinerary being made of the principal wheat-growing districts, with the view of locating reliable growers to undertake the raising of pure strains of seed.

Special attention was given, when choosing sites for these plots, to the selection of individual varieties to meet the varying conditions of soil and environment under which wheat is produced. Observations made over an extended period representing these latter conditions point to the necessity on the part of the grower of selecting a limited range of varieties to permit of development under normal seasonal growth; and additionally, to ensure that the kinds chosen should be suitable in every way for the situation and particular class of soil on the farm where the respective varieties are to be grown. Depreciated yields are too often met with through inattention to factors of this character, which have a very direct bearing on the State's production. In a number of localities during the past two seasons more land has been brought under the plough. On the Oakey-Mount Russell line attention is being paid to the heavy black soil of the plains, which are very extensive; here one of the Roma crossbred wheats, "Warrior," did very well when grown under similar conditions to other varieties, and it is satisfactory to note that several growers in the immediate locality secured seed from last year's plot, with the intention of planting it this season. Similar instances may be cited respecting other wheat-growing centres where the Departmental wheats have come into favour.

At Acland, on the rich friable scrub soil "Cedric" has proved very reliable, and has taken the place of other varieties. These instances could be added to, and are recorded as illustrations of the effective functioning of the wheatimprovement scheme.

During the present season (1927) arrangements were made for twenty-nine plots, com-
prising 240 acres with eleven varieties, viz: Bunge No. 1, Pilot, Florida, Flora, Watchman, Waterman, Warrior, Cedric, Beewar, Noro, Amby.

## Departmental Wheat Propagation Plots, 1927.

Further arrangements have been made with Messrs. Geitz Brothers, Allora; W. A. Lyell, Bony Mountain; E. C. Stewart, Jandowae; and E. Rowlings, Inglewood; for an area of land for the continuation of the variety trials during the coming season. At each centre 150 Roma crossbred wheats and a few standard varieties, also several varieties of barley were planted. Sowing was carried out as follows:-Jandowae and Allora, 8th and 9th June; Bony Mountain, 10th June; Inglewood, 13th June.

Good rain was experienced on the 3 rd and 4th June at all centres, ranging from 70 points to 210 points. Satisfactory germination was assured. Further rain again fell on the 17 th June, which gave the young plants an excellent start.

In addition to the above trials, an extension of the wheat propagation plots was arranged for the purpose of increasing the area under the new "Duke of York" variety. Plots were established in the following districts:-

| Name of Grower. | Area. | Date Sown. |
| :---: | :---: | :---: |
| Noller Bros., Oakey | Acres. 5 | 10 th $^{1927}$ <br> h June |
| E. Rowlings, Inglewood .. | 10 | 25th May |
| W. A. Lyell, Bony Mountain. . | 11 | 11th June |
| E. C. Stewart, Jandowae .. | 6 | 10th June |
| J. and F. Noller, Kumbia .. | 5 | 24th June |

## Fertiliser Experiments with Peanuts, Kingaroy District.

During the past few years the peanut industry has become such an important one in Queensland that large areas are now being cultivated for the raising of this crop. With a view to obtaining data necessary to effectively carry on the industry, arrangements were respectively made with Messrs. B. Young, Memerambi, and J. Cavanagh, Wooroolin, for an area of land to carry out variety trials; also fertiliser and spacing tests. The soil is of red volcanic nature, the former plots being on forest, and the latter on scrub land. Both areas were typical of the class of country used for peanut growing. Samples of soils were taken and submitted to the Agricultural Chemist.

The experiments with fertilisers and the spacing tests were carried out with the variety Red Spanish, and the variety trials with Red Spanish, White Spanish, and Virginia Bunch.

## Spacing Tests (Two Plots).

Each plot one-tenth of an acre. Distance between rows, viz. : -2 feet 4 inches, 2 feet 8 inches, 3 feet, with a single spacing between each plant of 12 inches.

## Variety Trials (One Plot).

Each plot one-tenth of an acre. Distance between rows, viz.: -2 feet 8 inches, with a single spacing between each plant of 12 inches.

A separate plot of Virginia Bunch was also sown, seed of which was obtained from E. Vesburg, Adelaide River, via Darwin, Northern Territory.

## Fertiliser Tests (One Plot).

Each plot one-tenth of an acre. These plots were planted according to the local district standard 2 feet 8 inches between the rows, with the plants spaced 12 inches apart. Ten plots, viz. :-

1. Unfertilised.
2. 200 lb . Nauru super mixture per acre.
3. 200 lb . Nauru super mixture per acre.

80 lb . Muriate of Potash per acre.
$1,000 \mathrm{lb}$. Lime per acre.
4. 400 lb . Nauru super mixture per acre.

160 lb . Muriate of Potash per acre.
$1,000 \mathrm{lb}$. Lime per acre.
5. $1,000 \mathrm{lb}$. Lime per acre.
6. Unfertilised.

80 lb . of Muriate of Potash per acre.
8. 200 Ib . of Nauru super mixture per acre. 80 lb . of Muriate of Potash per acre.
9 . 65 lb . of Nitrate of Soda per acre.
200 lb . of Nauru super mixture per acre. 80 lb . of Muriate of Potash per acre.
10. Unfertilised.

Previous to planting the lime was slacked and applied, followed by the broadcasting of the respective fertilisers allotted to each individual plot.

## Planting.

The planting was carried out on the 27th November at Mr. B. Young's farm, and 28th and 29th December at Mr. J. Cavanagh's, with the ordinary two-row planter, and seed sown at the rate of 25 lb . per acre. The Virginian Bunch variety, which was low in germination and was sown at the rate of 35 lb . per acre, had to be planted by hand owing to the kernels being too large for the plates in the machine.
Germination throughout all plots was very fair, with the exception of the Virginian Bunch variety which was poor, and neeessitated replanting in the missed spaces.
The plots generally made good growth, and compared very favourably with other crops in the immediate vicinity.

## Harvesting.

Harvesting of the plots was carried out on the 9th and 10th May. All plots at both centres did remarkably well, producing a good quality nut.

## Threshing.

Threshing was carried out at Mr. B. Young's farm, and the following yields obtained:-


Spading Tests (Red Spanisì).

| Plot No. | Distance between Rows. | Yield |  |
| :---: | :---: | :---: | :---: |
|  |  | Cwt | qr. lb. |
| 1 | $2 \mathrm{ft}$.4 in . | 7 | 118 |
| 2 | 2 ft . 8 in . | 6 | 3 |
| 3 | . 3 ft .0 in . | .. 5 | 1 |
| 4 | . 2 ft .4 in . | 7 | 3 |
| 5 | 2 ft .8 in . | 7 | $0 \quad 26$ |
| 6 | 3 ft .0 in . | . 6 | 0 |

## Variety Tests.

| Plot No. X . | Variety. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1. | Red Spanish | 6 | 2 | 12 |
| 2 | White Spanish | 6 | 2 | 2 |
| 3 | Virginia Bunch | 8 | 1 | 16 |
| Virginia | Bunch (Darwin). | 9 | 3 |  |

The plot of Mr. J. Cavanagh has not been threshed.

## Progressive Report on Paspalum Pasture Renovation Experiments.

The two plots established at Maleny and Cooroy go to prove that the ploughing-up of the old root-bound paspalum pastures is undoubtedly the quickest way of giving them new life.

This was very noticeable when cuttings were made, by the amount and quality of grass harvested. In addition to the enclosed squares established in the centre of each plot, control areas $B$ and $C$ were marked out, and cuttings were made at the same time as the enclosed squares for comparison purposes. Cutting commenced on the 11th November, 1926, and continued each month up till April, 1927.
Rainfall is as follows:-


The following list gives details of the individual and aggregate weights of green grass cut from each individual plot:-

Cooroy.


Maleny.


Sketch Plan and Details of Maleny Plots.-Area, 2 Acres.


|  |  |
| :--- | :--- |
|  |  |
|  |  |

## MAIZE IMPROVEMENT.

The Assistant Instructor in Agriculture (Mr. C. J. McKeon) reports:-

Practically the whole of the year was devoted to work connected with the Departmental seed maize improvement scheme. Although the season was somewhat unfavourable for maizegrowing, some very good yields were obtained, and large stocks of selected seed were secured for distribution.
The early part of the season was very dry, very little rain being registered until December, and the early-sown crops suffered in consequence. During the latter part of December, and practically the whole of January, very heavy rains were experienced throughout the maize-growing districts, and considerable damage was caused by floods and consequent water-logging of certain classes of soil.
The floods also had the effect of delaying the planting of the late crop, which usually takes place during December, and, as a result, many of the crops in some localities were either wholly or partially spoiled for grain purposes by frosts.

It is gratifying to again be able to report on the improvement in type and yield, and also on the increasing popularity of the Departmental varieties, which is shown by the increasing demand for seed, and in the number of successful exhibits at the last National Show which were grown from seed purchased from this Department.

It is satisfactory to be able to report that the Departmental maize improvement work is receiving greater interest from growers, both within and without the State. Inquiries from other countries for stud seed have also been received. Some assistance in this latter respect has been given to the New South Wales Department of Agriculture which secured supplies of seed for two years in succession of one particular variety-Funk's 90-Day; the standard of quality of our strain of seed now being fairly high as a result of successive years of seed selection work.

The Northern seed maize improvement work, which was started this year with the idea of evolving a suitable type of grain for the Atherton Tableland, has created a considerable amount of interest in that district, and the results so far have been more than satisfactory. The new variety (Durum), on which this Department has been working for some years, gave* very promising results, and the type and quality of the grain was very favourably commented on by leading maizegrowers in that district.

## Seed Matze Improvement.

Fairly large areas of the following standard varieties were sown in Southern Queenslandviz., Improved Yellow Dent, Golden Beauty, Star Leaming, Reid's Yellow Dent, Funk's Yellow Dent, and Funk's 90 Day. Although a number of the plots were more or less failures through dry weather, and also later by reason of excessive rain and floods, a large quantity of seed was secured, which, after grading, was sufficient to plant over 3,000 acres. Both type and quality were excellent. During the early part of the season considerable damage was done
to several crops by cutworms, and in two instances plots of 3 and 5 acres were completely eaten out.
The damage caused by the maize grub was again very slight. This applies also to weevil, no crop showing damage of any consequence, and it is doubtful if as little damage was done during any previous season. Although the necessity of picking the crop as soon as possible, particularly those ripening early in the season, has always been impressed on the growers, this could not be altogether responsible for the small amount of damage, as in previous seasons crops have been attacked long before they were fit to harvest. It is thought that the very heavy rains during December and January may have had the effect of checking them.

Twenty-seven plots, totalling $146 \frac{1}{2}$ acres, were sown with the following varieties:-

Improved Yellow Dent, 36 acres; Golden Beauty, 19 acres; Star Leaming, 22 acres; Reid's Yellow Dent, $21 \frac{1}{2}$ acres; Funk's Yellow Dent, 6 acres; Funk's 90 Day, 36 acres; Eight-row Flint, 4 acres; Cuban Yellow Flint, 2 acres. Total, $146 \frac{1}{2}$ acres.

Of these, nine plots totalling $49 \frac{1}{2}$ acres were spoiled by floods and excessive rain, two plots totalling 7 acres were completely destroyed by cutworms, and two totalling 20 acres through lack of cultivation and attention on the part of the grower.
Funk's 90 Day.-This is an extremely popular variety and has proved to be a splendid yielder. Five plots were sown, but only one plot of 11 acres and another of 2 acres were harvested, the balance being destroyed; by floods and cutworms. The large plot of 11 acres was sown in two areas, one of 9 acres and another sowing of 2 acres a fortnight later. The former received a check from dry weather and rain fell when tasselling was nearly finished. The yield was slightly over 60 bushels per acre. The later sowing struck the rain at the right time and gave the very fine yield of 85 bushels per acre.

The field characteristics were very good and continue to show improvement, particularly in the husk covering and evenness in ripening. The type and colour of grain were excellent, and it would appear that as a result of careful selection of stud seed the small percentage of reddish-tinted grain has been practically eliminated. Large stocks of very nice quality seed were secured.

An ear-to-row test plot was sown with the first sowing of the propagation plots and, considering the weather conditions, the results were good. The lowest yield recorded was 47.3 bushels per acre, whilst the highest yield reached 79.3 bushels per acre.

Star Leaming.-The majority of the plots of this variety suffered from dry weather conditions during the tasselling period, and although none of the yields were heavy, all gave fairly good results and some very good quality seed was secured. The best yield was between 65 and 70 bushels per acre. The yields of the other plots were not taken owing to damage by cutworms and parrots. The type of grain was very even and the field characteristics were also very good.

An ear-to-row test plot was sown twice, but was destroyed by kangaroo rats on each occasion.

Reid's Yellow Dent.-Four plots were sown with this variety and only small portions of two of these were harvested, the balance, including the ear-to-row test plot, being destroyed by flood waters. These were all well advanced and were very promising looking, one plot in particular which was nearly ready to harvest would have given an exceptionally heavy yield. About 2 acres in one plot and 1 acre in another were on higher land and were only partly damaged. These were harvested and a fair quantity of seed was selected. Owing to the amount of damage done, no yields were obtainable.

Funk's Yellow Dent.-Both plots of this variety were also practically destroyed by floods and only about 20 lb . of seed for further plot work was secured.

Improved Yellow Dent.-Owing to being sown later in the season the crops of this variety were not so far advanced and therefore did not suffer so severely from floods as the earlier maturing varieties. Two small plots were washed out, but the balance did very well, and although some of them were completely covered with water for some days they soon recovered. Two plots in particular developed very well and yielded in the vicinity of 85 bushels per acre. The type and colour of the grain were very good, and it is considered that the seed of this variety was the best so far selected from the standpoint of quantity and evenness of type. Field characteristics, with the exception of the height of the ears, were very good. With regard to the latter there is still room for improvement. Ears on the whole were very large, and a considerable number of particularly good ears were secured for show purposes. The results from the ear-torow test were very good, the highest yield recorded being 94.4 bushels per acre and the lowest 67.3 bushels per acre. The average yield for the sixteen rows was 81.57 bushels per acre.

Golden Beauty.-Only one plot was good enough for seed purposes, the others being too poor owing to the heavy rains; only a limited quantity of seed was therefore available. This, as is usual with. this variety, was very even in type and colour. Portion of the crop yielded very well, but the yield for the plot was only about 60 bushels per acre owing to a portion of the land bemg very rough at the time of planting and the crop made poor growth on this portion. The ear-to-row test plot was completel; destroyed by water lodging on the land where it was
sown.

Other Varieties.-Two small areas were sown with Flint varieties, and a quantity of seed was selected from one of these for further trial. The other plot was a failure owing to being sown too late in the season.

Northern Seed Maize Improvement Scheme.This was started during the last season at Burnside, Tolga, the variety used being Durum, a variety on which this Department has been working for some years with a view towards producing a type of grain to suit the climatic conditions existing on the Atherton Tableland.

A large area was sown, and the results so far are very pleasing. The crop was badly flattened by cyclone when out in tassel, but made a very good recovery and developed a good crop. The husk covering åd position and direction of the ears were splendid, the type of grain being very good. Too much credit cannot be given to the grower for the time he devoted to the crop, and also for the interest he is taking in the work. Attached please find results of ear-to-row tests.

General Duties.-The following places were visited on instructional work other than that connected with seed maize improvement work:Maleny and Cooroy on several occasions to take cuttings from pasture improvement plots; Kilcoy to judge at the Show; Wangalpong and Beaudesert in connection with fodder trials; Beaudesert on broom millet plot; and Kingaroy and Memerambi to arrange for peanut plots.
"Ear to Row " Test-Improved Yellow Dent
Row No.

Sown, 8-12-26; germinated, 13-12-26; tasselled, 10-2-27; ripened, 22-6-27; period of maturity, 191 days; highest yield, $94 \cdot 44$ bushels; lowest yield, $67 \cdot 35$ bushels; yield from check row, $70 \cdot 28$ bushels; average for plot, 81.57 bushels.
"Ear to Row" Test-Funk's 90 Day.


Sown, 6-10-26; germinated, 11-10-26; tasselled, 26-11-26; ripened, 31-1-27; period of maturity, 112 days; highest yield, $79 \cdot 34$ bushels; lowest yield, $47 \cdot 30$ bushels; yield from check row, 57.98 bushels; average for plot, $62 \cdot 66$ bushels.

## STATE FARMS-SUMMARISED REPORTS.

## GINDIE STATE FARM.

The severity of the drought in 1926 may be visualised when the actual record from 1st January to 31st December ( 903 points) is compared with the average rainfall ( 24.66 inches).

The distribution was equally unsatisfactory, only 300 points being registered for ten consecutive months-February to November. The drought broke in December, and a good fall (651 points) was experienced in March this year; sufficient to entirely alter conditions which had been gradually developing a most serious aspect. Water levels in wells automatically lowered, and in one well at the homestead supplies were reduced below normal requirements notwithstanding the best efforts made to gain more by sinking and driving. Cleaning out, deepening, and retimbering other wells proved efficacious.

The drought-resistant quality of the native grasses was remarkable, and it is satisfactory to be able to report the fact that only a few aged breeders died, and the losses from all causes was only 5 per cent.-a remarkably low figure. Had the September showers been followed early by a good soaking downpour, these losses would have been even lower. The cattle naturally left the old, dry feed for the young shoot of grass, the first growth of which was checked by hot weather and lack of sufficient moisture in the soil. At time of writing all stock on the place were in good condition and could carry on for a few months without rain.

## Fodder Conservation.

The practice of conserving fairly large quantities of ensilage and hay, including bush hay, proved invaluable. Two hundred tons of ensilage and about 80 tons of hay carried on a large number of our stock and working horses through the drought. No better demonstration could have been forthcoming of the value of ensilage for supplying the succulence to supplement dry innutritious grass, as the continuous use of the latter is one of the principal causes of impaction, inanition, and death of cattle in droughty periods.

## Stud Shorthorn Cattle.

The present number is 52 ( 43 females and 9 bulls), 5 of which have not reached a working age. Appendix females being bred up and selected from time to time for registration number 48.
Purebred herd animals number 198, 49 of which are from the well-known Belltrees, Scone, N.S.W. herd, and 149 farm bred animals, including calves, all sired by registered stud bulls. With young herd bulls and steers the total number of cattle is 441.
The young stud bull bought in Sydney for the Farm, Milton's Tribesman 3rd, sired by Sir Samuel Hordern's 4,000 -guiniea bull Masterkey, is proving a decided acquisition, his progeny being of outstanding quality.
The purchase of another high-class young bull direct from imported stock, Golden Donnington, a winner in his class at the last Brisbane Royal,
will also be of material assistance in breeding bulls with the object of the improving of district herds.

In February this year, synchronising with the improvement which has taken place in the natural pastures through the summer rains, a complement of heifers and cows were mated with the above sires. With the breaking of the drought a good demand set in for bulls of working ages, but as a general rule animals are disposed of as weaners or yearlings. One very satisfactory feature was the number of new inquiries from local breeders, and repeat orders by persons who had previously purchased and proved the value of the Gindie bred sires.

## Draught Stock.

Of the two breeds, Clydesdale and Suffolk Punches, the latter proved more thrifty during the extended drought period. Six Clydesdale mares were railed to Ellinthorp to be mated with the imported entire The Intent, with a view to the introduction of the best available imported blood. We now have three colts and one filly as the result of this mating. There are some promising colts, which it is proposed to prepare for auction, both amongst the Clydesdales and Suffolks.
Altogether the number of horses on hand has reached a total of eighty, and it is purposed to offer a number of youngsters suitable for working purposes.

## FARM WORK.

This year's operations were seriously checked by the prevailing drought, all winter cereals having failed through lack of moisture. As soon as sufficient rain fell in December a fair-sized area of Sudan grass was planted and ultimately harvested, the crop proving a welcome addition to our fodder supplies. Additionally, areas of Sudan grass, Feterita and Saccaline were sown in March as a catch crop. Thirty acres of land are at present lying fallow in preparation for the sowing of wheat as soon as rain falls. During the year teams of stock were exhibited at Emerald, Springsure, and Rockhampton Shows, and a large number of prizes secured.

## ROMA STATE FARM.

In the Maranoa district the 1926 wheat crop made an excellent start with good soaking rains in May, between three and four inches being registered. Falling on well cultivated land it soaked well into the subsoil, and this supply of moisture stood to the crop throughout. Ninety points fell in June; from 10th July, when 12 points were registered, there was a very dry period, only 3 points being recorded up till 18th September. A fall towards the end of September of 138 points came at a most opportune time, as it provided enough moisture to ensure a plump grain, a circumstance borne out by the high bushel weights recorded when delivery of the district's wheat was being made to the Wheat Board. The highest officially recorded weight, 68.2 lb . per bushel, was for Watchman wheat, a variety bred and distributed from this farm.

Operations at the farm during the year, viewed from the standpoint of the technical and scientific work of the breeding of wheats to suit Queensland conditions, can be regarded as very satisfactory. The September rain, although late, supplied that much-needed vigour necessary for plant growth and normal development of the grain. Progress work in the selection and fixation of a large number of crossbreds is sufficiently advanced to form an optimistic opinion that quite a number of promising varieties will be available for extension work, both at the farm and in different districts where officers of the Field Branch are carrying out the tests necessary to determine the suitability of the Roma bred varieties to our somewhat exacting conditions. Several hundred selections were under observation, the more advanced being grown in 5 -chain drills and $\frac{1}{4}$-acre blocks according to the individual progressive stage of each particular strain.

> Another section of activity was the growing of pure strains of seed of standard commercial varieties with a view to carrying on the continuity of selection work in conformity with the Department's wheat improvement policy.

The manurial experiments initiated at the commencement of operations at this farm some twenty years ago were continued, and although crop yields were low on account of the prolonged dry spell, the data obtained will be a useful record when finality in respect to this class of field research work is finalised.

Thirty-one different varieties grown for comparison and for the production of pure seed furnished light yields, the highest being 15.3 bushels per acre Pusa No. 4.
In the 2 -acre trials, six varieties, the yields varied from 7 to 10.5 bushels, Pusa again giving the highest yield. The field blocks grown for the purpose of supplying pure seed to growers ranged in area from 3 to 28 acres. Here again the yields were below normal, the highest being 12.1 bushels Pacific wheat, one of this farm's
varieties varieties.

## KAIRI STATE FARM.

After a lengthy period of drought the weather broke with much-needed thunderstorms and rains, which continued fairly constantly until end of April. During February a heavy cyclone was experienced, doing much damage throughout the district to stock and crops. We were fortunate in escaping any serious damage.

Approximately 500 acres has been retained for State Farm requirements, securing half to three-quarters of a mile of Barron River frontage. To avail ourselves of the full advantages of this invaluable watercourse, 107 acres of standing scrub was felled.

Grass paddocks received attention, such as suckering and eradicating of noxious weeds; fences have been kept in good repair, likewise gates and water troughs.
An excellent crop of maize was harvested, yielding 2 tons per acre. After providing local
requirements for stock, we were able to place a surplus of 52 tons with the Maize Pool for sale, for which we have received £12 14s. 6d. per ton. The maize delivered was prime in quality, and the pool analysis was as follows:-Grade, No. 1; moisture, 13.8 per cent.; foreign matter, 2 ; dead grass, . 2 ; dockage, . 2 .
The dockage on the whole quantity delivered ( 52 tons odd) only amounted to 234 lb . Variety -Farm selection originally from "Golden Beauty" Departmental seed.
All available cultivation was reploughed and planted with maize, sorghum, sugar-cane, cowpea, and Mauritius beans - 85 acres to maize, 6 acres to sugar-cane, 3 acres to sorghum and millet, and 1 acre each to cowpeas and Mauritius beans.
Both silos were filled with a mixture of the crops mentioned, and 140 tons of ensilage were cured.

Some necessary changes were made in the farm staff which have proved unmistakeably for the better, with the result that the heavy work of the farm can now be accomplished with permanent farm labour entirely. Much assistance was given by the Department in supplying up-to-date machinery and implements.
The dairy stock has been brought to a very high plane of production, with the result that Tableland farmers have become greatly interested in the State Farm herds. Good demand continues for Jersey bulls, and that for Shorthorns is improving.
Steady demand continues for both Berkshire and Tamworth pigs. The pigs were never looking better.
At the close of the year the prospects ahead for good revenue were excellent.

## HOME HILL STATE FARM.

As in previous years sugar-cane was the principal crop grown on this farm, the bulk of it being for revenue purposes. The experimental area grown to the order of the Sugar Experiment Stations consisted of 3 acres of plant Badila and 5 acres of first ratoons of the Badila variety. The 3 -acre field was divided into four plots of three-quarters of an acre each. Two of these were irrigated by the Hawaiian method, and the other two by ordinary prevailing methods, while one of each irrigation system was fertilised with 6 cwt. per acre of B3 mixture. The final results were as follow:-From the fertilised plot of Hawaiian irrigation the yield was at the rate of 38.58 tons per acre, costing 37 s .6 d . per ton, and realising 46 s . 11d. From the unfertilised Hawaiian irrigation plot the yield was at the rate of 37.14 tons per acre, costing 33s. 6 d ., and realising 45s. 1d. From the fertlised plot of ordinary methods of irrigation the yield was at the rate of $34 \cdot 18$ tons per acre, costing 36 s . 7 d . per ton, and realising 45 s . 7 d . From the unfertilised plot of ordinary irrigation the yield was 29.88 tons, costing 36s. 8d., and realising 48 s . per ton. Costs do not cover overhead charges for interest and depreciation nor for supervision or management.

The ten $\frac{1}{2}$-acre plots of Badila ratoons raferred to in " 5 acres" abovementioned resulted as follow :-


Owing to the large quantity of defective cane in the standover portion of the crop from the previous year that had to be cut during 1926 season, something like 350 tons had to be rejected on the field; therefore, to guard against the consequent loss of another year of over-production, a much smaller area was cultivated during the 1926 season for the 1927 crushingnamely, 19 acres of ratoons and 11 acres of plant cane.
Maize. -Three plots of half an acre each were sown on No. 1 field on the 18th August-namely, Funk's 90 Day, which yielded at the rate of 33.28 bushels per acre; Reid's Yellow Dent, 30.96 bushels per acre; Star Leaming, at 27 bushels per acre. A previous crop of Star Leaming maize, grown on No. 1 town area, yielded at the rate of 28 bushels per acre, but the damage done to it by bird pests was very considerable, an estimation of which indicated a yield of 37 bushels per acre under normal conditions. The soil on both areas is of a light loam, 11 inches deep, over a porous subsoil of a yellowish sandy nature.

General Crops.-Several different crops were experimented with during the year-namely, pumpkins (four varieties), potatoes (three varieties), cowpeas (five varieties), yams (two varieties), taro (three varieties), tomatoes (five varieties), melons, peanuts (four varieties), adlay, and sorghums.
Tomatoes and melons gave the greatest promise from a commercial standpoint. The crop of tomatoes on the plots cost $£ 101 \mathrm{~s} .6 \mathrm{~d}$. to produce, including that of irrigation, and returned $£ 2510 \mathrm{~s} .7 \mathrm{~d}$. Similarly in the case of the melons the figures were $£ 140$ s. 9 d . and $£ 39$ 2s. 10 d .
Lucerne.-Nine cuttings were obtained from plots A and E, which were irrigated on seven occasions at the rate of 4 inches per acre for each application.
Fruits.-Pineapples and bananas made the most satisfactory growth. Of the three varieties of pineapples under test, plot A, rough skins, produced 1,104 fruit, averaging 2.18 lb . in weight. The smooth skin variety produced 261 fruit, averaging 5.75 lb ,, whilst Ripley Queen's produced 659 fruit, averaging 2.97 lb . The stems of the "smooth skins" were not strong enough to support the heavier fruit, the individual weight of which ran up to 11 lb .
Maintenance.-A certain amount of regrading was carried out during the year on fields where levels were affected by irrigation. Two fields were surface drained to carry off storm waters and the overflow from a neighbouring irrigation system. Earth channels were reformed as required during the season and concrete channels repaired.
Plant and implements received the necessary attention to keep everything in good working condition.

## REPORT OF THE COTTON SPECIALIST.

The season under review marks the first one in what may be termed the intermediate or transitional stage in the development of the cottongrowing industry in Queensland. Last season was the concluding one under the system of Governmental guaranteed advances. The necessity of sufficiently attractive prices to remunerate the farmers, while they were learning to grow cotton, was recognised in this system and the advances were based on such - a premise. Appreciable losses were incurred through these payments, but it is believed that the progress made in growing cotton has justified this expense The industry has now been placed in the hands of the growers under the control of a Pool Board, the members of which, with the exception of the Government representative, are elected by the growers.
The Pool Board controls the handling of the crop from the time it is placed on rail, the marketing and the financing. The Department of Agriculture and Stock performs the grading of the seed cotton at the ginneries, the grading of the lint at delivery to the buyers, and controls the supplying and the maintenance of the pure seed requirements. Under this arrangement the farmer, through his Pool Board, has a voice in the disposal of his crop, and is assured through the functions of the two organisations that every effort is being made to sell his produce to the best advantage. He is also assured that the most suitable seed is being supplied to assist him in growing a cotton crop of the greatest value that his soils are capable of producing.

This season also marks the inauguration of a system of Commonwealth bounties on seed cotton, and on cotton yarn manufactured in Australia, provided it is composed of one half of Austra-lian-grown cotton, At the termination of the guaranteed prices the growers, through the Council of Agriculture, approached the Commonwealth Government for a bounty on seed cotton. That Government realised the necessity of financial assistance to the grower for a further period, while the problems of growing, marketing, \&c., are being solved, and granted a bounty for five years. They also realised that an Australian market would be the best in which the Australian cotton-grower could sell his crop. Accordingly a bounty on yarns was granted for the same - period in order to develop a cotton-spinning industry in this country.
Under such a system the Pool Board has been able to sell the whole of this season's crop in Australia, and at appreciably higher prices than could be obtained overseas. As the bulk of this cotton has been sold direct to the mills a system of disposing of the crop in which the "middleman" is eliminated has been inaugurated. This enables higher values to be paid for the cotton with a consequent greater return to the grower.
The Pool Board has financed this season's crop through the Commonwealth Bank. An arrangement was effected with this organisation whereby an advance approximating 65 per cent. of the estimated value of the lint could be paid to the grower on the receipt of his seed cotton at the
ginnery. These advances were made according to the grade and staple of the seed cotton as determined by the Government grader. The following schdule sets out the same:-

| Grade. | Staple 1. | Staple 2. | Staple 3. |
| :---: | :---: | :---: | :---: |
| * | $d$. | $d$. | $d$. |
| A | $3 \cdot 25$ | $3 \cdot 375$ | $3 \cdot 5$ |
| B | $3 \cdot 125$ | $3 \cdot 25$ | $3 \cdot 375$ |
| C | 3 | $3 \cdot 125$ | $3 \cdot 25$ |
| D | 2.125 | $2 \cdot 25$ | $2 \cdot 375$ |
| X | 3. 125 | $3 \cdot 25$ | $3 \cdot 375$ |
| $\mathrm{XX}^{\mathbf{X}}$. | 3 | $3 \cdot 125$ | $3 \cdot 25$ |
| XXX.. | $2 \cdot 125$ | $2 \cdot 25$ | $2 \cdot 375$ |

At the completion of the disposal of the entire crop any surplus, after paying all expenses, will be pro rated per pound of seed cotton and paid to the growers as a bonus.

The world's prices which have existed for cotton of the style of this season's Queensland crop have been sufficiently high to make it appear, at present, that the final returns which the growers receive, will be comparable to those received under the system of guaranteed advances. This should be a decided stimulus to the industry for the coming season. It is anticipated if favourable climatic conditions exist through the winter and planting months that a very substantial increase on the acreage of this season will be planted in the next crop. It is to be hoped that suitable growing conditions prevail throughout the next season, as it is believed, if given good results for the coming crop, that confidence in the future of the industry will be thoroughly established and a marked development will take place from then on.

The season under review has experienced the most extreme combination of climatic conditions that have existed since the revival of cottongrowing in this State in 1919. The winter rains were of a very light nature, with the exception of the areas along the Gayndah and Kingaroy lines, which made the preparation of a good seed-bed difficult and expensive. Droughty conditions continued in all districts until the and of September when light to medium rains occurred over most of the cotton sections. From then on, practically no rain fell until the middle of December when bountiful precipitations were received over the whole of the cotton belt. These storms were the first of a series which extended over all of the cotton areas for the rest of the month. Nearly every district experienced during January the first "rainy season" in many years, the total of the month amounting to as much as 15 inches in some of the sections which often suffer from lack of rain at this season of the year. Hot dry weather existed during the middle two weeks of February, and copious rains were received over nearly all the areas during March. These tapered off in April, and good picking conditions existed through most of May and June, with the exception of a general storm in the middle of the month, when up to 4 inches fell in some sections,

The following table shows the monthly totals of rainfall which were experienced at centres in most of the main cotton-growing areas :-

Months-Rainfall in Inches.


It can be seen that cotton-growing has been subjected to a fairly severe test as to its suitability in the inland distriets under heavy rainfall conditions. The results obtained have indicated, as a whole, that this crop can be grown in these areas under such conditions, with profitable results. In some sections, the extra heavy rainfall on the more fertile soils have been conducive to exceedingly rank growth, especially in the case of late-planted cotton. Early planted crops in the same localities have produced very good yields.
Experiments and results received by farmers over the previous five seasons thoroughly demonstrated the value of the cotton crop under droughty conditions. The experiences of this past season certainly indicate that good yields may be obtained under heavy rainfall conditions. It may be stated then that the cotton plant will yield well over a series of seasons in the main cotton-growing areas of Queensland. It requires but the careful observation of the demonstrated methods of growing this crop in these districts to make cotton-growing a profitable enterprise, which will compare very favourably with the other forms of agriculture which may be conducted there.

## Divisional Results.

The lack of rainfall in the winter and spring months had a decided effect on the ultimate yields in the various areas. The experiences of the growers in the Southern district have been that unless the cotton crop is planted early, it is extremely doubtful if profitable yields will be obtained. The explanation seems to be in the fact that the maize grub attacks the squares of the late planted cotton to a greater degree than it does the early planted cotton. This fact holds true in all of the districts. Unfortunately many of the areas in the Southern districts have experienced poor rainfall conditions at early planting time in nearly every one of the last five seasons; the past spring was the worst in this respect that has existed during this period. The result has been a nearly total failure of the crop in all sections of this district.
The areas served by the Kingaroy line for'tunately received a heavy storm at the end of last season which enabled the seed-beds to be prepared for this past crop. Light to good planting rains fell in September, which allowed the farmers with early prepared seed-beds to
plant. The crops withstood in a remarkable manner the long period of drought which existed from then to December. The occurrence of the rains at that time saved the situation and also allowed the late prepared seed-beds to be planted. The rainfall during January and February was not as heavy in this area as was the general average. This controlled the growth of the plants to a better degree, with the result that good yields have been obtained in many portions of this section. It is anticipated that the acreage along this line will be slightly increased during the coming season.
The area adjacent to the Gayndah line received the same storms at the end of last season as did the Kingaroy line. This allowed early preparation of the seed-bed to be made in many sections. Unfortunately, the first planting rains were of a light nature, so that only a small percentage of the acreage was planted in September and October. The delay of the next rains until the middle of December greatly reduced the cotton acreage of these areas. The experiences in nearly all sections along this line has been that late planted cotton is generally a failure-due mostly to the attacks of the maize grub; consequently considerable acreages went into other farm crops which ordinarily would have been in cotton. The yields obtained from the late planted cotton bore out the results of previous seasons. The early planted crops were a success as a whole, even under the unfavourable growing conditions of the spring. Especially good returns were obtained in the Mundubbera area from early planted crops, several growers having received as much as $1,000 \mathrm{lb}$. per acre of good quality cotton. Such yields have greatly stimulated the interest in cotton-growing and a large acreage is expected to be planted in this district during the coming season.

The Upper Burnett district has received the poorest yields for the season that have ever been returned from this area. Early planting conditions were only fair, which resulted in a limited acreage being planted at this time. Cutworm attacks were particularly severe in some sections of this district and considerable loss was experienced by some growers. In common with the rest of the cotton belt no rain fell after that until mid-December when planting was effected sufficiently to bring the acreage up to approximately 4,500 acres of cotton. Very heavy rains fell through January and the first part of

February, which caused a rapid growth of plant with little bottom crop. A hot dry spell, of nearly three weeks in February, completely checked this tendency and the district by the middle of March gave promise of producing a very heavy yield. Unfortunately, heavy rains in the end of that month and again in April caused a complete loss of the bottom and lower middle crops. Comparatively early severe frosts completely checked the development of the crops on all the alluvial areas. The result has been that only crops of from 600 to 800 lb . of seed cotton per acre were obtained in many of the sections where yields of 1,000 to $1,500 \mathrm{lb}$. per acre have been the rule in the previous seasons. In spite of such unfavourable results; the interest in cotton-growing in this district has been maintained, and it appears that a considerable increase in acreage may be expected in the coming season.

The Callide Valley has again shown its suitability for growing heavy crops of cotton in spite of unfavourable growing conditions. Winter rains were very light and difficulty was experienced in preparing good seed beds. A rain of 2 inches in the end of September enabled planting to be effected on all the early prepared seed beds. From then on no rain fell until midDecember. The early planted crops survived the droughty conditions in a remarkable manner, and quickly recovered with the occurrence of the frequent rains in December. Heavy falls were registered in January and the first week in February, after which a hot, dry period existed. This dry period cheeked the growth of the plants and forced them into heavy fruiting by the end of the month. Good rains experienced in March developed the crop of bolls which were set in the dry period, with the result that a very heavy upper middle and top crop was matured. The results obtained under such conditions have thoroughly demonstrated the value of the cotton crop to the growers in this valley, and it is anticipated that a - large increase in the acreage may also be expected for next season.
The Central Queensland district comprised of the Dawson Valley, the areas along the Central line, and the sections of country adjacent to Rockhampton, experienced the worst planting conditions for many seasons. No general planting was effected until mid-December, when large acreages were planted, especially in the Dawson Valley. Heavy rains were received during January and the first part of February which made it doubtful if remunerative yields were to be obtained in any of the sections of this district. Fortunately, hot dry weather was experienced during the last three weeks of February, which completely changed the situation. The late planted crops developed an excellent crop of good-sized bolls, and it is believed that had more rain been experienced during the early part of April comparatively heavy yields would have been obtained. The Dawson Valley crop returned excellent results when the age of the crop is considered, yields of 500 to 700 lb . of seed cotton per acre having been received by many of the growers. The results have greatly stimulated interest in cotton-growing, and it is anticipated that a big increase in the cotton acreage will be shown next season.

## Standard of Cultivation.

The general standard of the preparation of the seed bed and the cultivation of the cotton crop during this season has shown further improvement over that of previous seasons, in spite of the climatic difficulties which have been experienced. The results obtained from the early planted crops show to a marked degree the value of an early, thoroughly prepared seed bed. This has been demonstrated by large numbers of farmers throughout the cotton belt in each season. On the Callide Cotton Research Station, seed beds which were prepared from soil which broke up very roughly, carried the plants from the first of October to mid-December with only a 2 -inch planting rain. These soils were double disced, rolled, and double harrowed so as to firm the seed bed as much as possible. As ploughing was only 6 to 7 inches in depth, such a preparation allowed the rains to penetrate through to the subsoil. This subsoil moisture assisted the seedlings to develop a tap root system which enabled them to resist the droughty conditions existing before the occurrence of the general rains in mid-December. It is believed that if the growers devote more attention to this very important operation, that even greater progress in cotton-growing will be obtained next season.

## Crof Yield for the Season.

The total yield for the whole of the State will be the lowest of any received in recent seasons. This may be explained by the adverse climatic conditions at planting time, which prohibited large acreages from being planted, and the uncertainties which accompanied the transitional period between Government and Pool Board control. Low world's cotton prices, lack of understanding of the situation, pessimistic reports as to probable financial returns, depressive effects from yields obtained last season, all contributed to restrict the acreage to be planted. Unfavourable planting conditions increased thistendency, with the result that only 21,161 acres were planted by 2,351 growers. Climatic effects and insect attacks further reduced this acreage. On 10th July a total of approximately $4 \frac{1}{4}$ million lb.* of seed cotton had been received at the ginneries as compared to a total of $9,007,022 \mathrm{lb}$. for the whole of last season. This season's crop is at least six weeks late in maturing which, to some extent, accounts for the light receivals to date. It is estimated that the final total amount will be at least $6 \frac{1}{2}$ million lb .

The above acreage figures and amounts of seed cotton produced might lead one to deduce that cotton-growing is rapidly losing favour. It is advised, however, that this is a transitional effect. The sentiment towards growing this crop has been greatly stimulated by the prospects of prices being received, which will be comparable to those of previous seasons. In nearly all of the main cotton districts a decided feeling of optimism as to the successful future of the industry prevails. This is further strengthened by the belief that the period of severe droughts has broken. Recent rains in June have moistened the soils sufficiently to allow of the early and

[^0]thorough preparation of the seed bed, and given favourable rains at planting time, it is believed that a decidedly larger acreage will be planted during the coming season.

## Callide Cotton Research Station.

This important unit in the Department's activities in assisting in developing the cottongrowing industry, has experienced substantial progress during this past season. A very comprehensive series of experiments dealing with the various problems of cotton-growing has been conducted at this station with satisfactory results. The erratic climatic conditions have handicapped much of the work to some extent, but in the circumstances, generally speaking, the methods used in growing the bulk lots of cotton on the station have again been demonstrated to be suitable to the conditions. This is very satisfactory when it is considered that under extreme droughty conditions at the critical stages in the plants development, the same methods used in the bulk plantings of last season's crop returned yields varying from 925 to $1,473 \mathrm{lb}$. of seed cotton per acre. All of this season's plots have not been harvested at the date of this writing, but those of the bulk plantings completed so far indicate that yields ranging from 703 to $1,708 \mathrm{lb}$. of seed cotton per acre, with the majority of the early planted plots ranging around $1,000 \mathrm{lb}$., will be obtained over the station.
The pure seed propagation work has been continued this season with satisfactory results. The first distribution of the selected seed, which has been bred up on the station, was made this season to two growers adjacent to the farm. Unfortunately, one grower failed to secure an early strike so that a very small increase will be obtained from his crop. The other grower, on 35 acres, obtained an average yield of 1,240 lb. per acre. This is a very good return when it is considered that the crop was grown on virgin country, which was somewhat water-logged under the heavy falis af rain. The seed, from these crops and the bulk plantings on the Research Station, will be distributed in a compact district adjacent to the station. Given favourable growing conditions next season it is anticipated that sufficient seed will be obtained from this planting to supply the whole of the requirements of the Central district in the following season.
The "bulk selected" breeding plot has again produced a good crop, the average yield per acre being $1,224 \mathrm{lb}$. of seed cotton. It is believed that this would have been considerably increased had it been possible to employ surface drainage to better effect. The heavy rains stunted the growth of an appreciable portion of the plot. This is borne out by an unaffected half acre portion of the area having produced at the rate of $1,708 \mathrm{lb}$. to the acre. This plot was carefully inspected by Messrs. Henderson, Nagle, and myself, and some 240 plants were selected as having the desirable characteristics of the type for which we are selecting. Eighty lb. of seed cotton were obtained from these plants, the seed of which will be used to plant the plot again.
Two and a-half acres of this plot were rogued in the selecting process in order to obtain the most uniform seed for the station's requirements
next season. A very high standard of type was set, especially as to lint and seed characters. One hundred and ninety plants, or 1.53 per cent. of an estimated 12,375 plants were removed. In addition to this precaution, the seed from the selected plants will be carefully examined and all of an off-type will be removed. It is thus hoped to speed up the securing of a commercially uniform type of cotton.
The breeding work in the progeny block was continued, but with no outstanding features. The individual strain mentioned in last year's report has been grown under isolated conditions this season. A considerable degree of nonuniformity in the lint characters developed, but this may have been due to the irregular soil conditions. The plot on which the strain was grown was prepared under droughty conditions and planting could not be effected until midDecember. Heavy rains caused considerable water-logging, with an accompanying effect on the development of the plants. Arrangements have been made to overcome this difficulty, and it is believed that another trial of the strain this season will test it more efficiently.

## Pure Seed Propagation.

The developing of locally adapted strains of Durango and the breeding of uniform lots of seed of other cottons for testing with this variety has been continued this season. In the Upper Burnett district a 10 -acre plot of Durango, grown from selected seed of the previous crop, has shown a decided improvement in the uniformity of the structural and fibre characters. Sufficient plants were selected this season to yield 330 lb . of seed cotton. This seed is being returned to the same grower for further developmental work in the coming season. The rest of the seed of this season's plot will be distributed under isolated conditions for further propagation. It can thus be seen that progress is being made in developing acclimatised seed for this important area. It is hoped that in conjunction with the operations at Biloela, it will be possible to supply the whole of this and the Callide Valley's planting requirements by the end of next season. With these two valleys on a pedigreed seed basis, a system of seed supply will have been established whereby the whole of the State will be supplied annually with acclimatised seed which will be improving constantly in quality.

The breeding work in the Upper Burnett has been performed by Mr. R. W. Peters, who was assisted by Mr. N. E. Goodchild during this past season. In addition to the developing of this Durango area, Mr. Peters has made material progress in eliminating some of the "new place" effects in the Acala variety. A breeding plot of this cotton grown from selected seed has been located in the Murgon area for the second year. Decided improvement could be noticed in this season's crop as regards the uniformity of the lint characters. It is anticipated that sufficiently uniform seed to conduct accurate varietal tests of this variety will be available in another season. With the assistance of Mr. W. White, Mr. Peters has selected 230 lb . of seed cotton for further continuance of the selection work in this variety.

The further developing of strains of this variety in the Boyne Valley and Dawson Valley
areas was continued by Mr. Nagle and myself. In these two areas the investigations have been confined to the progeny blocks. The material in the plot located in the latter valley has given very promising results this season. From the progress which was effected it is anticipated that a strain will soon be obtained which will be sufficiently uniform to allow an accurate test of this and the Durango variety to be made.

Unfavourable climatic conditions handicapped the operations in the Boyne Valley for this past season. Early droughty conditions followed by excessive falls of rain caused such a luxuriant vegetative development that practically no crop was obtained from the Durango breeding plots. Arrangements were made to save in bulk the light scattering top crop of bolls, and it is hoped that sufficient seed will be secured to enable the areas to be replanted. The progeny plot of the Acala variety was a complete failure from the same cause. A new lot of material was selected in a bulk plot of the variety which was growing on soils more suitable to the climatic conditions.

The investigations in the Acala variety of the Gatton Agricultural College and High School were further continued this season. In spite of the very unfavourable climatic conditions during the early portion of the growing period, results have been obtained which compare very favourably with the best yields of this district. It is anticipated that the nature of the investigations being conducted at this location will be enlarged during the coming season. The opportunity is taken to express my appreciation of the co-operation which Mr. J. K. Murray, the Principal, and his officers have given Mr. Peters and his assistant, Mr. Cowdry, in connection with this work.

## Experimental Plots.

A further increase in the number of experimental plots has been effected in this crop. The results which are being obtained and the interest which the growers take in such work indicate that this phase of the activities of the section is becoming of more value each season. Unfortunately, the adverse climatic conditions seriously reduced the number of experiments which had been arranged with the various co-operators in the different districts. Sufficient experiments were completed, however, to give fairly comprehensive evidence on the various problems under investigation. It is anticipated, by the end of the coming season, that enough contacts will have been made to enable a careful study to be made of the behaviour of the cotton plant under most of the soil and climatic conditions of the cotton area of this State.

## Grading.

The developments in the cotton-growing industry in this State which have occurred this year have further increased the activity and value of the grading staff. Under the agreement whereby all of this season's crop is sold in Australia, it is necessary to class each bale of lint ; this affords an excellent opportunity to check on the grading of the seed cotton performed at the ginneries. It is gratifying to know that, as a whole, the grading of the seed cotton has been satisfactory. Under the present system, where mistakes have
been made, it has been possible to correct them within a short time after their occurrence. This has been valuable instruction to the Assistant Graders. It is believed that the class of grading which is being performed by these officials is of the utmost assisfance in developing a high standard of uniformity within the contents of the bale of lint. As the growers become more impressed with the necessity of uniformly blending the contents of a wool pack, it is anticipated that this standard will improve to the position where the uniformity of the grade within the Queensland cotton bale will compare favourably with that of any other country.

## Quality of the Season's Crop.

The umusually heavy amount of rain which fell during January and March has had a marked effect on the quality of the staple. During the past five crops, dry periods, accompanied by heat waves, have been experienced in many portions of the cotton areas. Under such conditions the length and strength of the fibre has been effected according to the degree of intensity of the occurrences. Both of these fibre characters have been effected to a somewhat similar degree, except where soil or cultural conditions have been such as to produce a definite immature fibre. The experiencing of a "wet season" such as this past one has therefore been awaited with interest in order to be able to study the effect on the fibre characters.

The length and the strength of the fibres of this season's crop have, as a whole, been decidedly better than those of any crops grown during the past five seasons. A very fine style of lint has been produced in nearly every district where the conditions were at all favourable to produce an average crop. The strength in particular has been of decided improvement as has also the body of the fibre. It can be expected, therefore, that under reasonably favourable growing conditions, a class of fibre will be grown in this State which will be entirely satisfactory to meet the requirements of spimners of this type of cotton.

## Insect Pests and Diseases.

This past season has experienced a series of insect attacks of varying degrees of importance. These include the depredations of the cutworm (Euxoa radians) in the early stages of the plant's growth; several broods of the corn ear worm or "maize grub" (Heliothis obsoleta) ; severe attacks by the pink boll worm in some of the areas adjacent to Rockhampton ; a widespread occurrence of the Harlequin or Chinese Bug (Tectacoris lineola) - a comparatively new insect to appear in any numbers; the "False Stainer'" (Aulacosternum nigrorubrum) ; and the oceurrence of the Stainer Bug (Dysdercus side).

The cutworm caused more wide-spread damage this past spring than has been experienced in previous plantings. A campaign of propaganda dealing with the control of this insect was instituted in the main cotton-growing areas. Demonstrations were made of the methods of laying poison baits, and a considerable supply of poison was distributed to the growers. It is believed
that this campaign has taught the growers an effective method of combating this insect and that it will be controlled to a better degree hereafter.

The maize grub will be referred to in the future as the "corn ear worm," in order to be in conformity with the other States in Australia and the United States of America. The outstanding feature of the investigations concerning this grub has been the degree of success to be obtained from early planted crops where the maize moth has been prevalent in large numbers. This factor has been noted in each of the last three previous seasons, but under entirely different climatic conditions to those which existed this season. The securing of the same results under such heavy rainfall conditions brings out the merits of this method to a marked degree. As there are many cultural advantages to be obtained from early planting, it makes it all the more imperative that every effort should be expended to prepare the seed bed as early as possible in order to plant after the first planting rains which may occur. It is realised that in some seasons early planting may not be effected, no matter what preparations may be made. Experiences over four seasons have shown that most late planted crops are susceptible to corn ear worm attack. Method of trap crops and dusting are being investigated therefor, so that some relief may be afforded when such occasions arise.

The pink boll worm has occurred this season in large numbers in some of the areas adjacent to Rockhampton. This is especially true in localities where the growers had ratooned a portion of last season's crop in an endeavour to counteract the disastrous climatic conditions of this past spring. The ratooned plants appeared to have afforded a breeding place for the early broods in that the earlier developing habit of such plants provides food for the first brood of grubs. This establishes a connecting link between the last season's crop and the new crop. Under the climatic conditions which existed this season, a large population was bred up which practically destroyed some of the crops in the abovementioned areas. Such a heavy occurrence makes it imperative that the most careful "clean up" of this season's crops should be made.

This season was notable in that the Harlequin or Chinese Bug reappeared in very heavy numbers after a nearly complete absence in the previous season. Investigations have shown that this insect, through its feeding habits of sucking the seed through the green bolls, introduces various fungus diseases. These diseases cause stained and weakened fibre and small immature seeds. It is believed that the economic loss caused by these insects, through the lighter weighing bolls and the immature lint, justifies the expenditure of considerable effort to control them. The hand picking of the easily discernable clusters of eggs appears to offer an efficient means of control, and experiments are being conducted in this coming season to ascertain the cost thereof.

The false stainer has appeared this season for the first time in any large numbers. This insect
has caused somewhat severe damage in some areas through puncturing the young squares. No remedies are known at present for the controlling of it. It remains to be seen, however, if the appearance of this insect in numbers of economic importance is to be an annual occurrence or if it is associated with the wet season which has been experienced.

The stainer bug which annually occurs in large numbers has been experienced all over the cotton belt. Fortunately, the weather conditions during the picking season were unfavourable to the growth of the fungoids which are introduced by this insect's method of sucking the seed. Valuable information as to the habits and life history of this bug has been collected this season, and this has thrown considerable light on its behaviour. Further studies are required, however, before any real solution of the problem of controlling the stainers appears likely.

## Acknowledgments.

The section is again indebted to Mr . Brünnich and his staff for the kind assistance which has been rendered in the analysing of the various samples of soils which have been studied this season. It is through such valuable information that a more comprehensive knowledge of the nature of the soils in the various districts is obtained. This knowledge is becoming of increasing importance in explaining the behaviour of the cotton plant under certain conditions. Valuable assistance is afforded the growers each season by the officers of the Field Staff through such information, and it is believed that this factor may become of increasing importance each season.

The section is also indebted to Mr. Coleman and his staff for the services rendered by them in testing the germination of various lots of seed submitted by the Cotton Entomologist and the other officers of the section.

## Staff Changes.

The personnel of the section has again undergone several changes during the past season.

The Senior Field Assistant, Mr. James Carew, has been transferred to the Wool Section of this Department. The loss of this officer is keenly regretted, but the fact that he had the opportunity to obtain a position which may lead to higher advancement made it desirable to sever his services with this section. The opportunity is taken to put on record an expression of appreciation of the valuable work which this officer performed while in the Cotton Section.

The Senior Cotton Grader, Mr. Eric Haseler, has been appointed as a Senior Field Assistant to take charge of the field activities of the section in the Southern district.

Mr. L. M. Hodge has been appointed as Manager of the Callide Cotton Research Farm as from 9th August, 1926.

Mr. George A. Currie has been appointed as an Assistant Entomologist as from 18th November, 1926, and has been acting as Assistant to Mr. Ballard, the Cotton Entomologist.

It is advised with extreme regret that this season has seen the completion of the term of duty of Mr. E. Ballard, the Cotton Entomologist. Mr. Ballard was attached to the Commonwealth Government by the Empire Cotton Growing Corporation for the studying of the various insect problems connected with cotton growing. Fortunately for the cotton growers of this State, the Commonwealth Government arranged that Mr. Ballard could be stationed in Brisbane and work in co-operation with this Department. The experiences of this official in Africa and India in the studying of insect problems have been of the utmost value to this section. The hearty manner in which he has at all times placed the advice based on these experiences, at the disposal of the various members of the staff, has placed them under a deep obligation to him. It is regretted that his services are required in other portions of the Empire, but it is felt that
wherever he may be assigned, he will be of valuable assistance in solving the insect problems which may arise. We wish him good luck in other enterprises which he may undertake.
I desire to put on record my appreciation of the excellent work which the members of the staff have performed this season. The activities of the section have been expanded to where a comprehensive scheme of observation and experiments covers all of the main cotton areas of the State. The Field Officers in particular have had a very arduous season in negotiating the districts under the climatic conditions. The progress being made in improving the standard of cotton growing and the knowledge being gained of the behaviour of the cotton plant under many different conditions, indicate the increasing efficiency of these officials.
W. G. WELLS, Cotton Specialist.

## REPORT OF THE ACTING DIRECTOR OF FRUIT CULTURE.

During last year the condition of the fruit industry on the whole has been fairly satisfactory. The rather prolonged dry spell extending to midsummer was responsible for a temporary set-back to bananas and citrus, the crop of the latter being deficient in quantity but much above the average quality. Bananas have been reasonably productive and the prices well maintained There is, however, room for improvement in marketing; the fact of three organisations competing for the sales suggest an absence of the co-operative spirit, which should be most prominent. Pineapples have done well and given excellent crops, for which increased prices have been received. Custard apples have been very prolific, but the fact of prices falling is not entirely responsible to this aspect. Those growers who persist in marketing immature fruit must accept a liberal share of the responsibility. Tomatoes have been plentiful, and with the exception of blight in the Stanthorpe district reasonably free from disease. The importation to Southern States of green fruit from Fiji and concentrated pulp from South Europe, if not met by a reasonable tariff as applied to other fruits, is likely to become seriously prejudicial to local production. This aspect was placed before the Tariff Commission when visiting Brisbane. Miscellaneous fruits have been reasonably productive and remunerative.

It has been noted that in far too many instances there is a total disregard of reasonable consideration to the stage of development which must be reached before fruit will ripen up satisfactorily when removed from the tree, consequently the fixing of maturity standards and their close application is contemplated.

Reasonable expansion in areas has been effected, generally under favourable conditions, but it is a subject for regret that such a high percentage of "fruit farms" are established on unsuitable soils, and more so that many of these should change hands generally on the recommendations of land agents. The elimination of the production of inferior fruit cannot possibly be effected whilst the present unscrupulous system characteristic of the sale of orchards or land advertised for orehard purposes is permitted to continue. It is seldom that purchasers are possessed of the necessary funds to avail themselves of litigation for the deception practised upon them, consequently they tolerate their loss and places are sold and resold to uninitiated purchasers on the profuse recommendations of the collector of commissions.

In respect of new orchards, more particularly of citrus, the fact that an undue percentage of the trees in almost every orchard were for
various reasons unproductive has received careful consideration, and as a result arrangements have been made with the principal nurserymen for propagation of a limited number of varieties of recognised merit and to procure their budwood from trees selected by officers of this Department. To facilitate this aspect, arrangements have been made for the necessary supplies from approved trees being supplied at cost price. Given fair conditions this will in future practically eliminate drone trees from favourably situated citrus orchards and ensure a regular supply of fruit of even quality.

The cultural aspect has received due consideration, as has also the general attention and treatment necessary to maintain trees healthy and productive. To bring the advantages more prominently before growers, demonstration plots have been established in various centres, where the effect of the application of the methods advocated are demonstrated. There is, however, much room for expansion in this direction, particularly in the application of economic measures to facilitate control of pests and diseases. Careful tests have been applied to new formulas with varying results.
The instructional side has received attention though curtailed through reduction in staff during the last quarter. The question of treating citrus trees by fumigation for scale insects is being adopted on a contract basis by a local firm, and it is expected this more effective method of control will materially benefit the growers.

The banana industry still maintains the most prominent position for values, particularly in exports. Despite various drawbacks, a steady expansion in the areas under bananas is being recorded and numerous inquiries received from other States as to the possibilities for new settlers. A satisfactory increase in areas in the Northern district is reported from whence the disease "bunchy top" has apparently been satisfactorily eradicated. Unfortunately, this cannot be said of parts of the Southern district, thongh where the growers recognise their responsibilities, control has been demonstrated as being reasonably applicable and ultimate cradication possible. The further spread of the banana weevil borer continues with the congenial harbourage so abundantly afforded by neglected and deserted plantations. The reward of $£ 5,000$ by the Committee of Direction of Fruit Marketing for an economic remedy for this pest is evident appreciation of the seriousness of its depredations, and the combined circumstances afford ample testimony of the seriousness of applying palliative measures to imported pests.

Reasonable attention is being paid to the inspection and supervision of the transfer of banana plants, by which means it is expected that the spread of "bunchy top" beyond its present boundaries will be prevented, and the dissemination of other diseases, except possibly by natural agencies, controlled. Given careful attention to details, there is no reason why the banana industry should not continue to expand and continue remunerative. The suggestion that the embargo on the black-grown product be waived must be strenuously opposed.

## Citrus.

In earlier years preference was accorded to a wide range of imported varieties, with the result that a rather high percentage of trees were found unprofitable. The selection has, as a result of experience, been narrowed down to the recommendation of a limited number only, amongst these being two Queensland-raised varieties, and on present appearances it appears that further local productions will supplant other imported kinds on account of quality and general suitability. This State is entitled to the credit of raising the first entirely seedless orange of prime quality. The percentage of inferior fruit marketed is a big handicap to the industry, and whilst the present unrestricted sale of indifferent fruit farms and "fruit lands" are permitted to continue, this feature cannot be entirely eliminated.

## Pineapples.

Further improvement in prices and consequent extension of areas has followed the more reliable marketing conditions. The output has been of excellent quality throughout; in fact, the general tendeney has been toward over-sized fruit. More attention is being applied to the selection of suckers for planting so that plants with most desirable features and yielding of best shape and quality will gradually eliminate those more or less deficient in one or more important characterestics. The introduction of plants from abroad has been suggested with the object of improving the local strain, but as each of the countries offering good types had originally procured their parent plants from this State, it was obvious that any deficiency which may exist locally was attributable to indifferent selection -a feature since being remedied. The probability of raising even better varieties from seeds is still open, but applicable to the more tropical districts, in which mainly on account of transport charges production is limited.

Deciduous fruits in coastal areas are unlikely to appreciably increase, though peaches of exceptionally fine quality are commercially produced in the Brisbane district and maintained free from fruit fly by Harvey's fruit fly lure. A fairly good season was experienced by Stan-
thorpe growers as regards the type of fruit, which was well got up for market. Unfortunately our most persistent pest, the fruit fly, continues to impose a heavy toll upon the product of many growers, and it is recognised will so continue until general effort is made to counteract it. Local endeavours admittedly have some influence, but are largely discounted by infestation from outside sources. The action of the Toowoomba Pest Destruction Board in including the fruit fly amongst pests is certainly a move in the right direction, which it is confidently hoped may be extended to include the whole of Southern divisions. Reasonable success is unlikely to attend the efforts of Stanthorpe district growers until the fruit fly problem is accepted seriously and widespread action directed against it.

## Grapes.

The dry conditions prevailing during the growing season reduced the necessity for spraying to a minimum, and though having a rather detrimental influence on the crop, this was more than compensated in increased prices.

Strawberry culture has received an impetus also due to increase in prices, but unfortunately in some lecalities, the presence of an obscure disease is responsible for failures. As this crop does not readily admit of remedial treatment when in fruit, it is expected that the total cleaning up of infested plants and replanting on clean land with plants from a clean district where conditions are more congenial to the growth of the plant, would be beneficial ; meanwhile various applications are being tried on infested plants. The numerous plants raised by the Depariment have not so far been sufficiently tested to give an authoritative statement regarding their qualifications, but is is evident better results can be expected from local seeds than those imported either from England or the United States of America.

## Marketing.

The marketing conditions have certainly very much improved during recent years, for which the activities of the Committee of Direction of Fruit Marketing are directly responsible. There is, however, room for further improvement in respect of market supplies, and it is submitted that this can be given effect to only by complete control of marketing, otherwise the irregularity characteristic of various markets will continue and prices fluctuate accordingly.

## Interstate Conditions.

The action of the Victorian authorities in adopting our grade standards for bananas is appreciated, and is expected to exercise a deterrent influence on unscrupulous packers. The recently adopted Victorian maturity standards
for citrus is, however, rather against our conditions on account of colour being the determining feature. As no restriction is imposed in respect of artificial colouring, and the sugar content of much of our fruit is normal before pronounced colouring is evidenced, the difficulty may be overcome by adopting a colouring process. Regarding grades for other lines, these are mainly on the lines applied by the Commonwealth. There is, however, occasion for further addition and amendment in various details to our standards applicable to marketing and sale conditions.

## Field Inspections.

Field inspections have been conducted with reasonable satisfaction and result. The incidence of bunchy top disease in bananas claims much attention, as does also the temperate fruit industry. Universal satisfaction is impossible, for immediate attention cannot for obvious reasons be given to the many requests received. It is recognised that more efficient means must be devised and applied for dealing with the spread of the banana weevil borer, which is insiduously extending its ravages throughout many districts. With the introduction of the contract fumigation of citrus trees for the destruction of scale insects, an appreciable reduction in labour and enhanced value of crops
are reasonably anticipated. The attention of comparatively numerous inspectors in the Stanthorpe area are still required to ensure the regulations relating to fruit fly and other pests inimical to deciduous fruits being complied with. Inspection of interstate imports have been conducted with the usual care and efficiency. Complaints have been few, and these on investigation proved to be ill-founded. The quality of fruit and produce received from the Southern States is considered satisfactory. Inspections of Queensland fruit in transit or at its destinations have been responsible for limited condemnations, for, in the case of fruits principally fruit fly and rots, and in produce, moth borers in potatoes, though condemnations from Stanthorpe district of tomatoes on account of the presencé of blight were comparatively high. Inspections under the Quarantine Act have also been conducted by the port inspectors.

A detailed statement compiled by the Senior Fruit Inspector giving imports and exports for the year is attached, from which it will be noted that whilst imports amounted to 673,110 cases, the exports totalled $1,524,554 \mathrm{c} / \mathrm{s}$., and 13,006 trays.

GEORGE WILLIAMS,<br>Acting Director of Fruit Culture.

RETURN OF QUEENSLAND EXPORTS AND TMPORTS TO AND FROM SOUTHERN STATES FOR THE YEAR ENDED 30TH JUNE， 1927.

Exports（Interstate and Overseas）．

|  |  | $\begin{aligned} & \text { ait } \\ & \text { 5 } \end{aligned}$ | $\begin{aligned} & \text { 密 } \\ & \text { 出 } \end{aligned}$ |  | $\begin{aligned} & \dot{\text { B }} \\ & \text { 豆 } \\ & \text { H } \end{aligned}$ |  |  | \％ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Brisbane | Cases． $5,039$ | Cases $119$ | Cases $21,445$ | $\begin{aligned} & \text { Cases. } \\ & 14,560 \end{aligned}$ | Bags． $3,064$ | Cases． 5,327 | $\begin{gathered} \text { Bags. } \\ 46,039 \end{gathered}$ | Cases． $1,049$ | Cases． $5,018$ | Packages． $12,709$ |
| Wallan－garra | 658，033 | 6，392 | 161，802 | 331，271 | ．． | ．． | ． | ． | ．． | 67，050 |
| Rockhampton | ．． | 120 | ． | ． | ．． | ．． | $\ldots$ | ．． | ． | ．． |
| Bowen．． |  | 104 | 3，881 | 163，737 | ． | ．． | $\ldots$ |  | 3，639 | 3，534 |
| Townsville |  | ．． | 505 | ． | ． | ． | ． | ． | $\ldots$ |  |
| Innisfail | 8，453 | ． |  |  | ． | ． | ． | ． | $\ldots$ | ．． |
| Cairns | 418 | ．． | 741 | 67 | ． | ． | ．． | ． | ． | ．． |
| Totals | 671，941 | 6，735 | 188，374 | 509，635 | 3，064 | 5，327 | 46，039 | 1，049 | 8，657 | 83，293 |
| －－ |  | 宸 |  |  |  | $\begin{aligned} & \dot{g} \\ & \frac{\tilde{x}}{\pi} \\ & \hline \end{aligned}$ |  | 莮 |  | 域 |
| Brisbane | Cases． $961$ | Cases． <br> 620 | Bags． $1,923$ | Cases． $46$ | Cases． $71$ | Packages． |  | Cases． | Cases． | Bags． |
| Wallan－garra | 39，019 | ．． | ．． |  |  | 10 | 13，006 | ．． |  |  |
| Rockhampton | ． | ．． | ． |  | ．． |  | ．． |  |  |  |
| Bowen．． | 345 | ． | ． | 6，265 | ． |  | ． | 440 | 572 |  |
| Townsville | 45 | ． | ． | 101 | ． | ．． | ． | －． | ． |  |
| I nnisfail |  | ． | ． | ． | ．． | ．． |  | ． |  | 25 |
| Cairns | 38 |  |  |  |  |  |  |  |  |  |
| Totals | 40，408 | 620 | 1，923 | 6，412 | 71 | 10 | 13，006 | 440 | 572 | 25 |

Imports（Interstate and Overseas）．


Fruit dealt with in Departmental Packing Shed ：－
Number of cases picked over， 15,328 ；number of cases fumigated， 1,642 ；number of bags potatoes picked over， 627.
Imports into Queensland（Quarantine Aot），191，504 packages．
Exports from Queensland（Commeroe Aot）， 1,759 packages．

## REPORT OF THE SUPERVISOR OF DAIRYING.

The season under review has been an unfavourable one throughout the State from a dairying point of view.

During the first half of the year drought conditions prevailed, and when the favourable rains fell towards the middle of December the condition of the dairy cows was such as prevented their responding in production when the pastures were replenished. Dairy cows freshening at this period had to recoup their lost vitality before they could reach their maximum milk yield. Such unfavourable weather conditions were responsible for a decrease in the output of dairy products of the State.
During the latter half of the period the natural pasturage made rapid growths, and the dairy cows recovered their condition and the prospects at present and for the coming season are encouraging.

Conservation of fodder chiefly as hay and in some instances as ensilage is in evidence in many dairy centres. Systematic conservation of fodder is essential if a regular output of dairy products is to be maintained. The conservation of stock fodders is of vital importance to all engaged in dairy farming and live stock industries throughout this State and Commonwealth.

As a result of the recent drought many millions of pounds sterling have been lost to the dairy farmers, wool growers, and live stock breeders. Such loss is a national one, and is further increased by preventing a continuity of supplies of live stock products, so essential in the orderly and satisfactory marketing of such products.

Seasonal conditions affect the returns of primary producers, particularly dairy farmers, and the value of the dairy herds is much reduced owing to the unfavourable climatic conditions.
The natural pasturage and artificially grassed areas over the greater portion of the dairying areas of the State are suitable for milk production, and the need of supplementing such supplies by conservation of fodders is receiving consideration.

The possibilities of the State as a producer of dairy products are in evidence during a favourable period, and if means can be found to enable dairy farmers to conserve fodders for lean periods the industry will be placed on a more stable basis with great benefit to this State, within which large areas of lands suitable for dairy farming await development.

A scheme to provide the necessary finance to establish an all-Australian system of fodder conservation should receive the consideration of State and Federal administrations and stock owners.

The dairy industry is growing and is now one of the most important industries in this State with a total value of $£ 6,000,000$.

The greater proportion of the new settlers on areas recently made available are engaged in or contemplate carrying on as dairy farmers, which is indicative of further extension of this important branch of agriculture.

The result of the adoption of a uniform brand for all choice dairy products of the Commonwealth is most satisfactory.

The prices obtained for the Kangaroo Brand of Australian products now approach closely to that obtained by leading dairying countries.

## Butter.

The quality of our choice butter was of a higher standard than in previous years, while the quality of choice grade was increased to 35 per cent., and generally there is evidence of a decided improvement in the processing of the cream and its manufacture.

Our choice butters have secured a reputation second to none by winning in keen competition, and it has been proven that our Queensland choicest butters are equal to the best grade products of any other State, New Zealand, and Denmark. Why then do we not secure the same price on the oversea markets? It is because New Zealand and Denmark produce a higher percentage of choice butter, and little, if any, butter of second or lower grades.

The production of second and lower grade butters is detrimental to the dairying industry. There is practically no market for this class of butfer in this State or with in the Commonwealth. It has to be sent overseas and disposed of on the London market and has a prejudicial influence against our produce.

The problem of reducing the quality of lowgrade butter must be solved, and with the co-operation of all engaged in the industry we hope to materially reduce the quantity in the near future.

Modernisation of dairy factory buildings and equipment will greatly assist in the solution, while attention is needed in the producing centres to ensure that first quality cream shall be delivered at the factories.

Frequent and regiular deliveries of cream are necessary in order that the high standard butter designated by the Kangaroo Brand may be manufactured.

The product of cream with high acidity does not possess good keeping quality so essential in export and storage butter.

Rail and road motor delivery service, where available, has proved of great benefit to the industry, and we look for an extension of such service.

In consequence of heavy falls of rain at the end of December and in January and February last and the flooding of creeks and watercourses, regular deliveries of cream were prevented, and caused an increase in the quantity of low-grade cream.

The destruction by fire of two central butter factories, necessitated the despatch of cream long distances by rail to other manufacturing centres, which, together with the work of reconstruction of factory premises and the installing of modernised plants during the period of high production, was responsible for an increase in the quantity of second-grade butter.

## Quantitics Exported

The quantity of butter exported shows a decrease of $13,779,853 \mathrm{lb}$., which is accounted for by the adverse weather conditions prevailing during the first six months of the period, to which is also attributable the decline in the export of cheese of $2,937,859 \mathrm{lb}$

The following shows the amount of butter exported overseas for the twelve months ended 30th June, 1927:-


Butter supplied to interstate markets for twelve months ending 30th June, 1927:-


The following table indicates the result of the grading examination of butter by State grading officers for the year ending 30th June, 1927:-
Choice grade ( 93 points and 167,123 boxes - 35 per cent. over)
First grade ( $90-92$ points) . 雪 200,067 boxes - 42 per cent Second grade ( $86-89$ points) 82,963 boxes- 15 per cent Third grade and pastry .. 38,732 boxes- 8 per cent
For the year ending 30th June, 1926, the grading was as follows:-

It will be noted that 35 per cent. of our butter manufactured during the past year graded over 93 points as against only 8.3 per cent. for the period 1925-26. This is most satisfactory and indicates the forward movement in butter manufacture in this State.

## Analyses of Butter and Cheese.

During the year 123 samples of butter and 21 samples of cheese were submitted for analysis. Upon analysis five samples were found to contain excessive moisture. The agents were allowed to dispose of this butter to pastry cooks for cooking purposes.

## Market Prices.

It is satisfactory to note that reports from London indicate that Australian Kangaroo butter is quoted within a few shillings of New Zealand butter, and on occasion has reached the price of butter from Denmark.

The price realised on the London market for Kangaroo butter varied from 149s. 3d. per cwt. to 171 s .6 d . per ewt.

The following table shows the average butter prices ruling on the local and overseas markets for the twelve months ending 30th June, 1927 :-

|  |  | Local. <br> Per cwt. |  | S. <br> Overseas. <br> Per cwt. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| s. | $d$. |  |  |  |

A decided improvement has taken place in the prices realised for Australian butter bearing the Kangaroo brand. There is evidence that the activities of the officers associated with our oversea trading division have had a beneficial influence on the marketing of our dairy products.

## Cheese.

The cheese-making branch of the industry is confined chiefly to the Darling Downs, where sixty-six cheese factories are operating out of a total of seventy-three cheese factories registered in this State, which is the largest producer and exporter within the Commonwealth.
That cheese of outstanding quality is pro duced in this State is evidenced from the success achieved by Queensland factories in interstate competition.
Seasonal conditions over the greater portion of the year were generally unfavourable to the production of a high-grade article. Following the breaking of the drought at mid-December, heavy falls of rain were experienced in January and February, producing a rank growth of pasturage and imparting feed flavours to the milk. Excessively high temperatures were experienced during this period. As the season advanced and the grasses matured, a marked improvement in the quality of the cheese was apparent.
The quality of the milk delivered at the factory determines to a very great extent the quality of the product, and it is difficult to over-estimate the importance of producing a pure, clean milk free from undesirable flavours. Low-grade, bad flavoured milk produces inferior cheese, because there is no known scientific or practical treatment that will entirely eliminate such defects. The more common sources of inferior milk are unclean milking, unsterile dairy utensils, neglect to strain and cool the milk as soon as it is drawn from the cow, and the keeping of the night's milk under insanitary conditions.

The majority of dairy farmers realise the necessity for and produce and deliver a clean sanitary milk and deserve the highest commendation. Their efforts, however, are to an extent
nullified by the less particular and careless producer.

If special training is necessary to qualify as cheese-makers and butter-makers, it is necessary that the producer and his assistants, who are responsible for the quality of the milk, should exercise every care in the production and handling of their milk supply.

Regulations providing for the production, handling, straining, and cooling of milk on the farm are provided for under "The Dairy Produce Act of 1920." The carrying out of such regulations will prove a direct benefit to the producer and the industry.
Pasteurisation of milk for cheese-making purposes is being gradually introduced to cheese factories and will become a general practice in this State in the near future, with benefit to the industry, and will ensure a more uniform article being produced which will have a beneficial effect on overseas markets.

## Holding whey in milk cans.

The practice of carting whey from the cheese factory to the dairy farms in milk supply cans has in some instances had a detrimental influence on the quality of the milk supplied, and helped to augment the proportion of undesirable flavours in the cheese.
When milk cans are utilised for this purpose, it is essential that the factory whey tank be cleansed thoroughly each day and that the cans be emptied immediately they arrive at the farm. They should be thoroughly washed, then sterilised with boiling water or live steam, and then drained and aired.

## Cheese Export.

The following shows the amount of cheese exported overseas for the twelve months ended 30th June, 1927 :-


Cheese supplied to the interstate markets for the year ending 30th June, 1927 :-


## Cheese Prices.

The following table shows the average cheese prices ruling on the local and overseas markets for the twelve months ending 30th June, 1927:-


## Marketing of Green Cheese.

There was evidence of a tendency on the part of a number of factories to forward the cheese to market while in a green or immature condition, in some cases as early as three days old. A deal of injury results from submitting cheese while in a green state to high temperatures. Owing to the high moisture content of green cheese the consequent expansion when exposed to high temperatures results in the opening up of cracks in the cheese. The excess moisture on the surface of the green cheese favours the growth of black moulds, which fill the cracks, making the cheese unsightly and depreciating its value.

Insufficient storage space at some of the factories may have accounted for the despatch of the cheese while in a green state.

## Cool Curing.

The temperature at which cheese is held after manufacture until it reaches the consumer is a most important factor in ensuring the quality of the product. Manufacturing and curing processes must be carried out under modern conditions based on scientific knowledge pertaining to both sections of cheese manufacture. The correct method of curing cheese is as important as the procedure in manufacture.

The full benefits of modern methods, i.e., pasteurisation of milk and seeding with pure tactic culture are secured only when the curd produced therefrom is ripened at a favourable temperature until it becomes mellowed and takes on the characteristics of a choice cheese. Favourable temperatures encourage the development of desirable organisms and ferments associated with the process of ripening of the fresh curd. The characteristics sought after in A1 cheese are not produced by unfavourable temperatures and conditions.
The loss in quality owing to unfavourable holding temperatures is increased by a heavy loss in shrinkage, which occurs when cheese is submitted to high and unfavourable temperatures.

When temperatures are such that a loss of fat occurs the quality of the product is seriously affected. High temperatures are accountable for off flavours and factors favourable to decomposition. Suitable curing temperatures ensure the production of desirable flavours and improves the texture and body of the cheese.

In the majority of cheese factories proper provision is not made for curing cheese. Refrigerating units, an essential to control temperatures during the summer months, are not provided. For the wellbeing of the industry it is necessary that steps be taken to ensure conditions suitable for the ripening of cheese.

## Milking Machines.

The use of milking machines calls for special care and attention on the part of the producer in the production and handling of milk and cream.

Machine-drawn milk passes through closed pipes and rubber tubing. Neglect to thoroughly cleanse and sterilise these tubes results in production of milk and cream that is unsuitable for the manufacture of good wholesome dairy products.

Milking plants require to be kept in a thoroughly clean and sanitary condition, otherwise they become a factor which has a most detrimental effect on the industry.

## Instructional.

It is realised that if the dairy industry is to continue to occupy the position which it has attained, as the producer of high-grade dairy products, the instruction of all associated with the industry must receive earnest consideration.
The services of the dairy inspectors, instructors, graders, and departmental technical officers, must co-ordinate so that the instruction to the producers and manufacturers will ensure that all associated with the industry will advance in step with the leaders in modern dairy practice, and thereby improve the quality of our first grades, eliminate low grades, uplift the industry, and make more prosperous all associated with it.
Numerous applications were made for the services of departmental dairy instructors, and a valuable service was rendered to the industry by the practical assistance given by them. Throughout the season they have been fully employed at various dairy factories in assisting the managements to improve the quality of the products.
The quality of the milk and cream, delivered at the manufacturing centres, is the deciding factor in the grade of the manufactured product. Sanitary conditions are necessary to produce and deliver a first-grade product.

Milk and cream are readily contaminated by undesirable organisms, and producers are required to exercise great care in carrying on their industry. The quality of the milk and cream delivered at the factories had the attention of the instructors, and steps were taken with a view to improving individual supplies which fell below first grade.

Instructional officers have visited various centres throughout the State, where the erection of dairy factories or the installation of machinery or plant was contemplated, in order to advise on such matters. The services of the grading officers and instructors were availed of for the purpose of carrying out the work of judging of dairy products at various Agricultural Shows and at Dairy Shows, held in connection with Dairy Factory Managers' Conference.

## Sanitation of Dairy Factories and Dairy Premises.

A systematic inspection of all dairy factories, cold stores, and dairy premises was carried out. Attention of owners was called to defects in buildings, plants, and utensils, as well as to defects in cleanliness, sanitary conditions, \&c.

Officers have met and conferred with managers and directors of dairy companies whose registered premises or plant were not modern, and were not in good order, and pointed out what was considered necessary to make the plant and buildings efficient. In carrying out such duties the officers acknowledge the co-operation and assistance rendered by the managements.

## Organised Marketing.

The Butter and Cheese Board operated in the best interests of the industry. Interstate competition at certain periods of the year militated against securing to the dairy farmer the full benefits of an orderly system of marketing of their produce.
A desire to advance their interests should be common to all primary producers throughout the Commonwealth, as its future progress and the prosperity of all its citizens are dependent upon the practical utilisation of the vast areas of rich agricultural and pastoral land within its control.
Our primary producers should endeavour to secure, through modern co-operative activities, a greater measure of remunerativon for themselves and those associated with them in the development of our rural resources.

## Grading of Dalry Produce.

The grading of dairy produce has been carried out during the season as in previous years. The standards have not been altered, but it is hoped that finality in the negotiation for the adopting of a uniform system of grading and pointing of dairy products by Federal and State Grading Departments will be reached in the very near future.

The following is the report of Mr. R. W. Winks, the Senior Grading Officer:-

For the season just ended a total of 478,885 boxes of butter was graded and classified as follows:-167,123 choice; 200,067 first class; 72,963 second class ; 38,732 third class ; approximately 35 per cent., 42 per cert., 15 per cent., and 8 per cent. respectively.

In my remarks for the season 1925-26 it was pointed out that owing to the fact that butter grading 92 points was not included in "choice" quality, thereby decreasing the percentage of gilt-edged butter, a change in the points was necessary. The anomaly still exists and makes the comparison of State and Federal grading figures confusing.
Even with this disadvantage the proportion of "choice" butter has increased appreciably and were that portion of "first class" butter entitled to "Kangaroo" stamp- 92 points, and which under the Federal Standard would be classified as choice-included in the 35 per cent. "choice," the improvement in the quality of last season's output would be much more favourable than the figures indicate.

Only occasionally in Queensland we have a full butter season, i.e., a season commencing early and finishing well-for instance, 1921-22 and 1924-25. As a rule the season either begins well and tails off badly, or vice versâ.

In the season under review the latter was the case. Owing to dry weather conditions practically the first half of the season was lost. When the rain came, despite the heavy losses in dairy eattle, a phenomenal change took place which was maintained up to the end of the season.

A gratifying feature of last year's production was the high quality of the butter submitted for examination. This was particularly the case with butter arriving in April, May, and June. Hitherto butter produced during those months was, oftener than not, inferior to that manufactured during the hot months, a fact due to the cream being held too long at the farms, thereby nullifying the beneficial effect the more favourable temperature would have had. On the other hand, a large portion of the summer cream was delivered daily at the factories.

For the season just closed, however, there was a big change for the better. Up to the end of June several factories, the majority of them in fact, regularly forwarded large consignments grading from 93 points upwards, many of them having no third and but a comparatively small percentage of second quality. This is as it should be, for with the increasing competition the improvement in the quality of our export butter is all the more urgent.
The chief defects in manufacture were weak bodied, open, and spongy textured butters, due mainly to insufficient working or unsuitable temperatures. Streakiness and mottle in most instances were not so marked as in former years. Cloudy moisture, too, was not nearly so prevalent as in the past. Fishiness, except in the case of two or three factories, was almost entirely absent.
I regret to say there were more instances of short weight last year than there should be. Admitted that the shortages on the whole were trifling, yet the net weight should never be less than that stamped on the package. Manufacturers should always allow an extra quarter of a pound to be on the safe side, particularly when the butter is inclined to be spongy or showing free moisture. The additional expense of making up shortage, the deterioration of the butter owing to rehandling, and unnecessarily prolonged storage-constitute a problem to be avoided.

## Herd Testing.

The importance of systematic herd testing is generally recognised by all progressive dairymen. Dairy farmers generally should avail themselves of the advantages offered by the Departmental Herd Testing Scheme.
The testing of herds, proper breeding, and correct feeding are the all-important factors that bear on the cost of production of milk and its products.

The dairy products of the State are in competition on the oversea markets with the products from Denmark, Canada, Argentine, and New Zealand, and it is imperative to use our best endeavours to lessen the costs of production in order that we may compete successfully.

The following report has been submitted by Mr. L. F. Andersen, Senior Herd Tester:-
During the first half of the year under review dairying was at a very low ebb owing to the severe drought throughout the dairying districts of Queensland. This condition was naturally reflected in the herd-testing work and limited testing was carried out during this period.
In spite of the unfavourable conditions, however, a number of districts continued testing throughout the season, and it is interesting to note that several centres have completed the second year, while one centre has been testing continually over a period of three years, and is still carrying on during the coming season.
The following centres have been visited regularly during the year:-

Darling Downs.-Kingsthorpe, Oakey, Nutgrove, Yamsion, and Junabee.
Burnett.-Binjour Plateau, Eidsvold, Grosvenor Flat, Goodnight Scrub, Mulgeldie, and Lawson.
South Coast.-Currumbin, Springbrook, and Coomera.
North Coast.-Maleny, Cooroy, Traveston, Cedar Pocket, Wolvi, Gunalda, and Murray's Creek.
Central.-Calliope, Ubobo, Kalapa, Biloela, and Marlborough.
Atherton.-Yungaburra, East Barron, Upper Barron, Peeramon, Julatten, Moregatta, Tarzali, and Minbun.
The number of herds dealt with during the season was 153 , and the total number of tests carried out 9,970 .
The general average daily production is practically the same as last year, the yield of milk ( 14.5 lb .) recorded is slightly less, while the average per cent. fat (4.36) is slightly higher.

The drought has again brought home to the dairymen of Queensland the necessity of providing feed for their stock during dry times, and it is to be hoped that the lesson will bear fruit.

Those who were fortunate enough to have feed stored certainly reaped the benefit this year, as can plainly be seen when perusing the records compiled by the herd testing officers:
The best herd tested during the period under review produced an average of 223 lb . of butterfat in 273 days, while the poorest herd in the same time produced 114 lb . per cow.
The importance of the above figures is perhaps more strikingly revealed by the following comparison, in which it is assumed that each herd contain 30 cows :-

Herd No. I-30 cows produce 6,690 lb. Butter
£ $s . d$.

Fat at 1 s .6 d . $\quad$. $\quad \ddot{3}, 424 \mathrm{lb}$. Butter
Herd No. 2-30 cows produce 3,424 lb. Butter 150
Fat at 1 s 6 d
Difference in favour of No. 1 Herd .. £245 5
Needless to say, the better herd was well fed and cared for throughout the whole season. Both herds were tested five times during the season.

While there may not be many better herds than No. 1, I am sure there are many on the same level as No. 2 or even lower. On further studying the Testing Record issued to the owner of the best herd above, it is interesting to note the part that the Babcock tester played in discovering the "boarder" cows, even in this herd.

The three best cows produced 903 lb . Butter Fat at 1s. 6d.
The three poorest cows produced 431 lb . Butter Fat at 1s. 6 d .

In favour of the better three
. £35 80
Contained in a herd, which has now been under test for two years, are two cows A and B. Before commencing to test the owner was inclined to favour cow B, which gave slightly more milk, but the Babcock tester discovered
that A has an average test of 4.86 , while B showed an average of 3.17 per cent. fat. When the records for the lactation were compiled A showed a return of 341 lb . butter-fat in 273 days, while B produced 236 lb . butter-fat, a difference of 105 lb . butter-fat at $1 \mathrm{~s} .6 \mathrm{~d} .-£ 7 \mathrm{~F}$ 17s. 6 d . in favour of cow $A$.
Similar cases, perhaps not quite so striking as these, can be quoted from most herds submitted to the herd-testing officers.

Although the number of herds submitted for testing in normal years is increasing, it is to be regretted that 80 per cent. of the dairy herds in Queensland have so far not been submitted to the Babcock test.

The following tables give details of testing as carried out in each district:-

GENERAL AVERAGE ALL DISTRICTS.


SUMMARY OF YEAR'S OPERATIONS.


HERD-TESTING, 1926-27.
Districts.


HERD.TESTING, 1926-27-continued.
DISTRICTS-continued.

| District. | Month. | Number of Herds Tested. | Number of Cows Tested. | A verage Daily Production of Milk. | Average Fat per cent. | Average Daily Production of Butter Fat. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Burnett Distriot.


## North Coast.



South Coast.



HERD-TESTING, 1926-27-continued.
Districts-continued.


The following report has been submitted by Mr. H. C. Russell, Inspector of Accounts :Butter Manufactured.
The total amount of butter manufactured for the twelve months ended 30th June, 1927, was $49,054,847 \mathrm{lb}$. Table A (shown below) gives the amount of butter manufactured for each month. It is worthy of mention that more than twothirds of the butter manufactured during the twelve months was made during the latter half of the period-namely, January to June, 1927.

Butter Credited to Suppliers of Cream.
The total amount of butter credited to and paid to suppliers of cream was $49,039,634 \mathrm{lb}$.

The amount undistributed represents .0031 per cent. of the total amount of butter manufactured. The undistributed amount shown in the books of the dairy companies at the end of June, 1927, is carried forward and is taken into account when making the payment to suppliers for July, 1927.

## Price Paid to Suppliers of Cream

Table A gives an estimate of the average price per lb. of butter paid to suppliers for each month.

The estimated total value paid to suppliers of cream is $£ 3,03315 \mathrm{~s}$. 6 d ., as shown in Table A.


The total amount of butter manufactured represents $975,979 \frac{2}{5} \frac{3}{6}$ boxes, or 21,899 tons 9 cwt . 2 qr. 23 lb.

Cheese Manufactured.
The following Table $B$ gives the amount of choese manufactured during the twelve months, July, 1926, to June, 1927:-

Table B.

| 1926. <br> Month. |  |  |  | Lb. Cheese Mannfactured |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (Green Weight). |  |  |  |  |

## Condensed Milk.

The amount of condensed milk manufactured during the twelve months, July, 1926, to June, 1927, is shown in the following Table C :-

## Table C.



## Retirement.

The Grading Division was constituted in 1905, and Mr. R. W. Winks was appointed to the staff as Chief Grader. He has occupied the position with every satisfaction until the 30th June, 1927, when he retired under the provisions of the Public Service Act

Mr. R. W. Winks joined the staff of the Department in 1893 as an assistant on the staft of the Government Travelling Dairy, under the supervision of the late Mr. Jno. Mahon, and has been associated with the development and progress of the dairy factory system from its inception.

The services rendered by Mr. Winks in carrying out the varied duties entrusted to him were of the highest value, and his retirement removes an efficient and courteous officer.

CHAS. McGRATH,
Supervisor of Dairying.

## PIG-RAISING.

The Instructor in Pig Raising, Mr. E. J. Smelton, reports:-

Seasonal conditions during the early part of the year under review were anything but eneouraging from the point of view of the dairy and pig farmer. Fortunately, however, towards the close of the year 1926 the weather broke, and bounteous rains fell, benefiting the whole of the coastal, highland, and Downs areas, completely changing the outlook and restoring that confidence characteristic of the dairying, pig raising and specialised lines of farming which hold sway in the districts to which our itineraries call us throughout the year. Fortunately also the Northern areas, including the Atherton Tableland, benefited from the general rains, and conditions there have rapidly improved, and the pig industry is progressing at a rate scarcely thought of in the years gone by.

With a return to something like normal and favourable conditions, pig raising also in Central and Southern Queensland has been given an impetus long looked for, and with improved prices for all grades of pork and bacon pigs might now be referred to as progressing favourably with good prospects ahead. The industry is as yet in its infancy, though eight bacon factories are in operation-several of them slaughtering upwards of 1,000 pigs per week-including the North Queensland Co-operative Bacon Company's factory at Floreat Siding, Mareeba, which factory has had quite a record year and seems now to be on a very firm and satisfactory footing. It is indeed satisfactory to note that as a result of our intensive instructional campaign we have won the confidence of the great bulk of the farmers engaged in the industry, and have made many firm friends in every district visited. This eonfidence is specially indicated in the increasing volume of correspondence between the pig raisors and the Department, correspondence invariably seeking information and advice, and in many instances inquiring as to the possibility of securing supplies of better quality breeding stock with which to replace animals that have been culled out as unsatisfactory.

We have had many letters commending the work being earried out together with hundreds of references to the value of the attractively illustrated, informative brochures and leaflets issued liberally and gratis to the farming community, and many more complimentary references to the practical value of the series of fifty Radio Talks broadeast from Station 4QG, Brisbans, under arrangement with the Director and Market Reports Officer. These all encourage us to continue with the campaign and to endeavour to reach still more of the farming community.
The Pig Club scheme has also now become quite a recognised feature, some sixty or more clubs being in operation throughout the year in various parts of Central and Southern Queensland. We are assisted in this work by the Organiser and Instructor in Agriculture in the Department of Public Instruction (Mr. F. E. Watt) who has travelled thousands of miles and visited hundreds of schools in the course of his itineraries. It is our objective to visit every school throughout those portions of the State suited to dairying and pig raising; to give lec-
tures and practical demonstrations and to enlist the co-operation of both teacher, parents, and scholars in the endeavour to establish Pig. Clubs (and other branches of the Home Project scheme) in as many schools and districts as possible.

Considerable publicity has been given to this feature of our work with benefit to all concerned. Many extremely satisfactory animals have been prepared for exhibition by Pig Club members, and these when brought together at local or district Shows have created a great deal of enthusiasm and healthy rivalry and have been the means of indirectly benefiting the club members financially and otherwise.

It is work of a highly productive nature that must eventually have a very beneficial effect upon the industry. In the course of our inspection of the pigs owned by club members (these inspections are organised in the course of the contests) we rarely see an inferior animal, and it can safely be said that in 99 per cent. of cases the pigs are accommodated and provided for in a manner much superior to that seen on the farms in most districts throughout the State.

The Pig Club scheme is no ephemeral fancy. We have worked hard and continuously to place it on a workable basis and only hope that further Instructors will be appointed so that extensive work may be carried on in the many "new" districts not yet visited in the course of this work.

That pigs can be made to become a payable proposition on Queensland farms has been proved beyond doubt. Scores of farmers have informed me that the pigs were the only animals out of which they made money during the protracted dry spells experienced during the earlier part of this year and last year. Pig raising is essentially a crop growing and farm foods utilisation proposition, hence the lessons to be learned and the lessons we have to teach are that the food supplies must be produced on the farm.

Pig prices have been restored to something like normal again, the current price for prime quality bacon pigs $-7 \frac{1}{2} \mathrm{~d}$. per 1 lb . dressed weight (July, 1927)-is a payable price, and if it could be stabilised and made a permanency would place the industry on a satisfactory basis provided up-to-date methods of breeding, feeding, and management were followed.

It is satisfactory to note that the Northern Pig Board's twelve months' guarantee of 7 d . per lb. for all prime quality bacon pigs (of correct type and weight) supplied to their factory, has been paid for nearly eight months, and there is no reason to suggest its discontinuance. It is the first occasion in Australia in which a "stabilised" price for pigs has been attempted! The action of the Board in thus assisting the Northern farmers has been much appreciated. The farmer has nothing to lose and everything to gain by becoming more efficient at his job, and by producing his stock at the most economical rate possible. The factories are compelled by circumstances and competition to be efficiently and economically controlled.

Pig raising in Queensland is becoming a much more popular industry now that it is being given greater publicity, though possibly this is an aspect of the industry often overlooked. We have much to learn from the organisation and publicity given to secondary industries in the development of agricultural industries in this State.

## Prodiction and Marketing-Improved Quality of Queensland Pig Products.

All the bacon factories report a considerable improvement in the type and quality of the bacon pigs coming forward for treatment. There is a much reduced loss in transit and by partial and total condemnation due to bruising and damage to carcasses.en route to the factories. The quality of Queensland pig products (now valued at almost $£ 1,250,000$ sterling annually) has improved in recent years to such an extent as to now compare more than favourably with the production of other States. The fact that we are finding profitable market outlets outside our own State for more than 50 per cent. of our pig products speaks for itself, especially as there is an increased inquiry all round for Queensland brands.

## Export of Frozen Poris.

During last year and portion of this year one firm alone have exported approximately 3,000 porkers as frozen or chilled pork to overseas and interstate markets. This indicates a growth of trade formerly non-existent and emphasises the growing importance of the industry; this especially so when it is known there are extensive market outlets in the East and in Great Britain for this class of pork.

The principal concern of the exporters of frozen pork is that they cannot purchase supplies of suitable porkers in sufficient quantity continuously, or at low enough rates, to warrant = the establishment of a permanent and increasing trade. It is only during periods of low prices (less than 7 d . per lb . dressed weight) for bacon pigs that the exporters of frozen pork appear to be able to show a profit. Once bacon pigs increase in value to more than $7 \frac{1}{2} d$. per ib. dressed weight, the porkers become too expensive and the trade eases up. This feature of the industry is well worth careful study and is certainly worth encouraging.

## Pig Industry Conferences.

It is satisfactory to note that our recommendations in regard to an All-Australian Conference of representatives of various branches of the pig industry have borne fruit, and that during this year an important Interstate Conference convened by the Minister for Markets and Migration was held in Sydney, at which the writer represented this Department and brought forward a number of suggestions.

The outcome of this conference was the decision to organise State Pig Industry Committees in each of the States and from those committees to form a Federal Council. The latter body will concern itself principally in the development of overseas markets and an expansion of local trade,
whereas the State Committees will be more concerned with matters pertaining to the more extensive development of the industry and the extension of local markets.

It is highly desirable that there should be an all-round increase in the consumption of pig products and that the instructional campaign be extended, the latter having as its objective the cheapening of cost of production with improvement in quality of animals produced.

## Glabstone Conference.

A conference of representatives of local producers' associations and pig raisers was recently held at Gladstone to consider the advisability of organising a Pig Pool for Central Queensland and the establishment of a co-operative bacon factory.

The outcome of this conference was the decision to organise a much larger and more representative conference at Rockhampton, when the various subjects discussed will be again brought forward and decisions arrived at. It is the objective, if possible, to secure the co-operation of one of the larger co-operative bacon-curing companies in establishing a branch factory in Central Queensland. We shall hope to have more to say about this matter in next year's report.

## ORGANISATION

It is satisfactory to note that farmers are realising more and more the value of these conferences, and that they are interesting themselves more in one another's welfare. It is hoped other conferences will be arranged, in districts far removed from the centre of operations of the several bacon factories, in order to organise better systems of trucking pigs. The bacon factories themselves are fully alive to these matters, and have moved in the direction of improving the conditions under which their supplies reach the factories. The proprietary factories, organised for the purpose under the firm title of "Stock Agents Limited," arrange for the more expeditious handling of stock in transit to market and in the adjustment of anomalies, \&c. The co-operative bacon factories also have their directors as representatives in the various wards and their "trucking agents" in practically every district. Increased competition compels the various factories to economise in all these matters as much as possible.

## The Northern Pig Board.

The Northern Pig Board continues to function satisfactorily and to demonstrate that the pig farmers in that portion of the State are disposed favourably towards the pooling system as applied to the handling and treatment of pigs and control of supplies.

## Import of Frozen Pork from New Zealand.

A matter requiring careful study and close investigation is the import into the Southern States of appreciable supplies of frozen pork from New Zealand. This pork comes on to the markets of the Southern States at a price below that which appears to be profitable there. It is
apparent that the more favourable climatic conditions and the more regular food supplies enjoyed on New Zealand farms enables the farmers there to produce their pigs at a cheaper rate than is being done in New South Wales or Victoria.

These importations have an appreciable effect on the Queensland markets, tending to a lowering of the ruling rates here, hence breeders here are just as much concerned as they are in the South; whether a higher import duty would be desirable or possible is a matter calling for urgent consideration.

The Assistant Instructor (Mr. F. Bostock) has been engaged in field work for the greater part of the year, and with Mr. Watt, of the Public Instruction Department, has carried out quite a lot of the Pig Club work. His services have been utilised to the very best advantage possible and his time very fully occupied. The fact that there are far more applications for itineraries, lantern lectures, \&c., than it is possible for us to attempt speaks for itself.

## Importation of Stock from Overseas.

This matter is referred to again for the reason that it becomes more urgent and more important each year. At present quarantine regulations prohibit the introduction of pigs from Great Britain, Ireland, and Wales; importations from Scotland have been allowed under certain conditions. Importations from America are practically prohibited and shipping space is at a very decided premium. It is recommended that special consideration be given to a temporary lifting of the embargo ex America, for a number of breeders here are interested in American breeds of pigs and no data is available here to prove that these breeds are unsuitable. The Duroc-Jersey and the Poland-China breeds have much to commend them for crossbreeding purposes.

## Stock from Great Britain.

From England, as soon as regulations permit, introduction of Berkshires, Tamworths, Large Yorkshires, and probably Large Blacks would be made. The Large Yorkshire is nowadays spoken of very largely as the best breed for crossing purposes for the production of bacon for the overseas market.

## State Farm Studs.

The studs of Berkshires at the Warren State Farm and of Berkshires and Tamworths at Kairi State Farm have increased in popularity and have shown good returns. The few Berkshires and crossbreds kept at the Hermitage State Farm are also evidently a paying proposition.

The improved strains of pigs distributed from these farms have had a very beneficial effect on the pig industry, and farmers generally are loud in their praises of the value of "State Farm stock."

## General.

Included among the many matters claiming both time and attention in this office are matters relating to the stabilisation of bacon and bacon pig prices, including prices for porkers and pork
products; the encouragement of the more extensive use of purebred breeding stock; cooperating with the Australian Stud Pig Breeders' Society in the uplift of the industry; the more extensive preparation, publication, and distribution of attractively illustrated informative pamphlets; pig crop surveys and the development of organisation aiming at the betterment of the industry and the opening up of more extensive market outlets; the preparation of further Radio Talks on matters of interest to the pig farmers; the regular supply of articles to the "Queensland Agricultural Joumal" and, where possible, to other agricultural publications and the Press generally; cooperating in the staging of exhibits at the Brisbane Show and in the New Live Stock and Meat Industry Hall where an extensive pork and pork pig products exhibit and exhibit of carcase pork in refrigerated glass chambers will be staged; propaganda to encourage increase of consumption of Pig Products; the further preparation of models of various classes of pig sty accommodation and pig farmers requirements (pig troughs and other conveniences) ; the issue of additional propaganda aiming at further reducing the losses from disease and accident, this particularly in regard to very young pigs and breeding stock; arranging of further itineraries and courses of instruction; judging at Agricultural Shows; administrative work; and correspondence, \&e. We are still working on the cinematograph film of the pig raising industry and hope this will be available shortly.

For statistics, \&c., see addenda to report of Chief Inspector of Stock.

## POULTRY.

The Instructor in Poultry Raising, Mr. P. Rumball, reports :-
The value of poultry raising as a special farming pursuit and as an adjunct to the general operations of the mixed farmer, the dairyman, and the fruitgrower is not being lost sight of. This is undoubtedly due to a large extent to the improved conditions in marketing, overseas export, and to the Department's activities.
. Overseas export is a growing feature of the industry, not only in Queensland but throughout the Commonwealth. It is rather unfortunate that we have to report that during last export season prices realised for overseas sales did not come up to expectation. This was undoubtedly due to conditions existing in England which are unlikely to resur this year, and it is believed that arrangements are well in hand whereby the quantities exported from Queensland last season will be practically doubled this year.

Overseas export, as well as being considered a fairly reliable commercial proposition, has the effect of clearing many millions of dozens of eggs from our local Australian markets during a period that under existing conditions, if a clearance were not made, would remove the poultry industry from the prominent position it holds-namely, one of the most stable rural occupations.

It is, however, a regrettable feature that exportation has to be practised, with the object
of removing surplus, during periods when it cannot be viewed in any other light than that of a speculation. What is more desirable is to increase the per capita consumption. According to the figures of the Registrar-General the per capita production of eggs is about five dozen. Working on the assumption that only half of our production is recorded with the RegistrarGeneral, and placing therefore our per capita production at ten dozen annually, we find we have a surplus. On these figures there should be no surplus if eggs were as freely consumed as they are in some countries, but rather a shortage, and it appears desirable to study a method by which an increased consumption would take place rather than rely alone on export.

The country in which the per capita consumption is highest is Canada, and the methods adopted to bring that state of affairs about could well be copied by other countries. The prices of eggs in Canada ranges throughout the year from 1s. to 4 s . per dozen, and yet they have a per capita consumption of 28.1 dozen eggs. The prices in Queensland ranges from 1s. to 3s., and yet our per capita consumption has not reached ten dozen eggs. This may in a small way be due to the general cost of living, but it is believed that the principal feature controlling it is the general reliability of the article tendered to the buying public-the consumer. In Canada eggs are most carefully graded by the producer both as regards to size and internal quality. The producer guarantees his product and the Government go further by protecting the consumer with legislation controlling sales.

A reform in this direction would undoubtedly encourage the consumption of this product in Queensland and do away with, to a large extent, the necessity of export during periods of the year when such practice can only be viewed from a speculation point of view and not a sound commercial proposition.

During the past year an endeavour was made to induce those principally engaged in the handling of eggs to agree to certain standards, and the question will be again brought up in the near future.

## Markets.

The egg markets as well as table poultry markets have returned to the producer prices which when compared with previous years may be considered fairly satisfactory; the cost of production, however, has been excessive. The Queensland Egg Board successfully exported during the latter part of 1926 some 180,000 dozen eggs, apart from those sent interstate. It is believed that with the exception of a small parcel of about 1,000 cases exported from New Zealand, Queensland obtained the best average price. This is rather encouraging, especially when it is considered that it is only our third attempt at direct export.

The coming of 1927 featured the co-ordination of the efforts of the larger egg merchants and the Queensland Egg Board. This action should, if well handled, in time place Queensland's egg marketing system in a superior position to most countries and be of great benefit to producers.

## Cost of Production.

During the first half of this financial year the cost of production was exceptionally high and proved very trying for many farmers. It is not, however, considered that it was responsible for the rearing of any less stock, but it undoubtedly induced, compelled in some cases, poultry raisers to rigidly cull their flocks. This naturally is not a serious feature, as it has probably taught many poultry raisers in one year what the Department has been trying to bring home for years; that it is not quantity but quality of stock that is necessary to success.

The cost of feeding in Queensland is higher than in most States, and it is believed that the best way to reduce it is by making use of grain sorghums. Poultry men, however, are not in any position to experiment in the direction of feeding, nor is this grain regularly available. During
visits to various country centres, it has been noticed that these grains have been extensively used and egg yields have been satisfactory. The conditions under which the stock are kept are entirely different to that of our commercial poultry farms, and it is believed that good work could be done in the direction of feeding tests.

## Stock.

The principal class of poultry kept throughout Queensland are egg producers. Table poultry receives scant consideration. The White Leghorn, it is estimated, would total 60 per cent., Black Orpington 20 per cent., and all others 20 per cent. These are, however, estimates only. The quality of the stock throughout the State compares favourably with any in Australia; in fact, from the point of view of egg laying it is doubtrul if our records can be equalled by most countries.

## REPORT OF THE CHIEF ENTOMOLOGIST.

## Staff and Accommodation.

There has been little change during the last twelve months in the staff of the Division of Entomology and Plant Pathology. One additional appointment was made in the entomological branch, the new officer being Miss Temperley, B.Sc., who entered the service as Temporary Assistant to Entomologist in September, 1926. The present staff thus consists of eight officers investigating entomological problems, three engaged on plant pathological duties, one illustrator, and one clerical officer. The Chief Entomologist is associated with the activities of both the entomological and pathological branches of the division.

The quarters occupied by the staff in Brisbane are practically the same as in the previous year, the only difference being that a few minor alterations have been made in the fittings of some of the rooms in order to more profitably employ the available accommodation.

At Stanthorpe a distinct improvement in accommodation can be recorded, the Department now possessing its own building, portion of which is devoted to the work of the departmental entomologists stationed in the district. The laboratory facilities provided in the new quarters are much more extensive than in those previously oceupied. A further benefit conferred by the increase in accommodation is the fact that it permits a better display of collections, specimens, \&c., all of which are rapidly accumulating.

## Banana Insect Pests.

The pest of outstanding importance in the banana plantations of Queensland is still the banana weevil borer (Cosmopolites sordida Chevr.). The investigation of the life history and control of this extremely destructive insect has occupied the major part of Mr. Froggatt's time since December, 1920. During the course of the investigation numerous progress reports have been issued, and a very comprehensive bulletin was published in January, 1926. The life history of the pest has thus been worked out in great detail and comparatively little of practical importance remains to be ascertained regarding that aspect of the banana weevil borer problem. With regard to the control of the pest the system of trapping with Paris green baits is recommended as a remedial measure, and it is believed that it is a sound and practicable form of control if enthusiastically adopted. So far as the departmental investigations are concerned, no evidence has been obtained that would warrant any expectation of an improvement on that artificial control measure.

It may thus be claimed that the great bulk of the work in connection with the life history and artificial control of this borer has now been finalised, but work is still in progress along the line of exploring the prospects of biological control by the introduction of parasites and predators.

Some good work has already been accomplished in that direction, and several colonies of a predaceous beetle (Plaesius javanaus Er.) have been introduced, the last colony having been liberated in Jure, 1926. An examination of the plantation on which the most recent colony was liberated revealed the fact that, early this year, the predaceous beetle was breeding in the vicinity of liberation. Sufficient time, however, has not yet elapsed to warrant an expression of opinion as to whether or not the colony has succeeded in permanently establishing itself.

Much time was devoted by Mr. Froggatt to further field experiments in connection with the control of the banana thrips, the work being carried out partly at Innisfail and partly in the South at Gympie. These experiments extended over a period of twelve months and, as a result of the information obtained therefrom, recommendations were published in favour of dusting with a comparatively new fumigant-namely, calcium cyanide.

The thrips (Anaphothrips sigmipennis Bagnall) is a most important factor in banana. production in the North, and some attention will still have to be devoted to this serious problem. One point worthy of further investigation is the possibility of using a mechanical barrier to prevent thrips gaining access to the bunches of bananas. There are also a number of obscure points in connection with the pupal stage of the insect that demand attention on account of the fact that their elucidation may prove of some importance in connection with control.

An investigation of the life history and control of the fruit fly (Chaetodacus musae Tryon) responsible for injury to bananas in North Queensland was commenced early in 1926, and since then a considerable amount of information has been accumulated. Preliminary experiments with luring have been conducted, and it is hoped that these will be repeated. Very encouraging results were obtained with small scale demonstrations of the use of stockinette covers on the bunches. Further work on the control of this pest is, however, highly desirable.

The damage due to fruit-spotting bugs in banana plantations in the Byfield district, near Rockhampton, has been the subject of renewed investigation, and it now appears that two species of Coreidae are responsible for the losses sus-tained-namely, Pendulinus lutescens Dist. and Pendutinus fuscescens Dist. These species were previously recorded under the generic name Dasynus, but they are now included in the genus Pendulinus.

One of the most important pieces of work undertaken in connection with banana pests during the last twelve months was the investigation of a very severe outbreak of the fruit-eating caterpillars of the Noctuid moth, Tiracola plagiata Wlk. The outbreak commenced early in March, when the caterpillars were observed in enormous numbers on the edges of the scrub and on weedy uncultivated areas adjoining banana plantations. From these areas the caterpillars
invaded the plantations where they voraciously fed on weeds and also attacked the foliage and fruit of the bananas. The Kilcoy, Kandanga, Amamoor, Cooran, Cooroy, and Montville districts were visited in connection with this outbreak and inquiries were received from many other centres. The injury to attacked fruit was in many cases very severe; fortunately, however, the outbreak ceased almost as suddenly as it commenced. The investigation of the life history and control of this pest was actively pursued during the outbreak, and the life-history studies have been continued up to the present moment, the work being in the hands of Mr. Weddell and Miss Temperley. It is hoped that a detailed account of the pest will be available for publication in the immediate future.

A number of pests of minor importance have been observed associated with bananas, and in the course of field investigations additional information of value relating to them has been accumulated, but in no case is it yet sufficiently extensive to warrant publication.

Mr. Weddell, as in the previous year, afforded Mr. Froggatt valuable assistance in his investigational work. He assisted in all the entomological problems under consideration, but, as already indicated, he devoted particular attention to the fruit-eating caterpillar outbreak.

## Deciduous Fruit Pests.

The Queensland fruit fly (Chaetodacus tryoni Frogg.) again featured very largely in the programme of work carried out by Mr. Hubert Jarvis, the departmental entomologist stationed at Stanthorpe. Perhaps the most important advance made in the investigation of that pest during the past twelve months was the success achieved in breeding the fly in captivity. Much obscurity has existed regarding a number of important points in the life cycle of this pest, due to the difficulty experienced in handling it in captivity. Last year unsuccessful efforts were made to breed the fruit fly in field cages, but this year success was achieved towards the end of the season. The information obtained from this successful attempt will shortly be published in an article at present in the course of preparation.
The woolly aphis parasite (Aphelinus mali Hald.) introduced by the Department in 1923, was again of value throughout the district in effecting a great saving of time and money previously spent in spraying for the control of the woolly aphis of apple (Eriosoma lanigerum Hausm.). During the long dry spring and early summer the parasite was not as abundant as one would have wished, but shortly after rain set in it became extremely common, and Mr. Jarvis is of the opinion that it is now to be found in every woolly aphis infested orchard in his district. It will be interesting to note just what level of efficiency is attained by this parasite in future years when the normal and more or less permanent balance is struck between the parasite and its host. In the meantime it can confidently be claimed that its introduction has been fully justified.

Codling moth control occupied a considerable amount of Mr. Jarvis's time during the 1926-27 season, and attempts were made to add to the
standard measures at present in use-i.e., the spraying and bandaging of trees and general orchard hygiene. Trials were carried out with fermented apple juice and vinegar, but it cannot be claimed that the results obtained, under Stanthorpe conditions, were at all promising. In fact, they were very disappointing, and the number of moths caught per trap was quite insignificant. The unsatisfactory results obtained from this preliminary trial may, of course, have been associated with the heavy rains experienced during December and January. It is interesting, and probably important, to record the fact that very considerable numbers of cutworm moths were obtained in the traps.
A number of other pests were the subject of investigation during the past twelve months, and some important information was collected with respect to their life histories and control. Particular attention was devoted to the Rutherglen bug (Nysius sp.) and the diamond-back moth (Plutella cruciferarum Zell.), while some time was spent investigating an attack on tomatoes by an unidentified species of mite.

As has been the case in the past, Mr. Jarvis acted as an advisory officer on general entomological problems in addition to carrying on the research projects already referred to. Mr. Watson adequately assisted Mr. Jarvis in the performance of his duties.

## Citrus Insect Pests.

The outstanding feature of the year's inquiries relating to citrus pests has been the great prevalence indicated therein of the orange piercing moths, particular reference being made to Othreis fullonica L. This species was evidently abnormally abundant in coastal Queensland during the late summer and autumn months, and serious losses were sustained as a result of its activities.

Citrus was also involved in the serious Rutherglen bug outbreak that occurred during October, November, and December. This pest was the subject of a detailed investigation, fuller reference to which will be made in a later paragraph.

Scale insects were again more or less abundant, and as in previous years inquiries related mainly to the red scale (Aspidiotus aurantii Maskell), the white louse (Chionaspis citri Comstock), and the pink wax scale (Ceroplastes rubens Maskell).

Cyanide fumigation for the control of scale insects was a subject of field investigation in conjunction with the Fruit Branch.

## Insects and Other Pests of General

Agriculture and Stock.
One of the outstanding features of the work on general entomology during the past year has been the very decided progress made with the Rutherglen bug (Nysius sp.). A serious outbreak of this extremely destructive insect commenced in October, and the investigation of its life history and control was immediately undertaken. The work in the vicinity of Brisbane was allotted to Mr. Smith, and during the course of the outbreak he was able to ascertain the main features of the life history of this
very important pest. Considerable timie was also devoted to preliminary experiments designed to determine the value of dusting as a control measure for the Rutherglen bug. Encouraging results were obtained in these small scale trials which will be repeated as soon as the pest again becomes common.

The blue oat mite (Notophallus bicolor Frogg.) was also the subject of a brief investigation by Mr. Smith, the work in this case being conducted in the Nobby district of the Darling Downs.

During the summer months Mr. Summerville was entrusted with the work of investigating the whole subject of ant control. Inquiries are very frequently received with requests for advice as to the best measures to be adopted for the control of these insects, and it was considered desirable to investigate the problem. Particular attention was given to the destruction of large nests, to the control of harvesting ants that seriously affect the yield of seedlings, particularly of vegetables, flowers, and grasses, and to the control of species that make a nuisance of themselves by invading dwelling-houses and by nesting in packages in warehouses. The extremely wet weather experienced during the summer months considerably interfered with the progress of the field work, but nevertheless much of value was accomplished. The best means to be employed in the destruction of nests have been dealt with, and the value of poison syrups is at present being tested as a control measure for the domestic species. Little progress has been made with regard to the harvesting ants, but these will be investigated as soon as suitable opportunities arise for doing so.

Another subject of investigation was the somewhat important problem of the control of timber borers breeding in dwelling-houses and warehouses. These borers are frequently referred to by inquirers, and it is hoped that an article dealing with them will be available in the near future.

During the month of August attention was directed to an outbreak of cattle poisoning associated with the presence of the larva of the ironbark sawfly (Pterygophorus analis Costa). Various field observations were made on the life history of this sawfly.

Army worms and cutworms were decidedly troublesome during the year, and in each outbreak efforts were made to collect as many field notes as possible regarding the life history and control of these serious pests. Effective and thoroughly practical measures are available for the control of these caterpillars, and they were demonstrated at suitable centres during the different outbreaks.

The various species of Coccidæ attacking the underground portions of plants have also been the subject of investigation, the work in this case being in the hands of Mr. Summerville. Appreciable progress has been made, and there is now a much clearer understanding with regard to the economic status of certain of the species that were under investigation.

Many other species of insects were handled in the course of routine advisory work, and wherever opportunities occurred for doing so additional details regarding their life histories and contiol were noted.

## Taxonomic Work.

Mr. Girault again devoted most of his time to taxonomic work, concentrating almost exclusively on the parasitic Hymenoptera and on the Thysanoptera, both groups of the greatest economic importance.

## Agricultural Survey of Queensland.

An agricultural survey of Queensland was commenced during the year under review, and the Chief Entomologist was appointed to the committee entrusted with the organisation of the work. The first field survey commenced in April, and occupied some six weeks, the entomological representative on the field party being Mr. Smith.

## Pathological Investigations.

The past year has witnessed a distinct advance in pathological activities, and the benefits arising out of the increase of staff are rapidly becoming apparent. Mr. Simmonds has made appreciable progress in the organisation of his work, and, in spite of the amount of labour involved in doing so and in the handling of roufine inquiries, a considerable amount of valuable work has been accomplished in the investigation of some of the more important plant diseases of Queensland. It is hoped that details of certain of these investigations will be available for publication in the immediate future.

As in the previous twelve months the passion vine leaf spot received most of the time available for investigational work, and Mr. Simmonds has now in hand the preparation of a manuseript discussing the nature and possible control of this disease. The unfavourable climatic conditions prevailing in the spring of 1926 interfered with the elaborate set of spraying experiments drawn up by Mr. Simmonds, and in all probability these will have to be repeated. While the main project in connection with passion vine was the investigation of the leaf spot, some attention was also given to several other diseases of this plant.
An important disease of pawpaws was under observation during the year, and the preliminary inquiries have already indicated the lines of investigation that are probably suitable for the elucidation of this problem.

A considerable amount of attention has been given to the investigation of cassava diseases, and an inquiry into losses due to blue mould in citrus has also been conducted during the last few months. Diseases of cucumbers, pricklypear, and bananas have also featured in the investigational work.
Tomato diseases have occupied a good deal of Mr. Simmonds's time, and as a result of his inquiries a manuscript dealing with spotted wilt was completed in time for publication in the July number of the "Queensland Agricultural Journal."

It is worth while recording the fact that during the year over 400 specimens have been received for pathological examination. Wherever possible, advice has been tendered regarding the nature and control of the diseases exhibited by these specimens, and it is believed that much benefit has thereby accrued to the agricultural community. These inquiries have also frequently furnished material of value for the investigational work of the pathologists.

As in the previous year, Mr. Morwood effectively assisted Mr. Simmonds in carrying out the duties allotted to the branch, and, in addition to his work on investigational and routine matters, he was responsible for practically the whole of the work of cataloguing.
Mr. Tryon continued his investigation of the diseases associated with the pineapple plant.

## Illustrations and Exhibition Cases.

As in the previous year, Mr. I. W. Helmsing carried out the duties of illustrator, and in the course of the twelve months he prepared twentythree pen-and-ink plates, four coloured plates, two maps, and four exhibition cases, the latter containing forty-seven figures in colour. These plates are really indispensable for the illustration of the type of article written by the officers of the division for the information and guidance of the agricultural community, and those completed during the year formed a valuable addition to the existing series.

The exhibition cases referred to fully illustrate the life histories of four important pests that were under investigation during the yearnamely, the Rutherglen bug, the San José scale, the banana thrips, and the fig beetle.

## Exhibits at Shows.

The usual contribution was made to the departmental exhibit at the National Exhibition in August, and the division was also represented at the Stanthorpe Show. In both cases the exhibits attracted very considerable crowds, and it seems reasonable to believe that the educational value of such exhibits of destructive insects and the measures adopted for their control must be very considerable. It is hoped that this type of work will be developed in future years.

## Collections.

The entomological collections were maintained in a satisfactory condition and a certain amount of time was devoted to the rearrangement of several families of insects. A considerable number of specimens were forwarded to Europe for taxonomic study and the division is indebted to the Imperial Bureau of Entomology for the assistance received in this respect. Considerable assistance was also given by the Queensland Museum authorities.

The collections received a fair number of accessions that were obtained during field investigational and advisory work carried out by various members of the staff. The greatest number of accessions were in the category of insects associated with the banana plant, but the work in connection with the Agricultural

Survey was also responsible for a considerable influx of insects of known or suspected economic importance. A large number of specimens were also obtained during a visit paid to Palm Island by Mr. Summerville.

A commencement was made with the expansion of the collection of economic insects, and the whole of the known species associated with banana plantations were rearranged in a new cabinet. The pests of other economic plants will, it is hoped, be similarly dealt with in the near future.

Mr. Summerville was in charge of the general collections, and his duties as custodian were adequately discharged during the year.

Considerable accessions were made to the herbarium and slide collections of the pathological branch of the division, and much suitable material has been accumulated as a nucleus for a pathological exhibit at the National Exhibition.

## Visits to Country Districts.

The advisory and research work of the division necessitated a number of visits to different centres throughout the State. These visits varied in duration from one day to six weeks and totalled 110 for the year as compared with 57 in the previous twelve months. These figures serve to indicate the rapid extension of the field activities of the entomological and pathological staff.

## Library.

The usual number of bulletins, leaflets, and other publications dealing with entomology and plant pathology have been received from practically all over the world as exchanges, and these have constituted a valuable addition to the library. A numbẹ of volumes and several serial publications have also been purchased.
The card catalogue of Australian economic entomological literature referred to in last year's report has been continued with respect to the publications mentioned-namely, the "Queensland Agricultural Journal," the "Agricultural Gazette of New South Wales," and the "Journal of the Department of Agriculture of Victoria."

A card catalogue of the bulletins and leaflets received from abroad was commenced by Miss Temperley, and by the end of the year the work had practically been finalised. This catalogue and the card catalogue of the Australian publications should be of great assistance in facilitating ready reference.

As was the case in the entomological section of the library much time was devoted to cataloguing the available literature dealing with plant pathological subjects, and work was completed on the following periodicals:- "Phytopathology,", "Journal of Agricultural Research,", and the Agricultural Journals of Queensland, New South Wales, Victoria, South Australia, and Western Australia. The work in this case was in the hands of Mr. Morwood.

A great deal of work has been involved in the various catalogues mentioned, but it is believed that with the staady expansion of both staff and library such work is really absolutely essential.

## Publications.

The following were published during the twelve months ended 30th June, 1927 :-

1. Sundry Notes on Injurious Insects of the Stanthorpe District, by Hubert Jarvis.
2. The Queensland Fruit Fly, by Hubort Jarvis,
3. The Woolly Aphis Parasite, by Hubert Jarvis
4. The Codling Moth, by Hubert Jarvis.
5. Cutworm Control.
6. An Important Queensland Insect Pest, by Robert Veitch.
7. Dusting for an Important Queensland Insect Pest.
8. Dusting with Calcium Cyanide for Banana Thrips Control, by J. L. Froggatt.
9. Insects and their Relatives, by Robart Veitch.
10. The Banana Thrips, by J. L. Froggatt.
11. Life History Notes on the Rutherglen Bug, by J. Harold Smith.
12. Records of Australian Thysanoptera (Thrips), by A. A. Girault.
13. The San José Scale, by Hubert Jarvis.

All these items were published in the "Queensland Agricultural Journal," and Nos. 2, 3, 4, 9,10 , and 13 were reprinted as leaflets in the new leaflet series inaugurated last year. Copies of the leaflets dealing with the Queensland fruit fly, the woolly aphis parasite, and the codling moth were posted to the orchardists in the Stanthorpe district, while reprints dealing with the banana thrips and its control by calcium cyanide dusting were also extensively circulated by post. Additional leaflets were in course of preparation at the end of the year, and it is hoped that eventually a series of leaflets dealing with all the commoner subjects of inquiry will be available for distribution.

ROBERT VEITCH,<br>Chief Entomologist.

## REPORT OF THE GOVERNMENT BOTANIST.

## General.

Correspondence and personal interviews with farmers, pastoralists, \&c., took up most of the time of the office. The inquiries submitted extended over a wide range of subjects dealing with various phases of plant life. The major portion dealt with plants sent in for identifi cation and report as to their properties, useful or otherwise. Where the replies have been deemed to be of more than individual interest they have been utilised by the Editor of the Departmental Publications for the pages of the "Queensland Agricultural Journal."

## Field Work.

Visits to Elimbah (September), Tambourine Mountain (December), Stradbroke Island (January), and Russell Island (April) presented opportunities for making general collections of herbarium material. All the material gathered has been determined, a set placed away in our own collections and the duplicates used for exchanges. A collecting trip was made to Gundiah and Mount Bauple in June, but the material gathered has not yet been named and distributed

During the summer a visit was made by the Assistant Botanist to Roma and Dalby districts for the purpose of collecting sheaves and herbarium specimens of grasses and fodder plants, and by myself to Rockhampton and Clermont for the same purpose. The junior assistant made similar collections in the immediate neighbourhood of Brisbane.
During April-May the Assistant Botanist spent six weeks in the field in the Sarina district in connection with the Agricultural Survey of North Queensland.

## Educational.

Lectures were delivered during the year before various public bodies on different phases of plant-life, such as "Queensland Forest Associations," "Aquatic Plants of South-East Queensland," "Ornamental Trees and Shrubs," "Weeds and Poisonous Plants," \&c. Lectures have been given once a month from May before senior students of the Theachers' Training College; these are simply popular lectures to give teachers, particularly country teachers, something tangible on which to base their nature stady lessons. Three more lectures are to be given; one in July, August, and September, respectively.

With the starting of the University year in March I started to give a course of twenty-five lectures in Forest Botany to third-year Science students and to cadets of the Provisional Forestry Board undergoing their preliminary training in Forestry at the Queensland University. This course makes a big gap in time available for other work, but is deemed of importance as it should give the younger officers of the Queensland Forest Service not only a good basic knowledge of the native trees, but also of exotic ones likely to be of value in future sylvicultural work in Queensland.

## Herbarium

In my last report I mentioned that additional herbarium boxes had been supplied and that the
work of getting the Australian section of the herbarium was well in hand. This work has been continued and the herbarium now is in good form for reference purposes. A large number of specimens was added to the herbarium during the year

There are still large quantities of undetermined material on hand from various collecting trips, but this material is gradually being classified and put away in the herbarium as opportunity presents.

Exchanges of botanical material have been continued with the Botanic Gardens, Singapore Botanic Gardens, Buitenzorg, Java; Royal Botanic Gardens, Kew, England; British Museum, London; United States National Herbarium, Washington; University of California; and the Botanic Gardens and Museum, Berlin, Germany

Mrs. F. H. Kenny presented us with the herbarium of her late husband, Dr. F. H. Kenny. Dr. Kenny was a keen local botanist who had travelled a good deal over Australia. A valuable lot of named material was presented to us by Mr. J. H. Simmonds, senr.

Botanical Museum.
Additions to the Botanical Museum have not been very numerous. Specimens of dried fruits, barks; and woods have been added from time to time.

## Publications

The following publications were issued in the course of the year:-White, C. T.: The Eucalypts or Gum Trees of the Brisbane District, Part 6 ("Queensland Naturalist," Aug., 1926); A Previously Undescribed Dodonaea from Southeastern Queensland ("Queensland Naturalist," Dec., 1926) ; On' a Small Collection of Plants from the Rigo District, Papua (Proc. Linnean Soc. N.S.W., vol. 51) ; A New Species of Paramignya from Papua with Notes on two other Papuan Rutaceae (Journal of the Arnold Arboretum, Boston, vol. vii., No. 4) ; A Previously Undescribed Maniltoa from Papua (Journal of the Arnold Arboretum, Boston, vol. viii., No. 2) ; A New Special of Diplospora from Southern Queensland, The Genus Sonneratia in Queensland, A Variety of Ceriops Tagal C. B. Rob. (all in the Journal of Botany, London, Aug., 1926).

White, C. T. and Francis, W. D. : Plants Collected in Papua by C. E. Lane-Poole (Proceedings of the Royal Society of Queensland, vol. 38).

Francis, W. D. : The Development of the Corrugated Stems of Some Eastern Australian Trees (Proc. Roy. Soc. Queensland, vol. 38)

In addition to the above I communicated to the Royal Society of Queensland the following papers by specialists on different plant families. The papers were published in vol. 38 of the Society's Proceedings: A New Species of Pandanus from North-eastern Queensland, by Prof. U. Martelli (Florence, Italy) ; Descriptions of Queensland Acacias, by Mr. J. H. Maiden and Mr. W. F. Blakely (Sydney) ; and A New Species of Nitella (Characeae), by Mr. James Groves (Isle of Wight, England).
C. T. WHITE,

Government Botanist.

## REPORT OF THE AGRICULTURAL CHEMIST.

The analytical work carried out is tabulated below, and although the total number of samples is practically the same as in the previous year the number of analytical determinations has been very considerably increased.

| - | 1324-5. | 1925-6. | 1926-7. |
| :---: | :---: | :---: | :---: |
| Ashes | 2 | 76 | 4 |
| Butters | 783 | 794 | 752 |
| Cheeses | 28 | 12 | 136. |
| Condensed milk, and milk powder | 31 | 11 | 14 |
| Dipping fluids .. .. | 522 | 435 | 406 |
| Fertilisers . . | 191 | 161 | 300 |
| Fruits, fresh |  | 13 | 11 |
| Jams, preserves, canned fruit | 9 | 9 |  |
| Leathers .. .. .. | 42 | 81 | 79 |
| Limestones and lime | 21 | 13 |  |
| Margarin . | 26 |  | 1 |
| Milk and cream | 30 | 130 | 85 |
| Miscellaneous | 74 | 44 | 48 |
| Parchment papers | 7 | 45 | 4 |
| Pest destroyers | 148 | 135 | 198 |
| Road materials | 72 | 150 | 270 |
| Rocks |  | 5 | 4 |
| Salt, licks . . | 4 | 3 | 8 |
| Seeds, grasses, and plants | 131 | 335 | 119 |
| Soils .. | 151 | 228 | 217 |
| Soil moistures | 306 | 144 |  |
| Stock foods ... .. | 176 | 144 | 229 |
| Sugar-cane, molasses, sugars, \&c. | 8 | 15 | 2 |
| Viscera | 22 | 34 | 49 |
| Waters | 52 | 88 | 112 |
| Total | 2,844 | 3,105 | 3,057 |
| Glassware tested | 4,743 | 5,336 | 4,184 |

The whole of the year we worked short handed, as Mr. G. Sutherland was away on account of serious illness, and Mr. F. Harris was appointed temporarily in the middle of February. A good deal of time is lost by two assistants attending University lectures, one analyst giving lectures
at the University, and Mr. W. R. Winks being away for some time on soil survey.

The work consequently was very much in arrear, and at the end of the financial year we had the following numbers of samples on hand: - Soils 69 , main road soils 8 , fertilisers 29 , insecticides 23 , and stock foods 30
The work contemplated to be carried out the coming year will give a greatly increased amount of analytical work, and our staff must be enlarged to deal with it in a satisfactory manner.

## Dipping Fluids.

Out of the 406 dipping fluids analysed, we found only 108 of effective strength, containing from 7.5 to 8.5 lb . of arsenic per 400 gallons, and 74 showed more or less oxidation, which is practically the same as found last year. In several cases again the recommended addition of skim milk or butter milk to fluids containing arsenate brought about the reduction to the more effective arsenite.

## Viscera

Forty-nine samples of viscera and stomach contents were analysed, and in twenty cases the presence of poison was proved. Arsenic is the chief cause of poisoning, and in a few instances, particularly amongst pigs and poultry, an excess of common salt.

## Dairy Produce, \&c.

Every now and then trouble is caused by the use of unsuitable parchment paper for butter wrapping. Our principal importers know our standard, but occasionally some agent puts cheaper and inforior paper on the market, and one sample of parchment paper was discovered in use which contained 10 per cent. of glucose.
The following glassware was tested:-


Prepared 140 bottles $\cdot 1$ N. alkali, 3 pints $\cdot 1 \mathrm{~N}$. acid, and 116 pints standard iodine solution.

The butter exported, and sampled by the officers of the Commonwealth Dairy Produce Inspection Branch were analysed by us, and we found that out of 568 samples tested only 34 contained an excess of moisture. Fifty-three cheeses for export were also analysed for the same branch, and all found to be up to standard, not being deficient in fat content and not containing any boric acid, or any excess of sulphides, which is allowed in potted cheeses only.

## Stock Foods.

A greatly increased number of stock foods were analysed, most of which will be reported on by Mr. F. F. Coleman, officer in charge of the various Acts.
Since writing my last report, the use of licks and specially prepared foods containing mineral matters has become much more general, with very beneficial results, and it becomes therefore
necessary to include such preparations，which we may call mineral feeds，under the provisions of our Stock Foods Act．It is only just that the stockowner buying any licks or mineral feeds on the market－which in many cases consist practically only of common salt，and have there－ fore but little value，although special and extravagant claims are made by the manufac－ turer－should be protected and know exactly what he actually buys for his money．There is no doubt that over and above the amounts of crude protein，fat，and fibre found and declared in ordinary stock foods，there are besides vitamins other substances absolutely necessary for nutrition，like salt，lime，phosphoric acid， sulphur，iodine，and furthermore possibly traces of several other elements．The full analysis of the Act of Mitchell grass，of poor and good quality，given below shows clearly the great variation in the amount of various elements found therein，and evidently proves that the nutrition properties are not only influenced by the amount of protein，\＆c．，but also by the amount of rarer constituents．

Analyses of two samples of Sudan grass grown at Runcorn on manured and unmanured plots， recorded below，show not only considerable
difference in the weight per acre，but also in the composition．

I must add that this grass was repeatedly tested during its growth，for hydrocyanic acid， and we never could find more than harmless traces．

We analysed a number of grasses and edible shrubs，\＆c．，for Mr．J．E．Thomas，an officer detailed by the Commonwealth Council for Scientific and Industrial Research for an investi－ gation on malnutrition caused by periods of drought affecting the sheep industry：Without prejudicing this officer＇s report on this question， some of the analytical results，as compared with Sudan grass grown at Runcorn，completed so far，are herewith tabulated．The results again show a great variation in the nutrition qualities of such grasses，according to locality and season， and fully corroborate our previous results， reported on in my Annual Report for 1913－14．

Mitchell grass of good quality contains over three times as much crude protein than the same grass of poor quality，and sheep supplied with the latter must starve，unless supplemented by some concentrated stock food，like maize， linseed，or cotton seed meal，nuts，\＆c．

Full Analysis of Ash from Mitchell Grass．

|  |  |  | $\mathrm{SiO}_{2}$. | $\mathrm{Fe}_{2} \mathrm{O}_{3} . \mathrm{Al}_{2} \mathrm{O}_{3}$. | CaO | MgO | $\mathrm{Na}_{2} \mathrm{O}$. | $\mathrm{K}_{2} \mathrm{O}$. | $\mathrm{P}_{2} \mathrm{O}_{5}$. | $\mathrm{SO}_{3}$. | Cl. | $\mathrm{Co}_{2}$. | C. | Cu. | MnO. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Total sulphur in good quality，$\cdot 273$ per cent．；in poor quality， 098 per cent．
Analysis of Grasses，\＆c．

|  |  |  | Composition per Cent．of Water free Substanice． |  |  |  |  |  |  |  | Remarks． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 害淢 |  | 島选 | 溇我 | $\begin{aligned} & \dot{0} \\ & 0 \end{aligned}$ | $\stackrel{\dot{\circ}}{\substack{0\\}}$ | రె |  |
| 1026 | Sudan Grass，Runcorn， | $\ldots$ | 67 | 1．1 | $59 \cdot 4$ | 26－5 | $6 \cdot 3$ | $\cdot 52$ | $\cdot 20$ |  | Green ； 62.5 per cent．mois－ ture ； 4.45 tons per acre |
|  | manured Sudan Grass，Runcorn，un－ |  | $5 \cdot 9$ | 1.2 | 60.5 | 25－0 | 7－4 | $\cdot 45$ | －18 |  | Green； 62.0 per cent．mois－ |
| 1027 | Sudan Grass，Runcorn，un－ manured |  |  |  |  |  |  |  |  |  | ture ； 2.90 tons per acre |
| 1516 | Mitchell Grass | 7.2 | $8 \cdot 0$ | 1.0 | $46 \cdot 6$ | 3 | 12.1 | ． 75 | $\cdot{ }^{41}$ | ． 19 | Good quality |
| 1517 | Mitchell Grass ．． | $7 \cdot 3$ | $2 \cdot 6$ | $1 \cdot 4$ | 51.7 | 33.5 |  |  |  |  |  |
| 1930 | Mitchell Gcass | 6.9 | $3 \cdot 4$ | － 3 | $55 \cdot 6$ | $30 \cdot 2$ | 10.5 | －39 | $\cdot 12$ | ． 06 | Old，weathered，and bleached |
| 1931 | Mitchell Grass | 7.9 | $7 \cdot 7$ | 1.4 | 53.2 | 26.5 | $11 \cdot 2$ | $\cdot 47$ | － 24 | $\cdot 50$ | 1927 growth；in drying－off |
| 2319 | Mitchell Grass（Vindex） | $7 \cdot 6$ | 6.0 | －9 | $52 \cdot 4$ | $30 \cdot 4$ | $10 \cdot 3$ | $\cdot 49$ | － 20 |  |  |
| 2362 | Mitchell Grass（I．），Winton | $9 \cdot 3$ | $6 \cdot 3$ | $1 \cdot 3$ | $54 \cdot 0$ | 29.0 | $9 \cdot 4$ | －36 | － 15 |  | Yellow stage |
| 2363 | District Mitchell Grass（II．），Win－ | 9.6 | 5.9 | 1.4 | $55 \cdot 2$ | 28.0 | $9 \cdot 5$ | $\cdot 40$ | － 12 | ． | Early green stage |
|  | ton District ${ }_{\text {Mitchell Grass（III．），Win－}}$ | $9 \cdot 6$ | 6.1 | 1.5 | 53.1 | 29.2 | $10 \cdot 1$ | ． 45 | $\cdot 16$ | $\ldots$ | Yellow stage |
| 64 | ton District |  |  |  |  |  |  | ． 45 | － 12 |  | Slightly bleach |
| 2365 | Mitchell Grass（IV．），Win－ ton District | 9.5 | $5 \cdot 5$ | 1.1 | $55 \cdot 3$ | 27.6 | 10.5 | ． 45 | $\cdot 12$ |  | Slightly bleach |
| 2425 | Mitchell Grass（Wayworth） | 8.7 | $5 \cdot 8$ | －9 | 54.5 | 25.8 | 13.0 | $\cdot 37$ | ． 09 | ． | Slightly bleached |
| 2426 | Flinders Grass（Wayworth） | 8.7 | 6.7 | 1.3 | 47.7 | $27 \cdot 2$ | 17.1 | － 43 | ． 21 |  | Slightly bleached ；mature |
| 2427 | Mitchell Grass（Kynuna） | 8.6 | 6 －2 | $1 \cdot 1$ | 53.3 | 28.0 | $11 \cdot 4$ | ． 42 | $\cdot 13$ |  | Unbleached；mature |
| 2428 | Flinders Grass（Kynuna） | 8.0 | $4 \cdot 9$ | 1.3 | 49.8 | 29.9 | $14 \cdot 1$ | $\cdot 37$ | .44 |  | Unbleached；mature |
| 2429 | Whitewood Leaves（Ky． nuna） | $7 \cdot 1$ | $10 \cdot 2$ | $2 \cdot 6$ | 52.6 | $25 \cdot 7$ | 8.9 | $3 \cdot 67$ | $\cdot 15$ |  | Moisture in green leaves 44.0 per cent． |

## Paspalum Pasture Plots.

The experiments for renovation of old paspalum pastures already commented on in last year's report were continued, and the results (Tables II. to VI.) are interesting, although not yet quite conclusive.

The weight of the cuts of green grass which were made in the field are not recorded in the tables to save space; only the weight after drying in the air determined in the laboratory are given. In order to be able to estimate the actual green weight cut, the average percentage of moisture in the green grass is given herewith :-

Runcorn.

| A verage of Plots. |  |  |  | 1st Cut. | 2nd Cut. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ploughed- <br> Al to A10 <br> C21 to C30 | $\ldots$ | $\ldots$ | $\ldots$ | 77 | 7 |
| Unploughed- <br> Bl1 to B20 <br> D31 to D40 | $\ldots$ | $\ldots$ | $\ldots$ | 68 | 76 |

It will be noted that the cuts made in December (second cut) of last year, following very dry weather, contained an exceptionally low amount of moisture.

At Runcorn, unfortunately, only two cuts could be made, the results of which are reported in Table II. We find that in the first series of experiments on the ploughed Area A and the umploughed Area B the yields show but little difference, because the ploughing on Area A was done very roughly. However, the advantage of bonemeal is again shown, the first cut giving a decided increase with fine bonemeal and the second eut with coarse bonemeal. Nauru phosphate-superphosphate mixture (in equal amounts) with added potash gave a slight
increase, and a dressing with pulverised limestone gave a yield nearly as good as bonemeal. Not much benefit by fertilising is shown on the unploughed area; only a complete fertiliser Naurn phosphate-superphosphate mixture with sulphate of potash gave a slight increase.
A much greater increase in the crops is noticed on the ploughed Area C, on which the ground got a much more careful ploughing, and the Nauru phosphate-superphosphate mixture with potash gave a decided increased crop, as compared with the unmanured control plots, which in this case gave fairly closely agreeing yields.

On the unploughed portion D the unmanured control showed the greatest differences, due to some parts being rather low lying; only the plot with bonemeal and the plot with Nauru phos-phate-superphosphate mixture with ammonium sulphate showed a good increase in weight of crops.

According to the analysis of the soil given below the phosphoric acid is only present in traces, and phosphatic manures should prove beneficial, but may have to be applied in larger quantities.

The cutting of small plots for weighing has proved everywhere a failure, and the cutting of strips with a lawnmower gives more accurate results. The ground, however, must be fairly level, and for this reason a lot of hollows and furrows must be filled in at Runcorn, more particularly on Plot A, to be able to work the motor lawnmower successfully. The grass, moreover, must be cut weekly, or at least once a fortnight according to growth, to get the true grazing pasture value. To do this a man must be permanently employed on this experiment; if this cannot be done the experiment, which shows already some value, must be abandoned.

At Cooroy, six cuts of grass were made during the season; the resulting weights show a very striking variation in the weight of the unmanured plots in the enclosed areas, giving on the ploughed area 1.20 tons and 2.73 tons, and on the unploughed area 1.31 tons and 1.76 tons respectively. Calculated in percentages of the average yield of the unmanured control plots, we find the yicld of these controls to be 61 and 139 per cent., and 85 and 115 per cent. respectively, which makes it difficult to calculate the influence of fertilisers on the other plots. However, the effect of a mixture of crushed Nauru phosphate and superphosphate in equal amounts

Analysis of Soils, on Pasture Plots.

is very striking on Plots 6 and 6A, amounting to yields of 169 and 163 per cent. compared with the average of the unmanured controls. The analysis of the ash shows a great increase in the amount of phosphoric acid. The analysis of the soil shows a very low amount of total and available phosphoric acid, and high acidity, both organic and mineral acidity. On account of the mineral acidity, liming on the ploughed area showed little or no advantage, and only a slight beneficial effect on the unploughed area. Basic superphosphate showed a little increase on the ploughed area, but the lowest yield of all plots on the unploughed area, bearing out my contention that for all practical purposes a Nauru phosphate-superphosphate mixture can replace basic superphosphate at a great reduction of cost.

As the yield of plots from the enclosed area showed in many instances a great discrepancy, it was decided to keep the cattle off the whole area for a few weeks previous to sampling and to cut control plots 6 ft . by 6 ft . in each of the experimental plots, beside taking the usual cuts from the enclosed areas. The results for three such cuttings are given in Table V. We find that at Cooroy, on the ploughed area, the Plot 6 with the Nauru super. mixture gave fairly wellagreeing results and again the highest yield, and Plot 8 with basic super. the lowest yield. The unmanured controls from the large areas agreed better within $\pm 5$ per cent., but on the unplonghed area the variation of the unmanured plots was $\pm$ 20 per cent. On the unploughed portion air slacked quicklime gave the highest yield (178 per cent.), and basic superphosphate a slightly increased yield (129 per cent.).
At Maleny also six cuts were made; results given in Table IV. Air slacked quicklime showed a decided depressing effect, particularly noticeable on the unploughed area. The Nauru phosphate-superphosphate mixture again gave the highest yield for all the cuts on both ploughed and unploughed areas. The three cuttings from the whole areas and enclosed plots (Table V.) showed great discrepancies, more particularly with regard to Plot 8A with basic superphosphate, the enclosed area giving a yield of only 83 per cent., and the 6 ft . by 6 ft . cutting in the whole plot 272 per cent. It is impossible to account for this difference, which is due to the exceptionally large amount of grass cut from this Plot 8 on the $27 / 4$, which was four times higher than the usual cutting. This increase should have been noted by the officer cutting the sample, and is probably due to the cattle not having grazed closely in this particular spot prior to the cutting.

At Maleny the advantage derived by ploughing paspalum pasture for its renovation is
strikingly shown by increasing the average yield, amounting to 1.19 tons of air-dry grass per acre, from all the 8 plets of the unploughed area to 2.78 tons from the 8 plots on the ploughed portion.

At Cooroy the average yield from the unploughed and ploughed areas was 1.60 and 2.10 tons respectively.
It is surprising that at Maleny with a very high organic acidity and fairly high mineral acidity, liming did not show better results, neither did the complete fertiliser show any decided improvement. Apparently the dominant fertiliser is superphosphate, which not only supplies the deficiency of phosphoric acid in the soil, but the readily soluble phosphoric acid has a neutralising effect on the mineral acidity. Probably heavier applications of superphosphate, although not economical, would give more striking results.

The results of similar experiments made at Atherton (Table VI.) shows such an enormous difference between the yields of the unmanured control plots ( 1 and 5) from 58 to 142, and 38 to 161 per cent. respectively, that no conclusion whatever can be drawn. Ploughing again doubled the yield of grass.

## Pest Destroyers.

Although the number of samples of pest destroyers analysed has been greatly increased, still a very large number of samples registered have never been tested yet. The analysis of many of the preparations is very complex, causing a large amount of work, occupying the whole time of one analyst, with oceasional additional assistance.

With reference to pest destroyers generally and dusting powders in particular, some manufacturers try to put on the market a large number of preparations, some of them weird mixtures, making all sorts of claims, without having any reliable proof with regard to their actual value in practice.
In a large number of eases before registering such preparations, official trials of such remedies should be made.
A revision of the Regulations under the Pest Destroyers Act with regard to standards, definitions, \&e., becomes every day more urgent, and should be made after consultation with the officers interested in the other. States.

## J. C. BRÜNNICH,

Agricultural Chemist.
table I.-ANALYSES OF QUEENSLAND SOILS.

TABLE 1.-ANALYSES of qUEENSLAND SOILS-continued.


TABLE I.-ANALYSES OF QUEENSLAND SOILS-continued.


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table i－－ANALYSES of QUEENSLAND SOILS－continued．

|  |  | Description ofSoils． |  |  |  |  |  |  |  |  |  |  |  |  |  | Total Eliements．Le．．．eer Aere． |  |  |  |  |  |  | soli Acmirr． |  |  |  |
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|  |  |  |  |  | $\begin{aligned} & \text { 炭 } \\ & \text { 部 } \end{aligned}$ | $\frac{0}{2}$ | Soluble in ing ydrochioric．e Acia． |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { Cwt. Calcium Carbonate } \\ & \text { per Acre } 12^{\prime \prime} \text { Deep. } \end{aligned}$ |  |  |  |  |  |
|  | Looality． |  |  |  |  |  |  |  |  |  |  |  | 害 |  |  |  | $\begin{aligned} & \text { 爵 } \\ & \stackrel{y}{4} \end{aligned}$ |  | 景 | $\begin{aligned} & \text { 亲 } \\ & \text { a } \\ & \hline \end{aligned}$ |  | 珰 | 항 |  |  |  |
|  |  |  | \％ | \％ | \％ | \％ | \％ | \％ | \％ | \％ | \％ | \％ | \％ | \％ | \％ |  |  |  |  |  |  |  |  |  |  |  |
| 2491 | Tuchekoi，Cooran | br．L． | 2.19 | 55 | ．027 | ． 321 | 15 | ． 58 | ． 82 | ． 93 | 63．77 | ．007 | 2717 | 1307 | 0154 | 8，794 | 4，283 | 15，990 | 22，840 | 203 | 7，424 | 423 |  | 21 | Nil | 21 |
| 2492 | Toogoom，via Torbanlea | gr．Sand | ． 30 | 54 | ． 010 | ． 006 | 02 | ． 06 | ． 08 | ． 02 | 98．05 | －061 | ． 0309 | ． 0123 | 0029 | 38 | ${ }_{749}$ | 2，382 | 794 | 242 | 1，223 | 115 |  | 13 | Nil | 13 |
| 2517 | Bauple | d．r．L． | 1.35 | 8.48 | ． 020 | ． 128 | ． 06 | 41 | ． 50 | ． 07 | 68．38 | ． 0014 | 0780 | 0565 | 0056 | 3，880 | 1，892 | 12，618 | 2，208 | 44 | 2，366 | 176 | Al． |  |  |  |
| 2518 | Ditto | d．r．L | 1. | 7.01 | 027 | ． 091 | ． 04 | 32 | 25 | 08 | 2.98 | 00 | ． 0801 | 0226 | ． 0092 | 2，8 | 1，2 | 9，779 | 2，533 | 22 | 2，473 | 284 | Ac． |  |  |  |
| 2523 | Childers | ch．L | 2.54 | 10.46 | ． 016 | 237 | 14 | ． 53 | ． 62 | 15 | 50.14 | 0016 | 2342 | 473 | 1 | 7，43 | 4，313 | 16，585 | 4，64 | 53 | 7，338 | 315 | Ac． |  |  |  |
| 2524 | Ditto | r．L | 1.64 | 10.29 | ． 008 | ． 166 | 18 | $\cdot 11$ | ． 18 | 11 | 48.97 | 00 | 0132 | ． 0160 | ．0034 | 5，110 | 5，678 | 3，470 | 3，470 | 32 | 40 | 104 | ${ }_{\text {a }}^{\text {Ac，}} \mathrm{C}$ | 123 | 55 | 68 |
| 2525 | Ditto | ch | 3 | 10.25 | ． 007 | 215 | 20 | 37 | ． 63 | ． 05 | 51.96 | ．0023 | 1851 | 2828 | ． 0129 | 6，530 | 5，994 | 11，360 | 1，577 | 72 | 5，634 | 407 | ${ }_{\text {Ac．}}^{\text {Act }}$ |  |  |  |
| 2526 | Lynwood，via Child | d． | 1.96 | 11.85 | ． 005 | ． 207 | 27 | ． 29 | ． 29 | ． 02 | 41．50 | ． 0091 | 0888 | ． 0800 | ． 0019 | 6，182 | 8，202 | 8，516 | 619 | 271 | 2，649 | 57 | M Ac | ${ }^{66}$ | Nil | ${ }^{66}$ |
| 2527 | Childers | d．r． | 1.94 | 10.48 | ． 007 | 218 | 16 | ． 41 | ． 49 | ． 12 | 50.44 | ． 0014 | 799 | －62 | 005 | 6，256 | 9 | 11，74 | 3，524 | 41 | 5，162 | 170 | ${ }_{\text {a }}^{\text {A．Sl }}$ |  |  |  |
| 2528 | Ditto | r．L． | 1.80 | 8．82 | ． 008 | 224 | 16 | ． 15 | ． 34 | ． 06 | 54.95 | ． 0330 | 90 | 1398 | ．0048 | 7，052 | 5，178 | 4，854 | 1，941 | 94 | 1，540 | 152 | Ac． M． lic | 78 | 2 | 76 |
| 35 | Bundaberg | y．gr．cl．L． | ． 61 | 3．44 | ． 009 | 045 | ． 02 | ． 19 | ． 09 | trace | 84.20 | 0004 | 0221 | 0192 | 0021 | 1，885 | 838 | 7，957 |  | 17 | 913 | 88 | St． |  |  |  |
| 36 | Cordalba | y． 8 | 1.37 | 4.62 | ． 073 | 136 | ． 06 | ． 11 | ． 08 | ． 03 | 84．04 | ． 0028 | 0860 | 0195 | ．0059 | 4，738 | 2，121 | 3，889 | 1，061 | 99 | 2，991 | 205 | Ac． | 47 |  | 47 |
| 2537 | Ditto | r．L | 1.14 | 6．62 | ． 095 | 105 | ． 07 | 23 | ． 10 | ． 04 | 73.88 | 0013 | 0674 | 0156 | 0046 | 3，433 | 2，379 | 7，47 | 1，360 | 44 | 2，210 | 150 | Ac． | 58 |  | 57 |
| 2538 | Ditto | 1．br．L | 1.55 | 7.47 | ． 025 | 151 | ． 07 | 20 | ． 08 | ． 02 | $73 \cdot 45$ | ．0011 | 0771 | ． 0218 | ．0057 | 4，804 | 2，303 | 6，251 | 658 | 36 | 2，451 | 181 | M． | 52 |  | 51 |
| 2540 | South Burdaberg | bl．cl．I | 1.28 | 4.54 | ． 170 | ． 097 | ． 10 | ． 64 | ． 66 | ． 37 | 83．66 | 0122 | 1189 | ．0544 | ． 0103 | 3，281 | 3，454 | 21，410 | 12，430 | 411 | 4，002 | 345 | Ac． M． | 52 | 1 | 51 |
|  | Ditto | bl | 1.43 | 3.88 | ．066 | ． 097 | ． 09 | ． 63 | ． 60 | ． 32 | 83．70 | ． 0060 | 1275 | ．0600 | ． 0041 | 3，048 | 2，88 | 19，8 | 9，948 | 189 | 4，008 | 132 | Ac． | 51 | Nil | 51 |
| 2542 | Maryborough | r． | 0 | 1.56 | ．005 | ． 050 | ． 02 | ． 11 | ． 08 | ． 03 | 93．84 | ． 0013 | 0572 | 0084 | 0046 | 2，026 | 810 | 4，457 | 1，215 | 53 | 2，314 | 186 | ciel |  |  |  |
| 2543 | Ditto | r．br | ． 35 | 1.39 | ． 016 | 022 | ． 02 | ． 08 | ． 06 | ． 04 | 93.76 | ．0008 | ． 0246 | 0134 | 0033 | 891 | 810 | 3，242 | 1，621 | 32 | 997 | 133 | ｜re． |  |  | ．． |



|  | Locality． | $\begin{aligned} & \text { Description of } \\ & \text { Soils. } \end{aligned}$ | Total mienknts in thr soil，calculated on soll drikd at $100^{\circ} \mathrm{C}$ ． |  |  |  |  |  |  |  |  | Available Plant．Food，Solublein 1 per cent．Citric Acid． |  |  |  | Total Elements，Lb．per Acre， $12^{* *}$ Deep． |  |  |  | available Plant Food， Soluble in 1 per cent． Lb．per Acre， $12^{\prime \prime}$ Deep． |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{aligned} & \text { gig } \\ & \text { git } \\ & \text { git } \end{aligned}$ |  | sp．Gr．1•115． <br> Soluble in Hydrochloric Acia， |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 曾 |  | $\begin{gathered} \text { 免 } \\ \frac{1}{4} \end{gathered}$ |  |  | 品 |  |  |  |  | 音 | $\begin{aligned} & \text { 亲 } \\ & \text { 䆘 } \end{aligned}$ |  | $\dot{~}$ | $\stackrel{\text { 咅 }}{\text { it }}$ |  |  |  |  |
|  |  |  | \％ | \％ | \％ |  | \％ | \％ | \％ | \％ | \％ | \％ | \％ | \％ |  |  |  |  |  |  |  |  |  |  |  |  |
| 2500 | Maroochy | d．gr．L． | $1 \cdot 49$ | 7.72 | ． 016 | ． 243 | ．05 | ． 56 | ． 80 | $\cdot 15$ | 75.86 | ． 0022 | $\cdot 1167$ | －0237 | －0068 | 6，476 | 1，414 | 14，989 | 3，960 | 59 | 3，102 | 181 |  | ． |  |  |
| 2501 | Ditto | bl．el．L． | 3.28 | 9．83 | ． 016 | －308 | －10 | ． 45 | ． 59 | ． 25 | 69.88 | ． 0096 | －1000 | ． 0652 | ． 0231 | 7，755 | 2，665 | 11，460 | 6，396 | 242 | 2，521 | 584 | M． | 119 | 3 | 116 |
| － | Ss．of S． 2501 | gr．Ss | 2.00 | 8.04 | ． 012 | ． 200 | ． 04 | ． 33 | ． 67 | ． 23 | 72．11 |  |  |  |  | 5，322 | 1，120 | 8，683 | 6，162 |  |  |  | ${ }_{\text {Ac．}}^{\text {Ac．}}$ | 119 | 26 | 93 |
| 2055 | Rosemount，via Nambour | br．Sand | 1.35 | $5 \cdot 11$ | ． 055 | －181 | ．06 | ． 28 | ． 50 | $\cdot 13$ | 80.79 | ． 0037 | ． 0181 | ． 0175 | ． 0153 | 5，347 | 1，844 | 8，296 | 3，994 | 111 | 535 | 452 | $\stackrel{\text { Ac．}}{\text { V．}{ }_{\text {dtr }}}$ | 146 | 146 |  |
| 2506 | Ditto | gr． | 2.48 | 9.77 | ． 383 | ． 318 | ． 08 | －29 | ． 24 | ． 20 | 73.28 | ． 0065 | ． 0838 | ． 0452 | －0176 | 8，541 | 2，263 | 7，919 | 5，374 | 175 | 2，249 | 472 | Atr． | 129 | 18 | 111 |
| 2507 | Maroochy | br．el．L， | 2.43 | 10.24 | ． 010 | －272 | ． 13 | ． 76 | 1.58 | ． 22 | 62.97 | ． 0080 | $\cdot 1371$ | ． 0495 | －0017 | 6，946 | 3，459 | 19，312 | 5，765 | 205 | 3，502 | 43 |  |  |  |  |
| 2508 | Ditto | br，cl．L． | 1：35 | 9．54 | ． 022 | ． 227 | －18 | ． 82 | 1.52 | －27 | 63.97 | ． 0063 | －1565 | －1136 | ． 0152 | 6，152 | 4，873 | 22，230 | 7，310 | 171 | 4，246 | 411 | Sl． | ．． | ． | ．． |
| 2510 | Hamilton，near Brisbane | br．L． | 1.17 | 5.31 | ． 008 | ． 126 | －06 | ． 81 | －18 | ． 08 | 83.17 | ． 0068 | ． 4402 | ． 0227 | ． 0105 | 3，915 | 1，990 | 25，210 | 2，654 | 212 | 13，690 | 325 | Alk． |  | ．． |  |
| 2511 | Yandina | y．sand | $\cdot 26$ | 1.51 | ． 005 | － 102 | ． 02 | $\cdot 24$ | $\cdot 18$ | －14 | 93－90 | ． 0011 | ． 0311 | ． 0048 | ． 0020 | 3，653 | 723 | 8，681 | 5，064 | 39 | 1，114 | 72 | Sl． | ．． |  | ．． |
| 2512 | Ditto | L． | ． 94 | $4 \cdot 18$ | ． 007 | $\cdot 146$ | ．05 | ． 51 | ． 41 | ． 42 | 84－14 | ． 0019 | －1428 | ． 0351 | －0076 | 4，340 | 1，550 | 15，189 | 12，399 | 56 | 4，253 | 228 | Ac． | ． |  | ．． |
| 2513 | Ditto | y．cl．L． | 1.20 | 7.25 | ． 007 | －188 | ． 04 | －22 | －30 | －16 | $75 \cdot 44$ | ． 0011 | ． 0088 | ．0500 | ． 0022 | 5，014 | 1，121 | 5，882 | 4，201 | 31 | 235 | 62 | $\stackrel{\text { A．}}{\text { V．}{ }_{\text {Str }}}$ | 134 | 98 | 36. |
| 2519 | Kurielpa，Nambour ．． | d．gr．Cl． | $2 \cdot 27$ | 14.25 | ． 012 | $\cdot 353$ | $\cdot 11$ | 1.07 | 3.91 | －22 | 50.22 | ． 0009 | －1625 | $\cdot 1734$ | ． 0068 | 9，889 | 3，100 | 30，068 | 6，200 | 25 | 4，557 | 192 | Ac． | ．． |  | ． |
| 2520 | Glass House Mountain．． | gr．sand |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | A． | 44 | －4 | 44 |
| 2534 | Wamuran，Kilcoy Line | 1．br．s．L．．． | 1.24 | $4 \cdot 69$ | ． 011 | ． 076 | ． 02 | $\cdot 16$ | ． 07 | ． 02 | 88.60 | ． 0016 | ． 0261 | ． 0141 | ． 0042 | 2，600 | 712 | 5，344 | 712 | 53 | 898 | 146 | Ac． | 64 | 7 | 57 |
| ．－ | Ss．of S． 2534. |  |  |  |  |  |  |  |  |  |  |  | ．． |  |  |  |  |  |  |  |  |  | Ac． |  |  |  |
| 2559 | Caboolture | y．cl．L． | 2.07 | 6.22 | ． 006 | $\cdot 196$ | ． 08 | 1.30 | －93 | －29 | 74.71 | ． 0057 | ． 0579 | ． 0424 | ． 0120 | 6，252 | 2，632 | 41，458 | 9，213 | 181 | 1，843 | 382 | $\xrightarrow{\text { A．}}$ V． Str | 161 | 91 | 70 |
| 2560 | Ditto | gr．L． | $2 \cdot 45$ | 6．50 | ． 003 | ． 222 | －13 | 1.27 | 1.02 | － 38 | 74．46 | ． 0045 | －1303 | ． 0712 | ． 0101 | 6，082 | 3，426 | 34，838 | 10，280 | 123 | 3，567 | 277 | Ac． M． | 91 |  | 91 |
| 2565 | Nambour | bl．P．S． |  | 14.60 | ． 009 | ． 376 | ． 16 | － 16 | ． 48 | ． 44 | 58.21 | ． 0205 | ． 0129 | ． 0076 | ． 0043 | 8，208 | 3，465 | 3，465 | 9，594 | 448 | 283 | 93 | Ac． $\begin{aligned} & \text { Ac．} \\ & \mathrm{V} \text { Str }\end{aligned}$ | 424 | 468 | ．． |


TABLE II.
Runcorn Paspalum Pasture Plots.

TABLE III.

TABLE IV.


TABLE V
Paspalum Pasture Plots-Comparison of Cror from Enclosed Area and Whole Plots.

| Number of Plot. |  |  | Cooroy. |  |  |  | Maleny. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Enclosure. |  | Whole Plot. |  | Enclosure. |  | Whole Plot. |  |
|  |  |  | Tons Air-Dry Grass per acre from Three Cuts. | Total Crops in per cent. of Average Unmanured Plots. | $\begin{gathered} \text { Tons } \\ \text { Air--Iry } \\ \text { Grass per } \\ \text { acre from } \\ \text { Three Cuts. } \end{gathered}$ | $\begin{aligned} & \text { Total } \\ & \text { Crop in } \\ & \text { per cent. of } \\ & \text { Average } \\ & \text { Unmanured } \\ & \text { Plots. } \end{aligned}$ |  | $\begin{aligned} & \text { Total } \\ & \text { Crop in } \\ & \text { per cent. of } \\ & \text { Average } \\ & \text { Unmanured } \\ & \text { Plots. } \end{aligned}$ | Total Air-Dry Grass per Three Cuts. | Total Crops in per cent. of Average Unmanure |
| Ploughed Area. |  |  |  |  |  |  |  |  |  |  |
| 1 |  |  | . 85 | 88 | $1 \cdot 16$ | 105 | ${ }_{1}^{1.13}$ | 108 | 1.24 | 105 90 |
| 2 | .. |  | . 83 | 86 | 1.05 | $\begin{array}{r}96 \\ 105 \\ \hline\end{array}$ | 1.64 .76 | 158 | 1.06 1.06 | 90 90 |
| 3 |  |  | .98 1.00 | 101 | 1.16 .80 | 105 73 | . 76 | 73 75 | 1.51 | 128 |
| 5 |  |  | 1.08 | 112 | 1.04 | 95 | . 96 | 93 | 1.13 | 96 |
| 6 |  |  | 1.29 | 134 | 1.55 | 141 | 1.28 | 123 | 1.45 | 123 |
| 7 |  |  | . 96 | 99 | 1-14 | 104 | -94 | 90 | 1.56 | 132 |
| 8 |  |  | . 81 | 83 | $\cdot 74$ | 67 | 1-13 | 108 | 1.86 | 158 |
| Average |  |  | -99 | - | 1.08 | . | 1.08 | . | $1 \cdot 36$ | . |
| Unploughed but Harrowed Area. |  |  |  |  |  |  |  |  |  |  |
| 1 A | .. . |  | . 78 | 90 | . 91 | 120 | $\cdot 57$ | 108 | $\cdot 35$ | 70 |
| 2A | A |  | . 87 | 100 | $\cdot 74$ | 97 | .91 | 172 | $\begin{array}{r}.78 \\ . \\ \hline 9\end{array}$ | 156 78 |
| 3 A | A |  | -93 | 107 89 | 1.32 | 174 | . 24 | 45 55 | $\begin{array}{r}. \\ \hline\end{array} 78$ | 146 |
| ${ }_{5}^{4 \mathrm{~A}}$ | A |  | . 77 | 89 109 | . 77 | 101 | - 48 | 91 | -64 | 128 |
| 6 A |  |  | 1.04 | 120 | . 72 | 95 | . 83 | 157 | . 71 | 142 |
| 7 A |  |  | . 86 | 99 | . 73 | 96 | -40 | 76 | . 84 | 168 |
| 84 |  |  | -58 | 67 | -98 | 129 | -44 | 83 | 1.36 | 272 |
| Average |  |  | . 85 | . | . 85 | . | -52 | . | -60 | . |

TABLE VI.
Atherton Paspalum Pasture Plots.


## REPORT OF SEEDS, STOCK FOODS, FERTILISERS, AND PEST DESTROYERS INVESTIGATION BRANCH.

The activities of this branch may best be deseribed as work in connection with the Acts, regulating the sale of seeds, stock foods, fertilisers, and pest destroyers, within the State of Queensland. It therefore follows that our large and increasing correspondence is with merchants dealing in these commodities.

During the year ended the 30th June, 1927, well over one thousand persons called. This large number can he roughly divided as under:-

42 per cent. in connection with pest destroyers.
36 per cent. in connection with stock foods.
17 per cent. in connection with fertilisers.
5 per cent. in connection with seeds.
Over 96 per cent. of the callers were merchants or dealers in the articles above referred to. This constant stream of callers takes up considerable time, so much so, that from the 1st of January to the middle of March, the Inspector under the Pcst Destroyers Act is fully occupied in the office and cannot attend to outside matters. The present staff of four in number is not large enough to permit of an Inspector visiting every town of importance even once a year. The effect of repeated visits is therefore lost. As there is an urgent necessity for more microscopical work in connection with stock foods, less time will in future be available for the inspection of stocks held by merchants or storekeepers in different parts of the State.

## SEeds 1926-1927.

In the course of the year ended 30th June, 1927, the samples examined can be divided as follows:-
Official samples taken by Officers of this Branch from vendors in different parts of the State for purposes of the Pure Seeds Act
Samples received from vendors for examination Samples sent in by users for free examination
Miscellaneous samples not elsewhere included
Miscellaneous samples not elsewhere ineluded
Official samples taken at Brisbane by Officers of this Branch for purposes of the Commerce (Trade Descriptions) Act
cellaneous small consignments examined at Brisbane by Officers of this Branch for purposes of the Commerce (Trade Descriptions) Act

The districts from which samples were taken or received are as hereunder set out:-

| Districts. |
| :--- | :--- | ---: | ---: | ---: | ---: |

Table I. gives the analytical purity of the principal agricultural seeds examined, also the maximum amount of inert matter, weed seeds, or other foreign ingredients that is allowed in the kinds of seed appearing in the table, together with the average amount of inert matter and weed seeds found in the samples that complied with the prescribed standard, and the average amount found in the samples that did not comply. In each case the total number of samples examined is given as well as the number that complied with the standard, those that did not, and the number of samples that contained prohibited seeds, such as Datura (thorn apple), Cuscuta (dodder), or contained diseased or insect-infested seeds. The weed seeds in order of frequency of occurrence are also given, and the prohibited weed seeds found are set out in heavy type.

On reference to the table it will be noted that 33 per cent. of the Rhodes grass seed samples contained an average inert matter content of 16.8 per cent. and 2.1 per cent. of weed seeds.

Owing to complaints from buyers in both the Gympie and Nerang districts, proceedings were taken against a vendor of Rhodes grass seed, which was found to contain over 54 per cent. of inert matter. Bags of Rhodes grass seed from the same source were in some instances found to contain large bones, pieces of leather, and other material that had obviously been added to make weight.

Eighty-two samples of lucerne seed were examined, and 6 per cent. of such samples were found to contain dodder (Cuscuta sp.). This prohibited weed seed was present in one sample at the rate of 477 seeds to 1 lb . of lucerne.

It is also to be regretted that 8 per cent. of the Sudan (Sorghum Sudanense) samples contained more than a trace of the poisonous seeds of the thorn apple (Datura sp.).

Table II. gives the germinating capacity of the principal seeds examined during 1926-27. With each kind of seed the highest germination recorded during the year is given, the minimum germination required by the Pure Seeds Acts, the average germination of the samples up to the standard, the average germination of the samples below standard, and the lowest germination recorded during the year. The total number of samples is also given.

On reference to the table it will be noted that a number of samples representing Japanese millet, Sudan grass, and sorghum were of low germination. The bulks to which these samples relate were in most instances utilised for food purposes or represented seeds already sold. The fact, however, remains that a quantity of these seeds may be still held by produce merchants in different country districts. Buyers would therefore be well advised to ascertain the purity and germination of any such seeds before sowing, or selling same. When writing of germination tests, both buyers and sellers frequently overlook the essential fact that such seeds do not improve with long-keeping, and the only figures that should be relied on are those relating to an examination within three months of the date of sale or of sowing.

During the early part of the year under review several complaints were received from amateurs regarding the germination of vegetable seeds sold in small made-up packets. As time permitted samples of such seeds were taken, with the result that several thousands of packets were destroyed, and in one case, where carrot seed was held-in bitlk, proceedings were taken against the vendor.

## Oversea or Imported Seeds.

Table III. gives the germinating capacity of the principal seeds imported from overseas during 1926-27; the country from which the goods were imported is set out in order of frequency of consignments.
The Regulations under the Commerce (Trade Descriptions) Act 1905 requires the trade description to state the seeds condition as to soundness, cleanness, and newness, "soundness"" being described as freedom from disease and from damage or decay, "cleanness" as freedom from seeds other than those named in the trade description and from other foreign substances such as chaff, stalks, soil, \&e., and "newness" that the seed has been gathered during the immediately preceding harvest time in the country or place named in the trade description.
In the absence of definite standards other than that for lucerne, the minimum percentage of germination required by the Queensland Seeds Acts has been the basis of examination.

On reference to the table it will be noted that 9 per cent. of the samples examined had a lower percentage of germination than is allowed by the Queensland State Acts. In some instances it was possible to bring the seeds up to the required standard by the removal of the light non-germinable seeds. Several consignments represented by these samples were returned by the importers to the country of origin. In some cases the importers willingly destroyed the goods as being unsuitable for their requirements.

The number of miscellaneous small consignments is increasing each year. They include nearly every kind of vegetable and farm seed, many of which the importers must find quite unsuitable for Queensland conditions. The quantity of vegetable seeds such as cabbage, cucumber, cauliflower, tomato, \&c., imported by market growers indicates that many buyers are obtaining their supplies from practically the same districts as merchants usually import from.

## Seeds Suitable for Market Growers.

In my last year's report mention was made of the ever-growing demand for such vegetables as cablage, cauliflower, carrot, beet, onion, turnip, and tomato which has directed many growers' attention to the necessity of sowing the varieties most suitable for market requirements. In the past little attention has been given to strains, the usual idea being that identical crops would be produced from any kind of cabbage, cauliflower, \&e., and the buyer's principal aim was the price of the seed.
New seeds of beet, cabbage, carrot, cauliflower, cucumber, lettuce, pumpkin, radish, swede, and turnip will easily retain their germination for a year if kept in a cool, dry place. Market
growers would, therefore, be well advised to purchase their requirements of cabbage, cucumber, tomato, \&c., a year in advance, and make a trial of each lot by putting a row alongside the main crop: If the seed proves to be the strain best suited for market réquirements, they have enough on hand for their next year's main crop. If unsatisfactory, their loss is little more than the cost of the seed.

When buying it is well to ascertain the seedman's stock number, and any other particulars regarding the strain purchased. This will enable the seedsman to supply the buyer's future requirements with seed from the same source. When a good source of supply has been found, it is obvious that the buyer should again obtain supplies from the same merchant, as the buying of supplies from casual vendors of seed in most cases leads to monetary loss in the resulting crop.

## The Effect of Long Storage.

The effect of long storage on germination is shown in Table IV., from which it will be noted that, provided the seeds above-mentioned are of high germination when they reach the user they should be quite good for a year from the date of purchase. This remark also applies to wellharvested samples of French beans, free from insects, and peas. New seeds of onion and parsnip should be purchased every year, as neither can be relied to retain their germinating power in the following season.
Nothing need be left to chance; no charge is made for the examination of samples representing vegetable seeds that market growers have purchased for their own cowing. Only in the case of samples from sellers of seed is the nominal charge of 2 s .6 d . made. All the sender of the sample has to do is to forward a sample of the preseribed weight, plainly marked in ink, sotting out kind of seed, quantity the sample represents, name of supplier, date of delivery, name and address of sender, and accompany such sample with a covering letter advising of its despatch.

Table IV., in addition to the vegetable seeds already referred to, includes some of the leading agricultural seeds, such as Paspalum, Rhodes, and Prairie grasses, also lucerne, millets, \&c.

## Paspalum Seed.

As freshly harvested paspalum seed will not germinate under ordinary conditions, growers would be well advised to hold the seed for a few months before offering it for sale, and buyers should in their own interests submit samples to this Department before selling or sowing.

Sample No. 720 is typical of freshly harvested seed:-

|  | Jan., <br> 1924. | Jan. <br> 1925. | Jan., <br> 1926. | Jan., <br> 1927. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Percentage of g rmination | 5 | 64 | 45 | 42 |
|  | 63 | 58 | 26 | 3 |

The figures above the line give the percentage of germination under the ordinary methods: those below the line, the perentage ascertained by laboratory methods that induce the ready germination of new paspalum se d.

On reference to this example and to Table IV. it will be seen that the seed's actual maximum growth is not reached until it is at least one year old; further, that methods that make for the ready germination of new seeds have an adverse effect on old seeds.

The samples of paspalum referred to were tested by a tentative method which has now been slightly altered to emphasise the difference between new seeds and those losing their germinating power through natural causes.
It should be clearly understood that the laboratory methods herein referred to cannot be applied to seeds sown in the field.

## Hard Seeds in Lucerne.

"Hard seeds" are defined by the Regulations under the Pure Seeds Acts as "any seeds whose seed coats are so impervious to water as to delay germination."
Schedule B of the Regulations provides for the percentage of dead, non-germinable, and hard seeds that may be contained in cowpeas, lucerne, and Mauritius beans. In all countries where crops are subjected to dry, hot weather, hard seeds are more or less prevalent. The question is often asked as to when such seeds may be expected to germinate. Table IV. sets out some typical lucerne samples, the germination of such samples, and the percentage of hard seeds that did not germinate.

| Sample No. 656. | Jan., <br> 1924. | Jan., <br> 1925., | Jan., <br> 1926. | Jan., <br> 1927. |
| :---: | ---: | ---: | ---: | ---: |
| Percentage of germination. . | 54 | 81 | 74 | 68 |
| Percentage of hard seeds $\ldots$ | 37 | 9 | 5 | 4 |

From the above it will be observed that, although sample No. 656 germinated in January,

1924, 54 per cent., and at that time contained 37 per cent. of hard seeds, in January, 1925, the germination had increased to 81 per cent, and the hard sceds decreased to 9 per cent. In other words in 1924 the sample contained 91 per cent. of live seeds and in 192590 per cent. No. 659 represents a sample free from hard seeds. In January, 1924, this germinated 95 per cent., a year after 88 per cent., or a loss of 7 per cent. In the first sample mentioned the percentage of live seeds in June, 1927, was 67 per cent., and in the sample free from hard seeds 61 per cent. The samples included in the table were selected for the purpose of showing typical cases of the effect of storage on the germination of hard seeds.

## Rhodes Grass Seed.

Each year during the months of February and March, a number of freshly harvested samples of Rhodes grass seed are received for a germination test. Some of these samples represent seed cut at the earliest possible moment, and obviously of very feeble growth; others require a more or less lengthy period of after ripening before they reach their maximum germinating power.
Although this after-ripening process is best achieved by the seeds ripening in the seed head before threshing, Nature can do a lot even with threshed seed if it is stored for two or three months in an airy shed. Growers of Rhodes grass seed would be well advised to give this matter the fullest possible attention, as buyers are not anxious to purchase seeds that take from twenty to forty days to reach the minimum germination of 30 per cent. required by the Regulations under the Pure Seeds Acts.
The following table shows the effect of afterripening on the seeds energy of growth :-

Freshly Harvested Rhodes Grass Seed. Percentage Germinated in the Period Stated.


* Test not complete.


## Peanuts.

From time to time complaints have been made regarding the germination of shelled peanuts. In most cases samples of the material complained of were not submitted for examination. During the current year, however, several reasonably large samples were forwarded by purchasers, with the result that two samples were found to be of low germination.

In 1925 a series of peanut samples were tested for germination, the balance of the samples being kept for further examination. The material in question was again tested in June of the present year, with the results as set out at the end of Table IV. On reference to the table it will be observed that the peanuts after two years storage still retained a high germinating power. It is further to be noted that the figures given relate to peanuts stored in unbroken shells.

In order to ascertain the probable difference between shelled nuts or nuts from slightly damaged shells as against those apparently undamaged, a series of samples representing the 1926 crop were examined during June, 1927, with the results as set out in Tables A and B. From Table B it will be noted that all the nuts from the apparently unbroken shells on examination were found to be sound, with a 99 per cent. germination. The nuts from the slightly damaged shells germinated from 92 to 96 per cent., and those from the damaged shells (in series Y3), which contained 25 per cent. of broken and mouldy nuts and 75 per cent. of sound nuts, germinated 64 per cent., which percentage of germination relates to the sound nuts. The loose nuts in series Y3 had not been subjected to mechanical injury, and could be classed as sound. The low germination of 36 per cent. can, therefore, be attributed to the effect of storage on loose nuts.

| Condition of Shells. | Series. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | \% | \% | \% |
| Apparently undamaged | X 2 | $87 \cdot 3$ | $19 \cdot 0$ | 81.0 |
|  | Y 3 | $43 \cdot 4$ | $18 \cdot 3$ | 81.7 |
| Slightly damaged | X 2 <br> Y 3 | 10.7 17.0 | 21.4 17.0 | 78.6 83.0 |
| Damaged | X2 | 1.1 |  |  |
| Damaged | Y 3 | $28 \cdot 6$ | 23.0 | 77-0 |
| Loose nuts in sample | $\begin{gathered} \mathrm{X} \\ \mathrm{~V} \end{gathered}$ | $0.6$ | .. | . |
| Foreign matter | Y 3 | 4.5 0.3 | $\cdots$ | $\cdots$ |
| Foreign matter | Y 3 | 6.5 | $\cdots$ |  |

Peanuts-Table B.

| Material. | Series. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | \% | \% | \% |
| Nuts from apparently un- | X 2 | Nil | 100 | $\begin{aligned} & 99 \\ & 99 \end{aligned}$ |
| Nuts from slightly damaged | X 2 | Nil | 100 | 96 |
| shells | Y 3 | 0.9 | 99-1 | 92 |
| Nuts from damaged shells.. | X 2 |  |  | 64 |
| Loose nuts in sample .. | Y 3 X 2 |  |  | 64 |
| Loose nuts in sample .. | Y 3 | Nil | 100 | 36 |

## Invoices and Green Crops.

It is frequently overlooked that a vendor under the Pure Seeds Acts is any person who sells, or offers, or exposes for sale, or contracts, or agrees to sell, or deliver any seeds.

The Acts require that on the sale of any seed of not less than 1 s . in value, the vendor must at the time of sale give to the buyer, or, if the buyer is not present at the time of sale, forward to him an invoice containing the statements required by the Acts.

The wording of the invoice should be to the following effect:-
"The seeds mentioned in this invoice are for planting or sowing. Such seeds are of the kind or kinds specified, and contain no greater proportion or amount of foreign ingredients than is prescribed with respect to such seeds."

From the above it will be noted that the invoice must be given on the sale of any seeds for planting or sowing. This therefore includes even such seeds as Mauritius beans, and cowpeas planted for ploughing in as green manure, as well as oats, barley, or wheat sown for the purpose of being fed off by stock.

During the year proceedings were taken against a vendor for failure to give an invoice, and sellers would be well-advised to pay more attention to the requirements of the Pure Seeds Acts, otherwise further proceedings will be necessury.

## Stock Foods, 1926-1927.

The Stock Foods Act of 1919 defines a "Mixed concentrated or prepared stock food" as-
(a) All kinds of meals and foods for stock prepared, whether in whole or in part, from one or more than one kind of grain or oils or juices or meats, or other source; and
(b) Any condimental patented or proprietary stock food claimed to possess nutritive properties or nutritive as well as medicinal properties.
From the above it will be noted that material claimed to possess nutritive as well as medicinal properties comes within the provisions of the Act.

On reference to my previous Annual Reports it will be observed that the composition of several mixed or prepared stock foods includes a small percentage of the following materials: -Salt, bone meal, charcoal, lime, and sulphur; also for flavouring purposes a trace of cinnamon, and aniseed, and in some cases under the designation of Condiments a small quantity of fenugreek, gentian, coriander, carraway, cumin, \&e.

The abovementioned materials can be accepted as an addition to ordinary mixed concentrated or prepared stock food.

The Regulations under the Act require when salt is present in mixed or prepared stock foods in greater quantities than one-half of 1 per cent. that the percentage of such added salt shall be declared on the label attached to the food and on the invoice given to the buyer.

The prolonged drought has encouraged many stockowners to purchase large quantities of salt, either in the form of lick blocks, or coarse salt, or coarse salt mixed with a proportion of other ingredients, which sometimes include a small amount of concentrated food. Many of these preparations contain an excessive ámount of salt, and cannot therefore be relied on to supply the mineral constituents lacking in the animal's ordinary food. Further, it must not be over-1 looked that salt does not compensate for short rations.

The purpose of mixed mineral feeds is to supply animals with the mineral constituents that are wholly or partly lacking in their ordinary food, it is therefore obvious that such mixtures cannot be labelled in the manner laid down by the Stock Foods Act, which only provides for protein, fat, and fibre.

In my opinion it would be an advantage if the seller labelled all licks, or mixed mineral feeds, in such a way as would set out, in common terms, the actual percentages of salt, lime, sulphur, sulphate of iron, iodine, \&c., and in the case of bone meal, or rock phosphate, the percentage of phosphoric acid $\left(\mathrm{P}_{2} \mathrm{O}_{5}\right)$ that they contain.

## Bone Meal-A Warning.

The increasing demand for bone meal for feeding purposes has, in some instances, encouraged stockowners to purchase ground bones, prepared for use as a fertiliser.

Sterilised bone meal suitable for use in feeds is produced in Queensland, and buyers would be well advised to place their orders with such firms as are willing to guarantee the material to be sterilised bone meal.

The 351 samples examined for purposes of the Stock Foods Act were derived from the following sources:-

| Districts. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Brisbane | 112 | 39 | 10 | 2 |
| Beaudesert-Beenleigh |  | . . |  | 2 |
| Ipswich-Boonah | 1 |  |  |  |
| Lowood-Toogoolawah |  | 6 |  |  |
| Toowoomba-Pittsworth | 4 | 12 | $\cdots$ | 4 |
| Warwick . . | 4 | . | $\cdots$ | 1 |
| Stanthorpe .. | 8 |  | . |  |
| Nambour-Gympie . |  | 16 | . | 3 |
| Murgon-Kingaroy .. |  |  | . | 2 |
| Maryborough .. | 3 | 6 | . | .. |
| Bundaberg-Gladstone | 6 | 3 | . |  |
| Rockhampton-Mackay | 17 | 20 |  | 7 |
| Townsville .. | $\begin{aligned} & 14 \\ & 10 \end{aligned}$ | $\cdots$ | 3 | 5 |
|  | 179 | 102 | 13 | 26 |
|  |  |  |  |  |

Miscellaneous samples not elsewhere included, 31.

## Wheat By-products.

Wheat by-products vary in composition not so mach by differences in the wheat, but on account of the great variation in the impurities that the wheat contains.
In the first place every miller's concern is with the greatest possible percentage of flour that he can produce; he does not buy inferior wheat to make bran and pollard, neither does he purchase weed seeds, straw, \&c., except when such materials are delivered to him in the wheat purchased for milling purposes.

In the course of our ordinary work in connection with mill by-products our attention was directed on more than one occasion to trucks of wheat containing in some instances pieces of
iron in many of the bags. One truck in particular contained pieces of discarded agricultural machinery, some of which weighed from a few ounces to just over $5 \frac{1}{4} \mathrm{lb}$.

During the month of June samples were taken representative of the wheat then being delivered to various mills. The samples in question were examined with the results as set out in Table A, from which it will be noted that a quantity of wheat rejected by one of the mills contained nearly 8 per cent. of foreign matter, which included over one-third of 1 per cent. of Tilletia sp. (Bunt) and over 5 per cent. of weed seeds.

Table A.
SAMPLES TAKEN DURING June, 1927 REPRESENTING Wheat delivered to Flour Mills.

|  | $\begin{aligned} & \text { Wheat } \\ & \text { Used by } \\ & \text { Mill. } \end{aligned}$ | $\begin{aligned} & \text { Wheat } \\ & \text { Used by } \\ & \text { Mill. } \end{aligned}$ | Wheat Rejected by Mill. |
| :---: | :---: | :---: | :---: |
| Sample Number | 1259 | 1269 | 1272 |
|  | Percent- | Percent- | Percent- |
|  | age by Weight. | age by Weight. | age by Weight. |
|  | 98.0 | 93.57 | $92 \cdot 31$ |
| Oats and Barley | 0.4 | 1.15 |  |
| Wheat Glumes | 0.5 | 1.55 | 0.29 |
| Wheat Rachis | $0 \cdot 2$ | $2 \cdot 37$ | $0 \cdot 05$ |
| Wheat Straw | 0.8 | 0.77 | 0.09 |
| Weed Seeds |  | 0.24 | $5 \cdot 25$ |
| Tilletia sp. (Bunt) | Trace | 0.03 | $0 \cdot 37$ |
| Undetermined matter | $0 \cdot 1$ | $0 \cdot 32$ | 1.64 |

TABLE B.
The following Table gives the Composition of an average Sample of Soreenings that could be removed from Wheat by Modern Machinery.
$\begin{aligned} & \text { Percentage } \\ & \text { by Weizht. }\end{aligned}$
Wheat, pinched and broken grains .. $42 \cdot 3$
Oats and a small proportion of barley $\quad 24 \cdot 3$
Wheat glumes containing a few
wheat grains .. .. .. 8.9
Wheat rachis $\quad \therefore \quad$.. $\quad$.. 16.3
$\begin{array}{llll}\text { Wheat and oat straw } & . & . . & 1.8 \\ \text { Weed seeds }\end{array}$
Weed seeds
Tilletio sp, (Bunt) 0.127
Sticks, capsules, leaf, insects (dead),
poppy-heads, and undetermined
material
3.273
Undetermined material that passed
through a 1 mm , sieve .. .. 0.6

The weed seeds in the screenings included :-

| Argemone mexicana | Prickly Poppy |
| :---: | :---: |
| Avena fatua | Wild Oats |
| Bromus sp. | A Brome Grass |
| Carthamus lanatus | Saffron Thistle |
| Centaurea melitensis | Star Thistle |
| Cnicus lanceolatus | Spear Thistle |
| Lithospermum arven | Corn Gromwell |
| Lolium temulentum | Darnel |
| Malva parviflora | Small-flowered Mallow |
| Melilotus parviflora | Hexham Scent |
| Phalaris sp. | A Canary Grass |
| Rumex sp. | Dock |
| Silybum Marianum | Virgin Mary's Thistle |
| Sisymbrium orientale | Oriental Rocket |
| Sonchus sp. | Sow Thistle |
| Xanthium spinosum | Bathurst Bu |

A portion of the average sample of screenings as set out in Table B was made into a meal of such fineness as to permit of 99 per cent. passing through a metal sieve perforated with round holes 1.5 mm . (one and a-half millimetres) in diameter. The meal in question being analysed by the Agricultural Chemist, with the results as set out in Table C. For purposes of comparison
three samples of meal made from whole wheat were also analysed. In the third column will be found the average analyses of all the pollard samples examined during 1926-1927:-

TABLE C.


From the foregoing it will be seen that mills receive a quantity of foreign matter in the material delivered as milling wheat; further, it must not be overlooked that modern agricultural machinery tends to increase the proportion of broken wheat rachis, and other unmillable materials, all of which cannot possibly be removed.

In the case of bran, weed seeds such as wild oats can easily be detected with the naked eye. From Table V. it will be noted that some samples contained not only weed seeds, but whole or partly crushed wheat. If such material had passed through the break rollers it would have been flattened out.

From the appearance of several samples it was obvious that the presence of whole wheat, merushed wild oats, and other whole weed seeds indicated that screenings taken out of the wheat had been added to the bran.

The large up-to-date mills have an elaborate system of machinery, which makes a more definite and greater separation of flour from mill offals than was possible a few years since. Such mills must not be condemned on this account as the primary object of their business is to produce flour, not feeding stuffs for animals.

If users prefer a coarse or broad flaky bran, millers cannot be blamed for taking out the finer materials, which in the end goes in with the pollard. In the case of pollard the Regulations under the Stock Foods Act provide for a degree of fineness that permits of 99 per cent. of the material passing through a metal sieve perforated with round holes $1 \frac{1}{2} \mathrm{~mm}$. (one and a-half millimetres) in diameter, the buyer does not therefore suffer loss. On reference to Tables V. and VI. it will be seen that in many samples a trace of weed seeds and other foreign materials appear in both bran and pollard.

As the addition of screenings to bran can easily be detected by the buyer, this by-product does not usually contain much of such material.

Fincly ground screenings lose their identity when added to pollard. Screenings, however, have a feeding value as set out in Table C from which it will be noted that the particular sample with a composition as fully set out, had a crude protein content of 8.9 per cent. and over 13 per cent. of crude fibre.

The protein content of Cape Barley is about the same as that of the sample of sereenings
referred to, and cases are on record where the low crude protein content of pollard was caused by an excessive amount of barley in the wheat.
The best of modern machinery cannot remove all the barley, with the result that a portion goes into the flour and what may be termed "grits" into the pollard. Although such material would lower the protein it would not make any appreciable difference to the fibre, as would be the case if the same proportion of screenings were added.
If the manufacturers of bran and pollard, many of whom are in the Southern States, guaranteed that their by-products contained screenings not exceeding mill run, such guarantee would not affect the issue, as the wheat's freedom from impurities still rests on the actual producer.
During the year a number of small buyers alleged that the pollard purchased by them was adulterated with foreign ingredients, or not in other respects up to seller's guarantee. A series of samples were taken from unopened bags with the results as hereunder set out:-

TABLE D.
Complatnts from North Coast Line.


TABLE E.

|  | $\frac{\text { Samples }}{\text { Representing Pollard }}$ Complained of. |  |  |
| :---: | :---: | :---: | :---: |
| Crude protein <br> Crude fat <br> Crude fibre .. | Average $\%$ $15 \cdot 9$ $4 \cdot 1$ $6 \cdot 4$ | $\begin{array}{\|c} \text { Average } \% \\ 15 \cdot 6 \\ 4 \cdot 2 \\ 6 \cdot 1 \end{array}$ | $\begin{gathered} \text { A verage } \% \\ 15 \cdot 4 \\ 3 \cdot 2 \\ \hline 3 \cdot 2 \end{gathered}$ |
| Fineness of Material- <br> Over $1 \frac{1}{2} \mathrm{~mm}$. sieve Through $1 \frac{1}{2} \mathrm{~mm}$ over 1 mm . sieve | $\begin{array}{r} 1 \cdot 2 \\ 18 \cdot 1 \end{array}$ | $\begin{array}{r} 2 \cdot 5 \\ 20 \cdot 4 \end{array}$ | $\begin{aligned} & 0.4 \\ & 2.0 \end{aligned}$ |
| Through 1 mm . sieve | $80 \cdot 7$ | $77 \cdot 1$ | $97 \cdot 6$ |

From the above it will be observed that in both instances the pollard desired by the purchasers was of a lower nutritive value than that complained about. The samples preferred had a greater degree of fineness due to the flour that they contained. The process of milling is for
the manufacture of flour, a material lower in protein and fat than bran or pollard; when the miller fails to extract the fullest quantity of flour, the mill by-products are lowered in their nutritive value.

Purchasers desiring a white meal for feeding purposes can procure meal made from whole wheat with an average analysis of about: crude protein, 10.7 per cent.; crude fat, 1.3 per cent.; crude fibre, 2.3 per cent.

A comparison of the relative values of wheat meal, pollard, and sereenings is set out on Table C.

## Miscellaneous Stock Foods

Table VII. gives particulars of the miscellaneons stock foods examined during the year under review. Section 3 of the Stock Foods Act provides for the wholesale seller sending in a $2-\mathrm{lb}$. sealed sample of each mixed concentrated or prepared stock food. This section also provides for the seller sending in, if so requested, a $2-\mathrm{lb}$. sample representing each kind of grain, seed, material, or ingredient or foreign ingredient of which the food is composed. A microscopial examination has been made of some of the samples obtained during the year with the result that the proportions or amounts of the different materials or foreign materials as set out on the statutory declarations are in some instances open to question. Sellers would be well-advised to take this as a warning that in the event of further findings of the character indicated it will be necessary to take proceedings.

In the case of mixed, concentrated, or prepared stock foods to which molasses have been added, the percentage of crude protein declared on the label should only relate to nitrogenous compounds derived from material other than molasses, as the nitrogenous compounds derived from molasses are not accepted as true proteins.

From the weed seeds and other foreign material frequently found in poultry foods and mixed bird seeds, it is evident that some of the grains and seeds used in these mixtures were of oversea origin. The principal weed seeds found in poultry foods and bird seeds during the current year are as hereunder set out:-

| Scientific Name. | Common N |
| :---: | :---: |
| $A$ marantus sp. | aranth |
| Arthrolobium scorpioides. |  |
| Avena fatua | Wild Oats |
| Bromus maximus | Giant Brome |
| Centaurea melitensis | Star Thistle |
| Chenopodium album | Goosefoot, Fat Hen |
| Cnicus lanceolatus | Spear Thistle |
| Convolvulus arvensis | Field Bindweed |
| Datura sp.* | Thorn Apple |
| Galium aparine | Goosegrass |
| Hibiscus trionum | Bladder Ketmia |
| Lithospermum arvense | Corn Gromwell or Ston |
| Lolium temulentum | Darnel, Drake |
| Melilotus parviflora | Hexham Scent |
| Panicum sanguinale | Summer Grass |
| Picris hieraciodes |  |
| Plantago lanceolata | Rib Grass |
| Polygonum aviculare | Wireweed |
| Polygonum convolvulus | Black Bindweed |
| Polygomum Persicaria | Ladies' Thumb |
| Rhagodia nutans |  |
| Rumex sp. | Dock |
| Setaria glauca | Pigeon Grass |
| Sonchus sp. | Sow Thistle |
| Spergula arvensis | Corn Spurry |
| Stachys arvensis .. | Stagger Weed |

The Storage and Fumigation of Meals and Grain likely to be damaged by Insect attack.
During drought periods merchants are called on to supply many truck lots of meal and grain to districts that in the ordinary way would only be using a few bags. To meet this demand both merchants and general storekeepers must order supplies a long way ahead. After the first good rain, users become reluctant to accept delivery, and the flow of orders dwindles to ordinary proportions. In the meantime both merchants and storekeepers have considerable stocks on hand that must be held until they can be absorbed by the districts ordinary trade.

Those interested in the matter are at present inquiring as to methods suitable for the storage of prepared stock foods and grain, it being recognised that insects in developmental stages are more or less present in all bulks of meals, grain, and other stock foods, received by the storekeeper.

When a buyer of these foods finds it necessary to carry over his purchases for a few months, precaution should be taken to prevent insect attack. The working of insects frequently causes the material to heat, this liberates moisture which results in the rapid deterioration of the article stored.
The methods suggested for the storage of stock foods, and the prevention of insect attack may be used to advantage when the material to be stored is of good quality; in the case of mouldy, or badly insect infested material it should always be remembered that no method will make such food good. Fumigation and storage on the lines suggested will prevent deterioration of good material-what is good to eat is good to keep -none other will pay for the care required.

If on casual examination live insects are found in the material, it is obvious that there are many more in different stages of development; the object of fumigation is to kill all insect life in whatever stage it may be. To do this it is essential that the material be fumigated in an airtight chamber; this may be a tank, or any other container that can be easily filled or emptied, and kept airtight during the period of fumigation.

Bisulphide of carbon has proved an effective and cheap fumigant; the quantity required must relate to the cubic content of the fumigation chamber, which should be filled with the material to be fumigated.

The approximate cubic content of a round tank ean be ronghly ascertained by the following method:-


If absolute accuracy is required the square of the diameter should be multiplied by 0.7854 and the result multiplied by the height.

The following table gives a rough idea of the cubic content of the round tanks usually sold, also the quantity of bisulphide of carbon required for each size.

Cubio Content of Round Tanks.

| Tanks Usually Sold as | Usual Measurement. |  |  | Content in Cubic Feet. | Approximate Quantity of Bisulphide of Carbon Required. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Diameter. | Height. |  |  |  |
| Gallons. <br> 500 | Ft. ${ }_{4} \mathrm{in}$. |  |  | 75 | 5 oz. |
| 600 | $4{ }^{4}$ |  | 0 | 86 | 6 oz . |
| 800 | 50 | 6 | 0 | 118 | 9 oz . |
| 1,000 | 60 | 6 | 0 | 170 | $\frac{1}{2}$-pint |
|  | $10 \quad 0$ |  | 6 | 981 | 3 pints |
|  | 110 |  | 0 | 1,044 | 3 pints |
|  | 120 |  | 0 | 1,017 | 3 pints |
|  | 126 |  | 3 | 1,012 | 3 pints |

One ton of maize is approximately 52 cubic feet.
One ton of meal is approximately 75 cubic feet.
Three pints ( $4 \frac{1}{2} \mathrm{lb}$.) bisulphide of carbon is required for 1,000 cubic feet.

Fumigate in an airtight chamber, pour bisulphide of carbon on cotton waste at top of chamber and close aperture quickly. Leave material with fumigant for at least twenty-four hours, at most thirty hours, and then store in a clean tank or chamber as airtight as possible. Remember some of the fumigant will remain in the fumigation chamber and may explode if a cigarette or other light is dropped in.

## Bisulphide of Carbon-Caution.

Users of bisulphide of carbon are warned of explosion when a naked light is brought near air charged with its fumes. As a precantion against such occurrence it is advisable to place the fumigation chamber in a position that does not exclude daylight. Further it must not be overlooked that, when the fumes of bisulphide of carbon are present in the fumigation chamber for a longer period than is suggested, the material may retain the smell of the fumigant and give an objectionable odour to meals. This will not occur if the fumigant is used in the manner recommended.

## Fertilisers, 1926-1927.

Since 1st Jamtary, 123 dealers in fertilisers obtained licenses. During the same period 643 certificates of registration of fertilisers were received from licensed dealers, also 151 returns in the form of Schedule B from producers (wholesale dealers) within the meaning of the Regulations.

The following small table sets out the districts in which the licensed dealers carry on business, also the districts from which samples were obtained.

| Districts. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Brisbane . . | 46 | 69 | 28 | 2 |
| Beaudesert-Beenleigh | 2 | 5 |  |  |
| Ipswich-Boonah ... | 4 | 5 | 1 |  |
| Lowood-Toogoolawah | 3 | 3 |  |  |
| Rosewood-Forest Hill | 1 |  |  |  |
| Toowoomba-Pittsworth | 5 | 5 | 1 | $\ldots$ |
| Warwick-Clifton | 1 |  | $\ldots$ |  |
| Stanthorpe .. . | 6 | 36 |  |  |
| Nambour-Gympie .. .. | 10 | 9 |  | $\cdots$ |
| Maryborough-Mundubbera | 6 | 66 | .. |  |
| Bundaberg-Gladstone | 7 | 43 |  | . |
| Rockhampton-Mackay | 8 | 28 | 1 |  |
| Bowen-Ayr . . . | 10 | . |  | 1 |
| Townsville-Ingham Cairns-Innisfail | 10 | $\cdots$ | 1 | $\cdots$ |
|  | 123 | 269 | 32 | 3 |

A fertiliser within the meaning of the Fertilisers Act is :-
"Any substance or compound containing, in appreciable quantity, nitrogen, phosphoric acid, potash or lime, manufactured, produced, or prepared in any manner for fertilising the soil or supplying nutriment to plants; also, any excrement of animals or any natural substance, or natural product which is used for fertilising the soil or supplying nutriment to plants ; provided that the term does not include farm yard manure, stable manure, seaweed, or crude nightsoil."

During the year three samples were submitted to the Agricultural Chemist for analysis representing materials that the owners were desirous of selling as fertilisers. On analysis the samples were formd to contain :-

|  | Sample. | Nitrogen. | Phosphoric <br> Acid. | Potash. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A | $\ldots$ | $\cdots$ | 0.35 | 0.03 | 0.56 |
| B | $\ldots$ | $\ldots$ | 0.40 | 1.60 | 0.30 |
| C | $\ldots$ | $\ldots$ | 0.03 | Nil | Nil |

The materials in question cannot be considered as containing an appreciable quantity of any one of the fertilising ingredients, and should not therefore be sold as a fertiliser.

## Legume Bacteria.

From time to time dealers in fertilisers have inquired as to material recommended as useful for soil inoculation. Up to the present the manufacturers of such material have not, to my knowledge, claimed their preparations to be fertilisers. Most vendors of such preparations, which may be best described as bacteria activating material, fully appreciate the soil's condition and give directions as to the manner in which the soil should be treated, before their preparation is applied. When these directions are carefully followed, the conditions of the soil are made suitable for the natural bacteria, associated with the various crops.

The small farmer and fruit grower in adverse seasons, when he has a hard struggle to get a living, readily falls to the eloquence of a traveller selling these preparations, particularly so as farmers and fruit growers are more or less aware, that bacteria is associated with such crops as cowpeas, lucerne, and Mauritius beans. The logical procedure, however, is to make conditions within the soil ideal for plant growth, and in the event of the requisite organisms not being present the addition of soil from a field that has previously borne a similar leguminous crop might with advantage be resorted to.

The fertilisers registered have, for convenience of reference, been divided into-


In each case the wholesale dealers (producers) guarantee is given, and where samples have been taken the average findings of the Agricultural Chemist.

Table VIII. includes sulphate of ammonia produced in Australia, nitrate of soda imported from South America, and Urea, a new product from Germany, at present offered in retail quantities.

It is just possible that within the coming year calcinm eyanamide, with a nitrogen content of 19 per cent., will also be on the market.

The fertilisers set out in Table IX. include ground Nauru or Ocean Island phosphate, imported from Nauru and Ocean Islands, also superphosphate and basic super, manufactured in the Southern States from imported phosphates.

In Queensland there is not any active demand for basic slag, that on the market is imported from England.

Both sulphate and muriate of potash (Table X.) are imported from France and Germany. On account of high cost of freight the low-grade potash salts, such as Kainit, are not sold in Queensland.

Table XI. sets ont the fertilisers manufactured in Queensland from raw material produced within our State. Buyers would do well to remember that the wholesale dealers appearing in this tahle have works in Queensland. The raw materials used being by-products of animals produced and slaughtered in this State.

Mixed fertilisers or mechanical mixtures of the various fertilisers are set out in Table XII., from which it will be seen that the percentage of nitrogen, phosphoric acid, and potash are given, also the form in which they oceur, and in the case of fertilisers with a meatworks base the percentage of fine and coarse material.

After a careful perusal of the various findings as set out in the tables it will be observed that in most cases the dealers' guarantees have been substantially met.
During the last year several of the principal wholesale dealers erected new works or installed fresh machinery, which will now ensure more efficiency in mixing and uniformity of output.

Pest Destroyers, 1926-1927.
During the year ended 30th June, 1927, 346 samples of pest destroyers were obtained from the following sources:-

|  | Samples Received under Section 3 of Pest Destroyers Act. | Samples Taken by the Inspector ander Pest. Desifoyers Act. | Samples Sent in by Dealer: | $\begin{gathered} \text { Samples } \\ \text { lieceived } \\ \text { from } \\ \text { Uars. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Brisbane | 289 | 2 | 21 | 2 |
| Other Districts | 14 | 10 | 6 | 2 |
|  | 303 | 12 | 27 | 4 |

In addition to the samples, statutory declarations, registration forms, and specimen invoices received from wholesale dealers, 228 retail dealers sent in Schedules I. and II., setting out the names of the pest destroyers that they are at present selling, and the name and address of the wholesale dealer from whom such pest destroyers were obtained.

A "wholesale dealer'" within the meaning of the Act is any person who, whether as mammasturer, importer, or wholesale seller, is primarily responsible for the putting on the market in Queensland any pest destroyer.

In cases where the manufacturer or merchant putting the material on the market is not resident in the State of Quren-land, the requirements of Section 3 of the Act may be complied with hy a duly authorised agent resident in Queensland; and such agent is, for the purposes of the Act, deemed to be the wholesale dealer.

When a wholesale dealer in any pest destroyer has complied with the provisions of Section 3 of the Act relating to the registration, and such pest destroyer has been duly registered within the current year, it is permissible for any other dealer to sell such registered pest destroyer without payment of any fee. The ratail dealer is nevertheless bound to comply with all other provisions relating to the sale of pest destroyers.

For the information of hoth wholesale and retail dealers, a leaflet of instructions was posted to every known seller of these articles last January.

Although 228 retail dealers sent in Schedules 1 and 2 , it is questionable if this number represents more than half of such dealers within the State. Both wholesale and retail dealers should not overlook the fact that failure to give notice in writing in the prescribed forms within thirty days of commencing husinass, and thereafter in each year on or before the thirty-first day of January, renders them liable to proceedings.

Every dealer is required to label each package of pest destroyer in such a mamner as to give the following particulars:-
(1) The distinctive name of the pest destroyer.
(2) The net weight contained in the package or in the case of liquids, the true volume content expraszed in Imperial gallons or fractional parts thereof.
(3) The names of the active constituents, and, when so required by the prescribed standards, the percentage of such active constituents and/or the impurities contained therein.
(4) All directions for use of the pest destroyer
(5) The name and address of the Queensland wholesale dealer.

Every retail dealer should examine all goods on delivery and satisfy himself that they are labelled in aecordance with the particulars above set out.

On the sale of any pest destroyer of a greater value than 5s., every dealer must, on or before delivery of such pest destroyer, sign and give to the buyer an invoice setting out-
(1) The name of the pest destroyer;
(2) The net weight or Imperial measure;
(3) A warranty to the following effect:-

Notwithstanding any agreement to the contrary, this invoice shall be deemed to be and shall have effect as a warranty by me, the seller, that the constituents of the pest destroyer sold, and the percentage in which each constibnent is contained therein and the percentage of each constituent contained in that part thereof which is soluble in cold water, accurately correspond with the constituents and percentages respectively stated in the statutory declaration furnished to the Under Secretary, Department of Agriculture and Stock, Brisbane, as prescribed with respect to the pest destroyer of the same name by "The I'est Destroyers Act of 1923."

## Kiegistered Pest Destroyers.

Table XIII, sets out the pest destroyers registered since the 1st January, 1927. For convenience of reference the kind of pest destroyer is given, together with the standards prescribed for the principal kinds, the trade name under which the various preparations are sold, the active constituents as declared by the label affixed by the wholesale dealer, and the name and address of the dealer putting the material on the Queensland market.

On perusal of the present list of registrations it will be noted that many fresh preparations are now on the market. The absence of some that appeared in previous lists may be accounted for in various ways. In many cases the manufac-
turer is selling under another name. Others, owing to lack of demand, have dropped out in favour of more uniform and efficient materials.

## Cattle Dips.

Particular attention is directed to the definition of "Cattle Dip" as 'any preparation in liquid, paste, or powder form containing a soluble arsenious compound, and represented as useful for making a dipping fluid.'

- A liquid cattle dip must be of such consistency that it does not separate into layers on standing, but remains a homogeneous mixture.

The standard prescribed for cattle dip is fully set out in Table XIII, and any dealer selling or offering for sale a dipping fluid not in accordance with the Regulations is open to prosecution.

## Protection of Purchaser.

In the interest of the purchaser the Act provides that the buyer need not accept delivery of any pest destroyer unless it is labelled and invoiced in accordance with sections 4 and 5 . Buyers, unfortunately, do not appear to fully appreciate the difference between materials sold from bulk by a country storekeeper, and those sold in the mamufacturer's original package. Both in the public interest and for the protection of the user, it is essential that the goods be packed by competent people, particularly so as materials such as sulphur may be of a quality suitable for a grocer's ordinary trade but useless as a pest destroyer.

Many wholesale dealers do not appear to be aware of the difference between sublimed and ground sulphur. The name flowers should indicate sublimed sulphur, which under the microscope appears as spheroidal masses, varying in diameter and agglntinated together in irregular groups. Ordinary ground or powdered sulphur is sometimes sold as "flowers" ; ground sulphur is easily distinguishable as it is composed of small angular particles, in many cases too coarse for dusting purposes.

Although Table XIII. is substantially complete for the year ending December, 1927, it is to be noted that the actual work under this Act camnot be fully shown, as the Pest Destroyer year is from January to December, and this report is written before some of the analyses have been made, the results of which will determine future action.

FRED. F. COLEMAN,
Officer in Charge.
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Table 1.
Analytical Purity of the Principal Agricultural Seeds Examined during 1926-27 for Purposes of the Pure Seeds Acts.

| Kind of Seed. |  |  |  |  |  |  |  | Number of Samples that Complied with Standard. |  |  |  | Weed Seeds in Order of Frequency of Occurrence. Prohibited Weed Seeds in Heavy Type. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cowpeas | $\begin{array}{r} \% \\ 2 \end{array}$ | \% | Nil | $\begin{gathered} \% \\ 0.7 \end{gathered}$ | $\%$ | $\begin{gathered} \% \\ 7 \cdot 1 \end{gathered}$ | $\%$ | 13 | 1 | 1 | 15 | Inert matter only. |
| GrassesCanary | 2 | 1 | Nil | 0.7 | 0.2 | $\cdots$ | .. | 6 | .. | 1 | 7 | Hibiscus trionum, Centaurea melitensis, Datura sp., Cnicus lanceolatus, Amarantus sp., Lithospermum arvense, Polygonum convolvulus, Polygonum aviculare. |
| Paspalum | 4 | 1 | Nil | $0 \cdot 9$ | $0 \cdot 1$ |  | . | 26 | . | . . | 26 | Panicum sanquinale, Panicum sp., Eleusine indica, Verbena sp., Sida rhombifolia, Kyllinga sp., Bidens pilosa, Andropogon sp. |
| Prairie | 5 | 1 | Nil | $3 \cdot 1$ | $0 \cdot 3$ | $9 \cdot 9$ | $3 \cdot 6$ | 7 | 2 | 1 | 10 | Malva parviflora, Sonchus sp., Marrubium vulgare, Lepidium sp., Avena fatua, Polygonum aviculare, Datura sp., Cnicus lanceolatus, Lithospermum arvense. |
| Rhodes | 6 | 1 | Nil | $3 \cdot 5$ | $0 \cdot 2$ | 16.8 | $2 \cdot 1$ | 70 | 33 |  | 103 | Chloris divaricata, Erigeron sp., Eragrostis sp., Rhagodia nutans, Panicum sanguinale, Panicum sp., Setaria sp., Verbena sp., Eriochloa punctata, Stipa sp., Andropogon sp., Salsola Kali, Eleusine indica. |
| Millets- <br> Setaria italica (Foxtail Millet) | 2 | 1 | Nil | $0 \cdot 4$ | $0 \cdot 1$ | $3 \cdot 6$ | $0 \cdot 3$ | 26 | 1 | 1 | 28 | Amarantus sp., Datura sp., Hibiscus trionum, Panicum sanguinale, Ipomcea $s p$. |
| Panicum crus-galli (Japanese Millet) | 2 | 1 | Nil | 0.8 | $0 \cdot 3$ | $\cdots$ |  | 22 | .. | .. | 22 | Hibiscus trionum, Panicum sanguinale, Amarantus sp., Tribulus terrestris, Setaria glauca. |
| Panicum frumentaceum) (White | 2 | 1 | Nil | 1.0 | 0.2 | $3 \cdot 1$ | $0 \cdot 2$ | 20 | 2 |  | 22 | Panicum sanguinale, Amarantus sp., Sida rhombifolia, Ipomcea sp., Eleusine indica, Siegesbeckia orientalis, Stachys arvensis, Portulaca oleracea. |
| Lucerne | 2 | 1 | Nil | 0.9 | 0.1 | $4 \cdot 7$ | 0.2 | 63 | 14 | 5 | 82 | Panicum sp., Chenopodium sp., Rumex sp., Rhagodia nutans, Polygonum aviculare, Cuscuta sp., Marrubium vulgare, Salvia verbenaca, Argemone mexicana, Boerhaavia diffusa, Amarantus sp., Plantago lanceolata. |
| Sorghum | 2 | 1 | Nil | 0.7 | . | $5 \cdot 3$ |  | 33 | 5 |  | 38 | Inert matter only. |
| Sudan (Sorghum Sudanense) .. | 2 | 1 | Nil | $1 \cdot 3$ | $0 \cdot 1$ | $3 \cdot 9$ | $0 \cdot 3$ | 28 | 17 | 4 | 49 | Panicum sp., Amarantus sp., Hibiscus trionum, Chenopodium sp., Datura sp., Tragus racemosus, Panicum sanguinale, Polygonum aviculare, Ipomcea sp. |

Prescribed Standard for Barley, Oats, and Rye. Maximum Amount allowed by Regulations :Inert Matter .. .. .. .. .. .. .. .. .. .. 2 per cent. $\begin{array}{llllllllllll}\text { Inert Matter } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & 2 \text { per cent. } \\ \text { Weed seeds that will not pass a } 2 \mathrm{~mm} \text {. sieve } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & \text {.. } & 1 \text { per cent. }\end{array}$ Weed seeds that will not pass a 2 mm . sieve,
Weed seeds that will pass a insect-infested seeds, or diseased seeds . . .. .. .. .. .. None Seeds of Barley and Wheat in Oats or Oats and Wheat in Barley .. .. 2 per cent.


Table II.
Germinating Capacity of the Principal Seeds Examined during 1926-27 for Purposes of the Pure Seeds Acts.


* Germinable clusters.

Table III．
Germinating Capacity of the Princifal Seeds for Sowing imported into Queensland（Port of Brisbane） during 1926－27．Samples examined for the purposes of the Commerce（Trade Descriptions）Act， 1905.

| Kind of Seed． | Imported from－ |  |  |  |  |  | 8 <br>  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | \％ | \％ | \％ | \％ | \％ |  |  |  |
| Beans，French | U．S．A．，Now Zealand，Holland，Germany | 99 | 75 | 96 |  | 92 | 21 |  | 21 |
| Beans，Lima | U．S．A．$\quad \cdots \quad \cdots$ | 99 | 75 | 97 |  | 86 | 7 |  | 7 |
| Beet | Gerinany，Holland，U．S．A．，England， France | 92 | 55 | 76 | 44 | 38 | 35 | 3 | 38 |
| Cabbage | U．S．A．，Holland，Germany，England， France | 98 | 65 | 85 | 57 | 45 | 48 | 3 | 51 |
| Carrot | Germany，US．A．，Holland，England， Italy | 86 | 55 | 68 | 44 | 25 | 28 | 6 | 34 |
| Cauliflower | England，Italy，Holland，Germany | 98 | 60 | 82 |  | 60 | 12 |  | 12 |
| Cucumber | U．S．A．，Italy ．．． | 96 | 65 | 90 | $\cdots$ | 85 | 24 |  | 24 |
| Lettuce | U．S．A．，Germany，England，Holland， France | 99 | 65 | 94 |  | 66 | 28 |  | 28 |
| Mangel | Germany，England，Holland，France， U．S．A． | 88 | 55 | 72 | 52 | 50 | 17 | 3 | 20 |
| Marrow | Holland，Germany，U．S．A．，England ．． | 92 | 65 | 77 | 56 | 49 | 11 | 3 | 14 |
| Melon | U．S．A．，Germany | 98 | 65 | 84 | 50 | 32 | 27 | 7 | 34 |
| Mustard | Germany，England，Holland | 96 | 70 | 91 | 69 | 69 | 3 | 1 | 4 |
| Onion | Italy，Holland，Germany ．．．． | 89 | 60 | 80 | 33 | 4 | 6 | 5 | 11 |
| Peas | New Zealand，Germany，Holland， U．S．A． | 98 | 75 | 81 | 52 | 51 | 29 | 4 | 33 |
| Radish | Germany，Holland，England，U．S．A．， Italy，France | 97 | 65 | 80 | 37 | 37 | 26 | 1 | 27 |
| Rape | New Zealand ．．．．． | 91 | 70 | 91 |  | 91 | 2 |  | 2 |
| Rye Grass | New Zealand ．．．．．．． | 90 | 60 | 85 |  | 80 | 4 |  | 4 |
| Swede | Germany，England，Holland，U．S．A． | 98 | 65 | 85 | －1 | 65 | 17 |  | 17 |
| Sweet Corn | U．S．A． | 92 | 75 | 85 | 51 | 51 | 5 | 1 | 6 |
| Tomato ．． | U．S．A． | 93 | 65 | 85 |  | 76 | 28 |  | 28 |
| Turnip ．． | Germany，Holland，England，U．S．A． | 98 | 65 | 92 | 40 | 40 | 32 | 1 | 33 |
| Miscellaneous small | U．S．A．，England，Holland，France，Ger－ | ． | ．． | ． |  |  |  |  | $\begin{aligned} & 448 \\ & 296 \end{aligned}$ |
| amined |  |  |  |  |  |  |  |  | 744 |

Table IV.
The Effect of Long Storage on Germination. For Explanation, see Leyterpress.


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* Freshly harvested samples are seldom fit for immediate sowing; * indicates the sample was tested by methods that induce the ready germination of new seed.


Table V．
STOCK FOODS， 1927.
Samples Examined for Purfoses of the Stock Foods Act．Bran，a By－product of Milling Wheat．

| Qutensland W1．olesale Seiller． | Manufactured in－ | Guaranteed by Seller or found on Analysis by Agricultural Chemist． |  | \％ | 嵒 | \＃ \％ \＃ \％ | 䒤 范 范 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | \％ | \％ | \％ | \％ | \％ |
| Barnes and Co．，Ltd．，Warwick | ditto ． | $\begin{aligned} & \text { Guarantee } \\ & \text { Found (average) } \end{aligned}$ | 3 | $10 \cdot 3$ | 15.4 | 3.0 3.0 | $9 \cdot 4$ | $5 \cdot 0$ |
|  |  | Guarantee ．． |  |  | $13 \cdot 5$14.3 | $2 \cdot 3$ | 12.0 | 9.5 |
|  |  | Found |  | $10 \cdot 3$ |  | 3.0 2.6 | 10.6 |  |
| The Brisbane Milling Co．，Ltd．，Stanley street， South Brisbane <br> Dalby Milling Co．，Ltd．，Dalby | dittoditto | Guarantee Found（avera | 3 | 11.0 | 14.7 | 2.6 2.5 | 11.0 10.9 | $4 \cdot 6$ |
|  |  | ＊Guarantee |  | 11.4 | 14.0 | $2 \cdot 0$ | 10.0 | $5 \cdot 0$ |
|  | ditto | Found |  |  | 14.4 | $3 \cdot 0$ | 9.9 |  |
| The Defiance Milling Co．，Toowoomba |  | Guarantee | 2 | $11 \cdot 1$ | 16.2 | $2 \cdot 5$ | 10.8 | $5 \cdot 2$ |
|  | ditto | Found（average） |  |  | 15.814.7 | 2.52.7 | $10 \cdot 1$ |  |
| The Dominion Milling Co．，Ltd．，Stanley street， South Brisbane <br> Warwick Farmers＇Milling Co．，Ltd．，Warwick ．． |  | Guarantee Found（average） | 3 |  |  |  | 11.0 | $4 \cdot 9$ |
|  | ditto | Found（average） |  | 10.2 | 14.7 16.0 | 3.52.7 | 10.09.8 | $\stackrel{5}{5}$ |
|  |  | Found |  | $12 \cdot 4$ | 16.0 16.0 |  |  |  |
| Warrys，Ltd．，Maryborough ．． <br> Campbell and Amos，Ltd．，Bundaberg Bolton and Co．，Ltd．，Rockhampton Daniel Shepherd and Sons，Ltd．，Mackay Marsh and Webster，Ltd．，Mackay Lamberts，Ltd．，Mackay W．H．Paxton and Co．，Ltd．，Mackay Joseph Pease，Ltd．，Townsville Samuel Allen and Sons，Ltd．，Townsville New Zealand Loan and Mercantile Agency Co．， Ltd．，Townsville Cummins and Campbell，Ltd．，Townsville ．． | New South Wales |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  | Guarantee |  |  | 14.5 | 2.5 | $10 \cdot 0$ |  |
|  |  | Found（average） | 15 | $10 \cdot 7$ | $14 \cdot 5$ | 2.3 | $9 \cdot 5$ | $4 \cdot 9$ |
|  |  |  |  |  |  |  |  |  |
|  | Cummins and Campbell，Ltd．，Townsville ．． Bartlams，Ltd．，Townsville Armstrong，Ledlie，and Stillman，Ltri．，Cairns Burns，Philp，and Co．，Ltd．，Cairns |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bolands，Ltd．，Cairns | New South Wales | $\begin{aligned} & \text { Guarantee } \\ & \text { Found (average) } \end{aligned}$ | 11 | 10.9 | $\begin{aligned} & 15.0 \\ & 15.4 \end{aligned}$ | $\begin{aligned} & 2 \cdot 5 \\ & 2.1 \end{aligned}$ | $\begin{array}{r} 10.0 \\ 8.8 \end{array}$ | $4 \cdot 2$ |
| Jas．F．McKenzie and Co．Pty．，Ltd．， $448-450$ Ann street，Brisbane |  |  |  |  |  |  |  |  |
| E．Gleeson，Stanthorpe <br> Pierpoint and Sons，Ltd．，Stanthorpo Orchard Supply Ageney，Stanthorpe Norman Evans，Roma street，Brisbane | New South Wales | Guarantee－ | 4 |  | 1：0 |  | $10 \cdot 0$ |  |
|  |  |  |  |  |  |  |  |  |
|  | New South Wales | Found（average） | 5 | $10 \cdot 0$ | 15.414.014.5 | 2.8 | 10.2 | $5 \cdot 4$ |
|  |  | Fuarantee（average） |  | $10 \cdot 3$ |  | 2.5 2.4 | 10.0 9.7 | $4 \cdot 4$ |
| Hardy and Hardy，Elizabeth street，Brisbane | New South Wales | Guarantee |  | $12 \cdot 3$ | 14.0 14.4 | 2.5 2.1 3.1 | 10：0 |  |
| J．Jarrott，Stanley street，South Brisbane | South Australia ．． | Guarantee |  | $10 \cdot 1$ | $14 \cdot 0$$15 \cdot 4$ | 2.02.3 | 12.08.9 | $4 \cdot 8$ |
| J．Jarrott，Stan |  | Found |  |  |  |  |  | 4.0 |
| Denham Bros．（Rockhampton），Ltd．，Rockhampton | Southern States．． | Guarantee ． | 4 |  | $\begin{aligned} & 14 \cdot 4 \\ & 14 \cdot 6 \end{aligned}$ | 2.02.0 | $12 \cdot 4$9.0 | 4.6 |
|  |  | Found（average） |  |  |  |  |  |  |

## ＊Amended guarantee．

## Foreign Ingredients．

Fifty－five samples of Bran were examined．With few exceptions they contained a trace of Oatts and Barley．
None were entirely free from bits of chaff or other extraneous matter．The weed seeds found were：－

> Avena fatua, Wild Oats.
> Argemone mexicana, Prickly Poppy.
> Brassica sp.
> Centaurea melitensis, Star Thistle.
> Carthamus lanatus, Saffron Thistle.

Lolium temulentum，Darnel．
Phalaris $s p$ ．
Sisymbrium orientale．Oriental Rocket
Sonchus oleraceus，Sow Thistle．
Xanthium spinosum，Bathurst Burr．

Some of the samples contained from 0.1 to 0.6 per cent．of whole or partly crushed wheat．

SUmmary of Analyses from 1923 to 1927.

| Year． |  |  |  |  |  |  | Number of Analyses． | Average Moisture． | Average Crude Protein | A verage Crude Fat． | Average <br> Crade Fibre | $\begin{aligned} & \text { Average } \\ & \text { Crude Ash. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | － |  | \％ | \％ | \％ | \％ | \％ |
| 1923 | ．． | ．． | ． | ．． | $\therefore$ | ． | 49 | $9 \cdot 9$ | 15.9 | $2 \cdot 6$ | 10.0 | 4.8 |
| 1924 | ． | $\therefore$ | ． | ． | ． | $\ldots$ | 61 | $10 \cdot 0$ | $15 \cdot 6$ | 2.8 | 10.0 | $4 \cdot 3$ |
| 1925 | ． | ．． | ． | ． | ． | $\ldots$ | 25 | 11.8 | 15.8 | 2.4 | $9 \cdot 5$ | $5 \cdot 7$ |
| 1926 | － | ． | ． | ．． | ． | $\ldots$ | 28 | 11.5 | 15.5 | $2 \cdot 3$ | 10.0 | 4.8 |
| 1927 | $\cdots$ | $\cdots$ | ． | ． | ． | ． | 55 | 10.8 | $14 \cdot 9$ | $2 \cdot 5$ | 9.6 | 4.9 |

Tabie VI.
STOCK FOODS, 1927
Samples Examined for Purposes of the Stock Foods Act. Pollard, A By-product of Milling Wheat

Queensland Wholesale Seller.

Barnes and Co., Ltd., Stanley street, South Brisbane
Barnes and Co., Ltd., Warwick
The Brisbane Milling Co., Ltd., Stanley street, South Brisbane
Dalby Milling Co., Ltd., Dalby
The Defiance Milling Co., Toowoomba
The Dominion Milling Co., Ltd., Stanley street, South Brisbane
Warwick Farmers' Milling Co., Ltd., Warwick
Warrys, Ltd,. Maryborough
Campbell and Amos, Ltd., Bundaberg
Bolton and Co., Ltd., Rockhampton
Daniel Shepherd and Sons, Ltd., Mackay .
Marsh and Webster, Ltd., Mackay .
Lamberts, Ltd., Mackay
W. H. Paxton and Co., Ltd., Mackay

Joseph Pease, Ltd., Townsville
Samuel Allen and Sons, Ltd., Townsville
New Zealand Loan and Mercantile Agency Co., Ltd., Townsville
Cummins and Campbell, Ltd., Townsville
Bartlams, Ltd., Townsville
Armstrong, Ledlie, and Stillman, Cairns ..
Burns, Philp, and Co., Ltd., Cairns
Bolands, Ltd., Cairns
Jas. F. McKenzie and Co. Piy., Lti., 448-450 Ann street, Brisbane
C. Gleeson, Stanthorpe

Pierpoint and Sons, Ltd., Stanthorpe
Orchard Supply Agency, Stanthorpe
Norman Evans, Roma street, Brisbane
Hardy and Hardy, Elizabeth street, Brisbane
R. J. Jarrott, Stanley street, South Brisbane
R. J. Jarrott, Stanley street, South Brisbane

Denham Bros. (Rockhampton), Ltd., Rockhampton
New South Wales New South Wales

New South Wales New South Wales

Victoria
South Australia .
Southern States . .


* Amended guarantee.

Foreign Ingredients.
Sixty-one samples of Pollard were examined. With few exceptions thoy contained a teava of extravoons mattor
Avena fatua, Wild Oats.
Sonchus oleraceus, Sow Thistle

## Sisymbrium orientale, Oriental Rocket

Seven samples contained over 1 per cent, of Wheat by-product; that would not pass through a sieve perforated with round holes $1 \frac{1}{2} \mathrm{~mm}$. in diameter. The actual amounts ranged from 0.1 to 10.7 per eant, ovar tha parcantage allowed.

Twelve samples contained a trace of Tilletia tritici (Bunt). In each instanes the amount present was under onetenth of 1 per cent., the maximum prescribed by the Regulations. The actual amounts, found varied from $0 \cdot 005$ to 0.02 per cent.

A microscopical investigation of several samples revealed a tram of finoly ground matorial idontifiod as:-

Argemone mexicana, Prickly Poppy
Bromus sp.
Carthamus lanatus, Saffron Thistle
Centaurea melitensis, Star Thistle
Cnicus lanceolatus, Spear Thistle.
Lithospermum arvense, Corn Gromwell.

Lolium temulentum, Darnel
Malva parviflora, Small-flowered Mallow.
Melitotus parviflora, Hexham Scent.
Phataris sp.
Silybum Marianum Virgin Mary's Thistle.
Sisymbrium orientale, Oriental Rocket,

Summary of Analyses from 1923 to 1927.

VII.
TOCK FOODS, 1927

| Kind of Stock Food. | Sold Under the Name of- | Guaranteed by Seller or found on Analysis Agriciltural Chemist. |  |  |  |  | $\begin{aligned} & \text { L } \\ & \text { L } \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | 等 | 芴 | Composed of or Xanufactured from- | Cuepmsland Whiolesale Seller. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | \% | \% | \% | \% | \% | \% |  |  |
| Barley Branning | Barley Branning ditto | Guarantee Found . |  | $9 \cdot 6$ | 12.0 11.2 | 4.0 4.3 | 13.0 11.4 | $4 \cdot 3$ | $\cdots$ | Barley ditto | R. W. Thurlow and Co., Ltd., Wharf street, Brisbane |
| Barley Meal | Carley Meal ${ }^{\text {ditto }}$ | Guarantee | $\cdots$ | $9 \cdot 6$ | 11.0 | 1.0 | 6.0 | $4 \cdot 3$ |  | Barley | Henry Dean and Sons, Ltd., |
| Ditto | ditto | Found | . | 12.2 | 8.5 | 1.8 | 5.1 | $2 \cdot 2$ |  | ditto | Roma street, Brisbane |
| Ditto | ditto | Guarantee | $\cdots$ | $11 \cdot 2$ | 10.0 7.9 | 1.0 1.8 | 4.5 | $2 \cdot 3$ |  | ditto | W. Siemon and Sons, Ltd., Roma street, Brisbane |
| Ditto | ditto | Found . |  | 11.2 | $11 \cdot 0$ | 1.0 | 6.0 |  | $\cdots$ | ditto | Denhams, Ltd., Roma street, |
| Ditto | ditto | Found |  | 11.0 | 9.2 | 2.0 | 6.0 | $2 \cdot 5$ | $\cdots$ | ditto | Brisbane |
| Blood Meal | Dried Blood. . | Guarantee |  |  | $75 \cdot 0$ | . | .. |  | . | Blood | Len Lose, Roma street, Brisbane |
| - Ditto | ditto | Found Guarantee |  | $10 \cdot 6$ | 78.0 75.0 | $0 \cdot 3$ | $\cdots$ | 4.5 2.0 |  | ditto ditto | Swift Australian Co., Ltd., 181 |
| Ditto | ditto | Found | $\cdots$ | 11.4 | 77.4 |  |  | $5 \cdot 2$ | $2 \cdot 1$ | ditto | Eagle street, Brisbane |
| Ditto | Taylor's Champion Dried Blood | Guarantee |  |  | 76.0 |  | . |  |  | ditto | Charles Taylor and Co., Roma |
| Ditto | ditto .. .. | Found . . | $\cdots$ | 10.7 | 77.2 |  |  | $5 \cdot 4$ |  | ditto | street, Brisbane |
| Ditto | Borthwick Moreton Dried Blood | Guarantee Found |  |  | 75.0 75.3 |  |  |  |  | ditto ditto | Borthwick and Sons (Australasia), Ltd., Wharf street, Brisbane |
| Ditto | ditto | Found .. |  | $12 \cdot 7$ | $75 \cdot 3$ |  |  | 6.7 |  | ditto | Ltd., Wharf street, Brisbane |
| Bone Meal (Sterilised) | Borthwick Moreton Bone Meal | Guarantee |  |  | 24.0 | 2.0 | $\cdots$ |  | .. | Sterilised Bone | Borthwick andi Sons (Australasia), Ltd., Wharf street, Brisbane |
| Ditto | ditto | Found .. |  | 6.2 | ${ }_{2} 25.8$ | 1.9 | . | C2.1 | . | ditto |  |
| Ditto | Jordan's Sterilised Bone Meal | Guarantee |  |  | 24.1 | 1.0 |  |  |  | ditto | E. A. Jordan, Aspley, Brisbane |
| Ditto Bone Meal | ditto Bone Meal | Found (average) Guarantee | 2 | 4.7 | 22.9 21.5 | 1.7 |  | 64.5 | 1.2 | Bone ${ }^{\text {ditto }}$ | Swift Australian Co., Ltd., 181 |
| Ditto | ditto | Found . |  | 7.2 | 23.6 | 1.8 |  | 64.7 | $0 \cdot 3$ | ditto | Eagle street, Brisbane |
| Ditto | M.I.B. Bone Meal | Guarantee |  |  | 25.0 | 0.5 | . |  | .. | ditto | Crouch and Connah, Ltd., Turbot |
| Ditto |  | Found . . |  | 8.0 | 25.8 20.0 | 2.0 | $\ldots$ | $60 \cdot 4$ |  | ditto | street, Brisbane |
| Ditto | Taylor's Champion Green Bone ditto .. a | Guarantee |  | 5.5 | 20.0 20.3 |  |  | $65 \cdot 1$ |  | ditto | Charles taylor and Co., Roma street, Brisbane |
| Cotton Seed Meal | Bacal Cotton Seed Meal | Guarantee |  |  | $30 \cdot 0$ | $5 \cdot 0$ | 20.0 |  | $\cdots$ | Cotton Seed | British Australian Cotton Associa- |
| Ditto .. | ditto . ${ }^{\text {d }}$ | Found (average) | 2 | 7.9 | 32.6 | 5.5 | 14.2 | $5 \cdot 4$ |  | ditto | tion. Itd., Whinstanes, Brisbane |
| Cotton Seed Cubes | Bacal Treacle Cubes | Guarantee |  |  | 26.0 | 4.0 | 30.0 |  |  | Cotton Seed Meal and Molasse | British Australian Cotton Associa- |
| Ditto | ditto .. . | Found (average) | 2 | 9.8 | $32 \cdot 0$ | $5 \cdot 4$ | $15 \cdot 6$ | $6 \cdot 9$ | 1.1 | ditto | tion, Ltd., Whinstanes, Brisbane |
| Linseed Meal | Linseed Meal | Guarantee |  |  | 19.0 | 36.0 | 11.5 |  |  | Whole Linseed | R. W. Thurlow and Co., Ltd., |
| Ditto | ditto . | Found |  | 6.0 | 18.4 | 36.8 | 11.7 | $3 \cdot 4$ |  | ditto | Whari street, Brisbane |
| Ditto | ditto | Guarantee |  |  | 18.0 | $32 \cdot 0$ | 14.0 |  | $\cdots$ | ditto | W. Siemon and Sons, Ltd., Roma |
| Ditto | ditto | Found |  | $6 \cdot 4$ | 21.3 | $32 \cdot 2$ | $14 \cdot 1$ | $2 \cdot 9$ |  | ditto | street, Brisbane |



Table VII．－continued．
STOCK FOODS， 1927. ． 1919 ．

| Kind of Stock Food． | Sold Under the Name of－ | Guaranteed by Seller or found on Analysis by Agricultural Chemist． |  | 边 | 边 | \％ |  |  | 范 | Composed of or Manufactured from－ | Queensland Wholesale Seller． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Calf Food Ditto | Star Brand Calf Food ditto | Guarantee <br> Found | $\cdots$ | $\%$ $\% \cdot 0$ | $\begin{gathered} \% \\ 12.5 \\ 12.5 \end{gathered}$ | $\begin{gathered} \% \\ 10 \cdot 0 \\ 11 \cdot 4 \end{gathered}$ | $\begin{aligned} & \% \\ & 7 \cdot 5 \\ & 3 \cdot 4 \end{aligned}$ | \％ $4 \cdot 9$ | \％ | $\left.\begin{array}{l}\text { Oat，Rice，Linseed，Maize，Barley } \\ \text { Meals，Condiments }\end{array}\right\}$ | Robert Harper and Co．，Ltd．， Albert street，Brisbane |
| Ditto $\quad$ Ditto Dito | Parsons Calf Food ditto | Guarantee <br> Found | $\cdots$ | $10 \cdot 3$ | $\begin{aligned} & 12.0 \\ & 12.0 \end{aligned}$ | $\begin{aligned} & 5 \cdot 0 \\ & 5 \cdot 5 \end{aligned}$ | $\begin{aligned} & 2.5 \\ & 2.8 \end{aligned}$ | $3 \cdot 0$ | $\cdots$ | Rice，Oat，and Barley Pollard， Corn Gluten and Germ Meal， Wheat Meal，Crushed Linseed | Parsons Bros．and Co．Pty．，Ltd．， Elizabeth street，Brisbane |
| $\begin{array}{ll} \text { Ditto } \\ \text { Ditto } & \text {. } \end{array}$ | Skinners（Cod－oil）Calf Meal ditto | Guarantee <br> Found | $\cdots$ | $11 \cdot 3$ | 17.0 18.6 | $\begin{aligned} & 9 \cdot 0 \\ & 9 \cdot 3 \end{aligned}$ | $\begin{aligned} & 7.0 \\ & 7.5 \end{aligned}$ | $1 \cdot 5$ | $\begin{aligned} & 1.0 \\ & 5.8 \end{aligned}$ | $\left.\begin{array}{l}\text { Milled Wheat，Linseed，Cod－oil，} \\ \text { Lime，Charcoal，Salt }\end{array}\right\}$ | Waugh and Josephson，Ltd．，＇Mel－ bourne street，South Brisbane |
| Dairv Cattle Food Ditto | Thorpes O．K．Dairy Feed ditto | Guarantee <br> Found（average） | 2 | $11 \cdot 0$ | 13.5 16.9 | $3 \cdot 0$ 4.0 | $\begin{array}{r} 10 \cdot 0 \\ 8.5 \end{array}$ | 8.9 | $\begin{aligned} & 1.0 \\ & 1.4 \end{aligned}$ | Bran，Maize Gluten，Linseed， Barley，Maize，Oat and Peanut Meals，Lucerne Meal，Meat and Bone Meals，Tapioca By－ product，Calcium Carbonate， Sulphur，Molasses，Salt |  |
| $\begin{aligned} & \text { Sheep Food } \\ & \text { (Meal) } \\ & \text { Ditto } \end{aligned}$ | Thorpes Sal－Vi－Co， ditto ．． | Guarantee <br> Found（average） | 3 | $6 \cdot 3$ | 10.0 15.4 | $2 \cdot 0$ $3 \cdot 6$ | 8.0 6.6 | $30 \cdot 4$ | $25 \cdot 0$ 17.9 | Peanut Meal，Gluten Feed，Barley and Maize Meals，Bran，Tapioca By－product，Lucerne Meal， Meat Meal，Bone Meal，Cod－oil， Sulphur，Epsom Salts，Calcium Carbonate，Salt |  |
| Ditto $\quad$ D Ditto | Thorpes Special Sheep Meal ditto ．．．．． | Guarantee <br> Found（average） | 2 | $10 \cdot 0$ | $\begin{aligned} & 13.0 \\ & 15.1 \end{aligned}$ | $3 \cdot 0$ $3 \cdot 6$ | $\begin{array}{r} 10.0 \\ 7.7 \end{array}$ | $\because 8 \cdot 6$ | $\begin{aligned} & 2 \cdot 0 \\ & 2 \cdot 3 \end{aligned}$ | Gluten Feed，Linseed Oil Meal， Barley，Wheat and Maize Meals， Bran，Rice Meal，Pollard，Meat and Bone Meals，Calcium Car－ bonate，Tapioca By－product， Sulphur，Molasses and Lucerne Meal，Salt | E．C．Chambers and Co．，Edward street，Brisbane |
| Ditto（Cubes） Ditto | Thorpes Kubettes for Sheep ditto | Guarantee <br> Found ．． | $\cdots$ | $10 \cdot 4$ | $\begin{aligned} & 13.0 \\ & 12.4 \end{aligned}$ | $3 \cdot 0$ $3 \cdot 4$ | $10 \cdot 0$ 8.0 | 6．9 | $\begin{gathered} 2 \cdot 0 \\ 1.3 \end{gathered}$ | Gluten Feed，Linseed Oil Meal， Barley，Wheat and Maize Meals， Bran，Rice Meal，Pollard，Meat and Bone Meals，Calcium Car－ bonate，Tapioca By－product， Sulphur，Molasses and Lucerne Meal，Salt |  |
| Ditto <br> Ditto <br> Ditto（Nuts） | Bacal Sheep Cukes ditto <br> Meggitt＇s Linseed Sheep Nuts | Guarantee <br> Found ．． <br> Guarantee |  | $8 \cdot 5$ | $\begin{aligned} & 26 \cdot 0 \\ & 27 \cdot 5 \\ & 27.0 \end{aligned}$ | 4.0 4.6 6.0 | $30 \cdot 0$ $15 \cdot 0$ 13.0 | $\because \cdot 2$ | $\begin{aligned} & 1.0 \\ & 0.8 \end{aligned}$ | Cotton Seed Meal，Molasses 10$\}$ | British Australian Cotton Associa－ tion，Ltd．，Whinstanes，Brisbane |
| Ditto ． | ditto ．．．．． | Found（average） | 2 | $\because \cdot 1$ | 25.8 | 9.5 | $10 \cdot 6$ | $7 \cdot 8$ |  | By－product of | Denhams，Ltd．，Roma street， |
| Ditto | ditto ．． | Guarantee ． |  |  | 27.0 | $6 \cdot 0$ | 13.0 |  |  | ditto ．．．．．．．． | Denham Bros．（Rockhampton）， Ltd．，Rockhampton |


Table VII．－continued．
STOCK FOODS， 1927.
Miscellaneous Stock Foods examined for Purposes of

| Kind of Stock Food． | Sold Under the Name of－ | Guaranteed by Seller or found on Analysis by Agricultura Chemist． |  | 沯 |  |  |  | 蕆 \％ \％ | ๗゙ | Composed of or Manufactured from－ | Queensland Wholesale Seller． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | \％ | \％ | \％ | \％ | \％ | \％ |  |  |
| Nutritive Stock Lick Ditto | Moreton Bonolik ditto | Guarantee <br> Found ．． | $\cdots$ | $\cdots$ | $\begin{aligned} & 14 \cdot 0 \\ & 15 \cdot 3 \end{aligned}$ | $\ldots$ | ． | $\cdots$ | 17 17 | Sterilised Bone Meal，Salt，Lime， Sulphur，and other ingredients | Borthwick and Sons（Australasia）， Ltd．，Wharf street，Brisbane |
| Bird Seed Mixed | Crescent Brand Mixed Bird Seed．． |  | ． | ． | ． | ．． | ． | ．． | ．． | Canary，Hemp，Millet，Rape，Lin－ seed，Shell Grit | R．W．Thurlow and Co．，Ltd．， Wharf street，Brisbane |
| Ditto | Mixed Bird Seed |  | ．． | ．． | ． | $\cdots$ | ． | ． | $\ldots$ | Canary，Foxtail Millet，Hemp， Rape，Millet，Linseed | Jas．F．McKenzie and Co．Pty， Ltd．，Ann street，Brisbane |
| Ditto | Royal Blue Mixed Bird Seed | $\ldots$ | ． | ．． | ． | ． | ．． | ． | ． | Canary，Hemp，Rape，Foxtail Millet，and Linseed | Queensland Manufacturers，Ltd．， Melbourne street，South Brisbane |
| Ditto | Star Brand Bird Seed |  | ． | ． | $\cdots$ | ．． | ． | ．． | ．． | Canary，French Millet，Hemp，Rape， Linseed | Robert Harper and Co．，Ltd．， Albert street，Brisbane |
| Ditto | Parsons Mixed Bird Seed |  | ．． | ． |  | $\ldots$ | ．． | ． | ． | Canary，Foxtail Millet，French Millet，Rape，Hemp，Chillies | Parsons Bros．and Co．Pty．，Ltd．， Elizabeth street，Brisbane |
| Ditto | Simpson＇s Canary Food |  | $\cdots$ | ． | $\cdots$ | ． | ． | ．． | ． | Canary，Foxtail Millet，French Millet，Hemp，Rape，Linseed， Chillies | Simpson Bros．，Ltd．，Ann street， Brisbane |
| Ditto | Leader Brand Canary Seed | ． | ． | $\cdots$ | ． | ． | ． | ． | ． | Canary，Foxtail Millet，Hemp， Rape，Millet，Linseed | Thos．Heaslop and Co．，Ltd．， Roma street，Brisbane |
| Ditto | Simpson＇s Parrot Seed Mixture | ． | ． | ． | ．． | ． | ． |  | $\cdots$ | Maize，Wheat，Oats，Hemp， French Millet，Sunflower，Pea－ nuts，Linseed，Chillies | Simpson Bros．，Ltd．，Ann street， Brisbane |
| Ditto | Parsons Parrot Food |  | － | ． | ． |  | ． |  | $\ldots$ | Maize，Wheat，Sorghum，Oats， Barley，Sunflower，Hemp， Chillies，Peas，Peanuts | Parsons Bros．and Co．Pty，Ltd．， Elizabeth street，Brisbane |
| Ditto | Star Brand Parrot Food |  | ． | ． | ． | ． | ． | ． | ． | Maize，Sunflower，Wheat，Barley， Oats，Millet，Peas，Peanuts， Linseed，Chillies | Robert Harper and Co．，Ltd．， Albert street，Brisbane |

FERTILISERS REGISTERED FOR 1927 AND PRINCIPAL SAMPLES ANALYSED DURING 1926－1927． Table VIII．
Fertilisers Containing Nitrogen only．

| Producer（Wholesale Dealer）． | Name of Fertiliser． | －Guaranteed by Producer or found on Analysis by Agricultural Chemist． | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { Samples } \\ \text { Analysed. } \end{gathered}$ | Nitrogen as |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Sodium Nitrate． | Am－ monium Sulphate． | Urea， |
| Australian Co－operative Fertilisers，Ltd．，Little Roma street，Brisbane | Nitrate of Soda ditto | Guarantee <br> Found（average） | 2 | $\%$ $15 \cdot 5$ 15.9 | \％ | \％ |
| Gibbs，Bright，and Co．，Wharf street，Brisbane | ditto | Guarantée |  | $15 \cdot 5$ | ． | － |
| Shirley＇s Fertilizers Pty．，Ltd．，Little Roma street， Brisbane | ditto <br> ditto | Guarantee <br> Found（average） | 2 | $\begin{aligned} & 15 \cdot 5 \\ & 15 \cdot 9 \end{aligned}$ | ． | － |
| Webster and Co．，Ltd．，Mary street，Brisbane | ditto <br> ditto | Guarantee ． <br> Found ．．  | ． | $\begin{aligned} & 15 \cdot 5 \\ & 15 \cdot 9 \end{aligned}$ | $\cdots$ | － |
| Australian Co－operative Fertilisers，Ltd．，Little Roma street，Brisbane | Sulphate of Ammoni ditto | Guarantee <br> Found（average）${ }^{5}$ | 4 | $\cdots$ | $\begin{aligned} & 20 \cdot 0 \\ & 20 \cdot 6 \end{aligned}$ | ． |
| Australian Co－operative Fertilisers，Ltd．，Bridge street，Townsville | ditto | Guarantee】 ． 1 | ． | ．． | $20 \cdot 0$ | ． |
| E．A．Jordan，Aspley，Brisbane | ditto <br> ditto | Guarantee 絷器．． <br> Found（average） | 2 | $\ldots$ | 20.5 120.8 | $\cdots$ |
| Gibbs，Bright，and Co．，Wharf street，Brisbane | ditto | Guarantee |  | ． | $120 \cdot 0$ | ＊ |
| Shirley＇s Fertilizers Pty．，Ltd．，Little Roma street， Brisbane | ditto ditto | Guarantee Found（average） | 2 | $\cdots$ | $\begin{aligned} & 20.5 \\ & 20.7 \end{aligned}$ | $\cdots$ |
| Webster and Co．，Ltd．，Mary street，Brisbane | ditto | Guarantee |  | ． | $20 \cdot 0$ | － |
| Abel，Lemon，and Co．Pty．，Ltd．，Market street， Brisbane | Floranid（Urea） <br> ditto ．． | Guarantee <br> Found（average） | 2 | $\cdots$ | $\ldots$ | $\begin{aligned} & 46 \cdot 0 \\ & 46 \cdot 3 \end{aligned}$ |

Table IX．
Fertilisers Containing Phosphorio Acid only．

| Producer（Wholesale Dealer）． | Name of Fertiliser． | Guaranteed by Producer or found on Analysis by Agricul－ tural Chemist． |  | Phosphorio Adid． |  |  |  | Fineness． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
| Australian Co－operative Fertilisers，Ltd， Little Roma Street，Brisbane | A．C．F．High Grade Superphosphate ditto | Guarantee ． Found（average） | 4 | $\begin{gathered} \% \\ 21 \cdot 0 \\ 20 \cdot 9 \end{gathered}$ | $\begin{aligned} & \% \\ & 0.5 \end{aligned}$ | $\begin{gathered} \% \\ 1 \cdot 0 \end{gathered}$ | \％ | \％ | \％ |
| Gibbs，Bright，and Co．，Wharf street， Brisbane | $\begin{array}{rcr}\begin{array}{c}\text { Sulphide } \\ \text { Grade } \\ \text { ditto }\end{array} & \text { Super } & \text { High } \\ \text { dit } & \ldots\end{array}$ | Guarantee $\quad$ Found（average） | 3 | 20.5 20.8 | 0.5 | 1.0 | $\ldots$ $\cdots$ $\cdots$ | $\ldots$ | ． |
| Shirley＇s Fertilizers Pty．，Ltd．，Little Roma street，Brisbane | Shirley＇s 22 per cent． Superphosphate ditto | Guarantee $\quad$. Found（average） | 3 | 20.5 21.2 | 0.5 | 1.0 | $\cdots$ | $\cdots$ | $\cdots$ |
| Ditto．． | Shirley＇s 18 per cent． Superphosphate ditto | ＊Guarantee <br> Found（average） | 5 | 21.2 17.0 19.3 | 0.5 | 0.5 | $\cdots$ | $\cdots$ |  |
| Australian Co－operative Fertilisers， Ltd．，Little Roma street，Brisbane | A．C．F．Basic Super ditto | Guarantee Found ． |  | 4.0 4.8 | 14.0 14.1 | 2.0 1.2 | $\cdots$ |  |  |
| Gibbs，Bright，and Co．，Wharf street， | Sulphide Basic Super．． | Guarantee |  | $3 \cdot 0$ | $15 \cdot 0$ | 2.0 | $\cdots$ |  |  |
| Brisbane |  | Found ．． |  | 6.5 | 12.4 |  | ． |  |  |
| Shirley＇s Fertilizers Pty．，Ltd．，Little Roma street，Brisbane | Shirley＇s Basic Super．． ditto ．．． | Guarantee Found（average） | 4 | 0.6 | 17.0 18.5 |  | ． |  |  |
| Stewart and Lloyds，Ann street，Bris－ bane | Basic Slag（Spring Vale） | Guarantee ． |  | ．． | $12 \cdot 3$ | $2 \cdot 4$ |  | 98.0 | 2.0 |
|  | Basic Slag（Bilston）．． | Guarantee | ． | ． | 14.8 | 3.7 |  | 96.0 | $4 \cdot 0$ |
| Australian Co－operative Fertilisers， | A．C．F．Ground Nauru | Guarantee | ． | ． | $\ldots$ | ． | 38.0 | 92.0 | 8.0 |
| Little Roma stre | ditto | Found（average） | 2 |  |  |  | 39.3 | 99－0 | 1.0 |
| Gibbs，Bright，and Co．，Wharf street， Brisbane | Ground Phosphate Rock | Guarantee |  |  |  |  | 38.5 |  |  |
| Shirley＇s Fertilizers Pty．，Ltd．，Little Roma street，Brisbane | Ground Rock Phosphate | Guarantee＊． |  |  |  |  | $38 \cdot 1$ | $70 \cdot 0$ | $30 \cdot 0$ |

＊ 1926 Registration．

Table X.
Fertilisers Contatning Potash only.
Producer (Wholesale Dealer).
Table XI．
Fertilisers the Product of Bone Muls，Meat Works，and Bacon Factories．

| Producer（Wholesale Dealer）． | Name of Fertiliser． | Guaranteed by Producer］ or found on Analysis by Agricultural Chemist． |  | $\underset{\text { AS }}{\text { Nitrog }^{2}}$ | Phosph－ <br> ORIC ACID． | Finenebs． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{aligned} & \dot{\circ} \\ & \dot{0} \\ & \text { M } \\ & \text { gis } \end{aligned}$ | $\begin{aligned} & \text { 元 } \\ & \text { 品 } \\ & \text { 品 } \end{aligned}$ |  |  |
| Bergl，Australia，Ltd．，Merinda，North Queensland | Dried Blood | Guarantee |  | $\begin{gathered} \% \\ 12.8 \end{gathered}$ | \％ | \％ | \％ | \％ |
|  | Moreton Dried Blood | Guarantee |  | $12 \cdot 3$ |  | $75 \cdot 0$ | 21.5 | 3.0 3.5 |
| Queensland Meat Export Co．，Ltd．， 185 Mary street，Brisbane | ditto $\quad \stackrel{\square}{\text { d }}$ | Found（average） | 3 | 11.9 |  | 72.5 | 23.5 | 4.0 |
|  | Q．M．E．Dried Blood（Eagle Farm）． Q．M．E．Dried Blood（Ross River） | Guarantee Guarantee |  | 12.0 12.6 |  | 51.0 51.0 | 41.0 | $8 \cdot 0$ |
| Swift Australian Co．，Ltd．， 111 Eagle street，Brisbane | Dried Blood ．．．．．．．． | Guarantee |  | 12.0 |  | 51.0 | 46.0 | $3 \cdot 0$ |
| Swift Australian Co．，Ltd．，Townsville | ditto | Found（average） | 2 | 12.7 |  | 69．0 | $27 \cdot 0$ | $4 \cdot 0$ |
|  | ditto | Guarantee ．． |  | 12.0 |  |  |  |  |
| Australian Co－operative Fertilisers，Ltd．，Little Roma street，Brisbane | Runcorn Bone Dust | Guarantee ． |  | $3 \cdot 6$ | 23.0 | $50 \cdot 0$ | $50 \cdot 0$ |  |
| Ipswich Meat Export Co．，Ltd．，Brisbane street，Ipswich ．． | ditto Bone Dust | Found（average） | 6 | $3 \cdot 7$ | 23.5 | 50.5 | $45 \cdot 6$ | $3 \cdot 9$ |
| Jordan，E．A．，Aspley，Brisbane ． | ditto | Found |  | 3.6 3.6 | $20 \cdot 4$ $20 \cdot 4$ | 70.0 70.0 | $29 \cdot 0$ 29.0 | 1.0 |
|  | Normanby Bone Dust | Guarantee |  | $3 \cdot 5$ | $23 \cdot 0$ | $50 \cdot 0$ | － $50 \cdot 0$ | $1 \cdot 0$ |
| Mount Etna Fertilisers，Ltd．，Commerce House，Adelaide street， Brisbane | Vitto ${ }^{\text {dition }}$ | Found（average） | 7 | $3 \cdot 5$ | $24 \cdot 5$ | $59 \cdot 2$ | 37.9 | $2 \cdot 9$ |
|  | Vitalized Bone Meal ditto | Guarantee ．．． | 4 | $3 \cdot 0$ $4 \cdot 0$ | 24.0 22.8 | $80 \cdot 0$ 56.2 | 20.0 40.0 | ． 8 |
| Shirley＇s Fertilizers Pty．，Ltd．，Little Roma street，Brisbane ．．．． | Bone Dust | Guarantee ．． |  | 3.5 | 23.0 | $80 \cdot 0$ | $20 \cdot 0$ |  |
|  | ditto | Found（average） | 4 | $3 \cdot 8$ | 24.8 | 64.7 | 33.5 | 1.8 |
| Swift Australian Co．，Ltd．，Townsville | Bone Meal ditto | Guarantee ．． | ．． | 3.0 | $24 \cdot 0$ | 35.0 | 65.0 |  |
|  |  | Guarantee Guarantee |  | 3.0 3.1 | 24.0 23.0 | $35 \cdot 0$ 79.4 | $65 \cdot 0$ $20 \cdot 6$ | ． |
| Darling Downs Co－operative Bacon Co．，Ltd．，Willowburn Michelmore and Co．，Mackay <br> Redbank Meat Works Pty．，Ltd．，Wharf street，Brisbane Baynes，Ltd．，Stanley street，South Brisbane | Blood and Bone OffalBone and Blood ManureImperial Blood and Bone Fertiliser | Guarantee |  | 4.5 | 17.5 | $85 \cdot 0$ | 14.0 | 1.0 |
|  |  | Guarantee |  | $2 \cdot 6$ | 24.7 | $55 \cdot 0$ | $43 \cdot 0$ |  |
|  |  | Guarantee |  | 7.0 | 13.0 | 78.0 | 21.0 | $1 \cdot 0$ |
|  | Baynes Fertiliser | Guarantee |  | 4.7 | $19 \cdot 1$ | 59.0 | 24.0 | 17.0 |
| Bergl，Australia，Ltd．，Merinda，North Queensland | ditto Hashmagandy | Found（average） | 3 | $5 \cdot 2$ | 18.9 | $58 \cdot 3$ | 27.0 | 14.7 |
|  | Hashmagandy Moreton Fertiliser No． | Guarantee ．${ }_{\text {Guarantee }}$ |  | 3.2 7.9 | 13.4 | $14 \cdot 0$ 69.0 | 22.0 28.0 | 51.0 |
| Borthwick and Sons（Australasia），Ltd．，Wharf street，Brisbane | ditto | Found（average） | 2 | $7 \cdot 3$ | $12 \cdot 6$ | $72 \cdot 5$ | 23.0 | $4 \cdot 5$ |
|  | Moreton Fertiliser No． 10 | Guarantee ．． |  | $5 \cdot 9$ | 18.0 | 78.0 | 20.0 |  |
|  | ditto $\quad$ W $\quad$ ． | Found（average） | 5 | 5.7 | 16.4 | $80 \cdot 2$ | 17.0 | $2 \cdot 8$ |
| Burdekin River Meat Preserving Co．，Ltd．，Sellheiin | Burdekin Meat Works Fertiliser | Guarantee ．． | ． | 7.0 | 9.9 | 72.0 | 28.0 | ． |
| Foggitt，Jones，Ltd．，Iurbot street，Brisbane ．． | Oxley Brand Fertiliser ditto | Guarantee Found |  | $5 \cdot 5$ 4.7 | 14.6 17.6 | $81 \cdot 0$ 81.0 | 17.0 17.0 | ． 0 |
| Central Queensland Meat Export Co．，Ltd．，Lakes Creek，Rock－hampton | Fitzroy Fertiliser | ＊Guarantee ．． |  | 6.0 | 15.5 | 80.0 | $15 \cdot 0$ | $5 \cdot 0$ |
|  | ditto $\quad \cdots$ | Found（average） | 2 | 6.0 | 16.8 | 80.5 | $15 \cdot 0$ | $4 \cdot 5$ |
| Swift Australian Co．，Ltd．， 111 Eagle street，Brisbane | Meat Works Fertiliser | Guarantee ．． |  | $5 \cdot 5$ | 10.0 | $55 \cdot 0$ | $45 \cdot 0$ |  |
| Swift Australian Co．，Ltd．，Townsville | ditto $\quad \cdots \quad \cdots$ | Guarantee |  | $5 \cdot 0$ | $15 \cdot 0$ | $55 \cdot 0$ | $45 \cdot 0$ |  |
| Queensland Meat Export Co．，Ltd．，Mary street，Brisbane | Q．M．E．Meatworks Fertiliser（Eagle Farm） | Guarantee |  | $4 \cdot 3$ | 19.9 | $68 \cdot 0$ | $25 \cdot 0$ | 7.0 |
| Queensland Co－operative Bacon Association Ltd．，Murarrie | ditto ．${ }^{\text {d }}$ ．${ }^{\text {a }}$（ ${ }^{\text {a }}$ | Guarantee |  | $5 \cdot 1$ | $16 \cdot 8$ | $70 \cdot 0$ | 26.0 | $4 \cdot 0$ |
|  | Q．M．E．Moatworks Fertiliser（Ross River）．． | Guarantee |  | $6 \cdot 1$ | 16.2 | 81.0 | 17.0 | 2.0 |
|  | Atlas Brand Fertiliser | Guarantee ．． |  | $5 \cdot 8$ | 17.3 | 83.0 | 16.0 | 1.0 |
|  | ditto | Found（average）$\quad$ ．． | 2 | 7.6 7.6 | 8.0 8.0 | 47.0 47.0 | $34 \cdot 0$ $34 \cdot 0$ | 19.0 19.0 |



Reaistrred under Section 3 of the Pest Destroyers act.

| Name of Pest Destrover and standard. Preseribed for | Sold under the Name of- | Active Constituents as Dectared on Label. | Queensland Wholesale Dealer. |
| :---: | :---: | :---: | :---: |
| Arsenate of Lead <br> Standard_-Arsenate of Lead shall contain not less than 28 per cent. of Arsenie Pentoxide (Ass $\mathrm{O}_{\mathrm{O}}$ ) combined with lead, and not more than (As $_{2} \mathrm{O}_{3}$ leombined with lead, and not more than one-half of 1 per cent. ( 0.5 per cent.) of water soluble Arsenic Compounds calculated as Arsenic Pentoxide, both calculated on a dry than 50 per cent. of moisture. When mixed with water the Corfpound shall keep well in suspension. The rate of settling may be fixed. | "Vaillo" Brand Arsenatie of Lead Powder .. <br> "Vallo" Brand Arsenate of Lead Paste <br> " Orchard " Arsenate of Lead (Powdered) <br> Cooper's Arsinette <br> Berger's Mercury Brand Arsenate of Lead Paste <br> Berger's Mercury Brand Arsenate of Lead Powder <br> Bickford's "Aero" Brand Arsenate of Lead Powder | Arsenic Oxide $\left(\mathrm{As}_{2} \mathrm{O}_{5}\right) 32$ per cent., Lead Oxide ( PbO ) 64 per cent. <br> Arsenic Oxide $\left(\mathrm{As}_{2} \mathrm{O}_{5}\right) 32$ per cent., Lead Oxide ( PbO ) 64 per cent. <br> Arsenic Pentoxide $\left(\mathrm{As}_{2} \mathrm{O}_{5}\right) 30$ per cent. <br> Arsenic Oxide $\left(\mathrm{As}_{2} \mathrm{O}_{5}\right) 30$ per cent. <br> Arsenate Pentoxide $\left(\mathrm{As}_{2} \mathrm{O}_{5}\right) 30$ per cent. <br> Arsenate Pentoxide $\left(\mathrm{As}_{2} \mathrm{O}_{5}\right) 30$ per cent. <br> Arsenic Oxide 31.5 per cent., Lead Oxide 60 per cent. | A. Victor Leggo and Co., Market street, Brisbane <br> A. Victor Leggo and Co., Market street, Bris- <br> Buzacotts (Queensland), Ltd., Adelaide street, <br> Brisbane <br> Buzacotts (Queensland), Ltd., Adelaide street, <br> Brisbane Neptune Oil Co., Ltd., Apollo road, Bulimba, <br> Neptune Oil <br> Neptune Oil Co., Ltd., Apollo road, Buane Brisbane <br> Brisbane <br> A. M. Bickford and Sons, Ltd., Tank street, Brisbane |
| Arsenic. Pure <br> Standard-Pume Arsenic shall not contain less than 98 per cent. Arsenic Trioxide. | "Vallo " Brand White Arsenic <br> "Vallo" Brand Refined White Arsenic <br> Imperial Arsenic <br> Refined White Arsenic <br> Arsenic <br> Street's Pure Arsenic Arsenic <br> Arsenic | White Arsenic <br> $\mathrm{As}_{2} \mathrm{O}_{3} 99$ per cent. <br> $\mathrm{As}_{2} \mathrm{O}_{3} 98$ per cent. <br> White Arsenic <br> Arsenic Trioxide 98 per cent. <br> Pure Arsenic <br> Arsenic 98 per cent <br> Arsenious Oxide 98 per dent. | A. Victor Leggo and Co., Market street A. Brisbane <br> A. Victor Leggo and Co., Market street, <br> A. Victor Leggo and Co., Market street, <br> A. Victor <br> G. Horsburgh and Co., Ltd., Ironmongers, <br> G. Maryborough <br> A. M. Bickford and Sons, Ltd., Tank street, Brisbane <br> Wm. Street and Son, Ann street, Brisbane C. H. Slade and Co., Mary street, Brisbane Taylors and Elliotts, Ltd., Charlotte street, Brisbane |
| Arsenic Commercial. . <br> Standard.-Commercial Arsenic shall not contain less than 88 per cent. of Arsenic Trioxide, and the ackal percentige of Arsenic Trioxide must be shown on the label. | "Vallo" Brand Grey Arsenic <br> Arsenic <br> Arsenic Grey | $\mathrm{As}_{2} \mathrm{O}_{3} 95$ per cent. <br> Arsenious Oxide 95 per cent. <br> Arsenic 95 per cent. .. | A. Victor Leggo and Co., Market street, Brisbane <br> Taylors and Elliotts, Ltd., Charlotte street, <br> Brisbane <br> S. Tremaine and Co., Charlotte street, Brisbane |
| Bordeaux Mixture | " Vallo" Brand Dry Bordeaux Mixture Supreme Bordeaux Mixture Powder .. Blair Bordorine Powder <br> "Orchard " Brand Bordeaux Mixture Powdered <br> Bordeaux Mixture Powder | Copper Sulphate $\left(\mathrm{CuSo}_{4} 5 \mathrm{H}_{2} \mathrm{O}\right)$, 56 per cent. . . Copper Sulphate 50 per cent. .. <br> Basic Copper Sulphate 80 per cent. Copper Sulphate 51 per cent. . . Copper Sulphate 50 per cent. | A. Victor Leggo and Co., Market street, Brisbane Co-operative Fertilisers, Ltd., Australian Little Roma street, Brisbane <br> Neptune Oil Co., Ltd., Apollo road, Bulimba, Brisbane <br> Buzacotts (Queensland), Ltd., Adelaide street, <br> Brisbane Taylors and Elliotts, Ltd., Charlotte street, Brisbane |

Boron Compounds
L. M. Winship, Coorparoo
George Gough and Sons, Ltd., Albert street, Brisbane
H. Havell, City Buildings, Edward street, Brisbane
Wm. Street and Son, Ann street, Brisbane Pearson and Greer, Soudan Estate, Upper
Paddington, Brisbane McLuckie, Harrison, Ltd., Elizabeth street,
Brisbane
 Surgical Supplies, Ltd, 246 Queen street, Surgical Supplies, Ltd,, 246 Queen street, James Campbell and Sons, Ltd., Creek street, Brisbane
New Zealand Loan and Mercantile Agency Co., Ltd, Eagle street, Brisbane. Adelaide
 street, Brisbane
Australian Disinfectant Co., 341-343 Queen
street, Brisbane R. W. Thurlow and Co., Ltd., Wharf street,
Brisbane Australian Co-operative Fertilisers, Ltd., A. Victor Leggo and Co., Market street, C. H. Slade and Co., Mary street, Brisbane
Shirley's Fertilizers Pty., Ltd., Little Roma Neptune Oil Co., Ltd., Apollo road, Bulimba,

 G. Horsburgh and Co., Ltd., Ironmongers, Taylors and Elliotts, Ltd., Charlottle street
Noyes Bros. (Sydney), Ltd., Elizabeth street,
Brisbane G. Horsburgh and Co., Ltd., Ironmongers, Taylors and Elliotts, Ltd., Charlotte street,
Boron Compounds .
Table XIII-continued.
PEST DESTROYERS, 1927-continued.




$$
\begin{aligned}
& \text { Burns, Philp, and Co., Ltd., Mary street, } \\
& \text { Brisbane }
\end{aligned}
$$ Taylors and Elliotts, Ltd., Charlotte street, Taylors and Elliotts, Ltd., Charlotte street, Brisbane

Taylors and Elliotts, Ltd., Charlotte street, Taylors and Elliotts, Ltd., Charlotte street, Taylors and Elliotts, Ltd., Charlotte street,

 street, Brisbane
Australian Disinfectant Co., 341-343 Queen Australian Disinfectant Co., 341-343 Queen
street, Brisbane



G. Horsburgh and Co., Ltd., Ironmongers, Maryborough
Wm. Street and Son, Ann street, Brisbane
Taylors and Elliotts, Ltd., Charlotte street, Brisbane
New Zealand Loan and Mercantile Agency Co., Ltd., Eagle street, Brisbane
A. Victor Lieggo and Co., Market ${ }^{\circ}$ street, Buzacotts (Queensland), Ltd., Adelaide street,
Brisbane Noxpear Proprietary, Ltd., Campbell BuildNew Zealand Loan and Mercantile Agency Buzacotts (Queensland) Ltd., Adelaide street,
 Campbell Bros., Ltd., Bowen Bridge, Brisbane
Webster and Co., Ltd., Mary street,Brisbane Webster and Co., Ltd., Mary street,Brisbane
Taylors and Elliotts, Ltd., Charlotte street,
Harrison's, Ramsay Proprietary, Ltd., T. Kashiwagi, Wickham street, Valley, A. M. Merisbane S Hoffnung and Co., Ltd., Charlotte street,

Table XIII-continued.
PEST DESTROYERS, 1927-continued.
Registered under Section 3 of the Pest Destroyers Act-continued.


Sheep Dips, Phenolic .. .. .. .. Quibell's Liquid Sheep Dip ..
Dalgety and Co., Ltd., Elizabeth street,
Brisbane Mrisbane
M. Bickford and Sons, Ltd., Tank street,
Brisbane H. Deakin, Ryan House, Charlotte street, Campbell Bros., Ltd., Bowen Bridge, Brisbane Hayne and Carson, Queen street, Brisbane hampton Loan and Mercantile Agency Co., Ltd., Eagle street, Brisbane
Veptune Oil Co., Ltd., Apollo road, Bulimba, Brisbane Bastoral Supplies, Ltd., Bowen street, Brisbane
A. Victor Leggo and Co., Market street, Brisbane

Victor Leggo and Co., Market street,
Brisbane Thomas Brown and Sons, Ltd., Eagle street, S. Hofffnung and Co., Ltd., Charlotte street, C. H. Slade and Co., Mary street, Brisbane Co., Ltd., Eagle street, Brisbanie Agency Burns, Philp, and Co., Ltd., Mary street,
Brisbane Queensland Pasforal Supplies, Ltd., Bowen taylors, and Elliotts, Ltd., Charlotte street,
Brisbane Ferrous Sulphate $\left(\mathrm{FeSO}_{4}, 7 \mathrm{H}_{2} \mathrm{O}\right) 95$ per cent. Taylors and Elliotts, Ltd., Charlotte street, Australian Co-operative Fertilisers, Ltd.,
Little Roma street, Brisbane C. H. Slade and Co., Mary street, Brisbane Neptune Oil Co., Ltd., Apollo road, Bulimba,
Brisbane Australian Co-operative Fertilisers, Ltd.,
Little Roma street, Brisbane A. Victor Leggo and Co., Market street, Australian Co-operative Fertilisers, Ltd., Neptune Oil Co., Ltd., Apollo road, Bulimba,
Brisbane Burns, Philp, and Co., Ltd., Mary street, G. Horsburgh and Co., Ltd., Ironmongers, Taylors and Elliotts, Ltd., Charlotte street,
Table XIII-continued.
PEST Destroyers, 1927-continued.
Registered under Section 3 of the Pest Destroye

Miscellaneous-continued.

## REPORT OF THE CHIEF INSPECTOR OF STOCK.

Stock Statistics.
The following preliminary figures supplied by the Government Statistician show a decrease in the numbers of horses, cattle, and sheep :-

| Year. |  |  | Horses. | Cattle. | Sheep. |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 1926 | $\ldots$ | $\ldots$ | 638,372 | $6,436,645$ | $20,663,323$ |
| 1927 | $\ldots$ | $\ldots$ | 671,622 | $5,464,845$ | $16,860,772$ |
|  | Decreases | .. | 66,750 | 971,800 | $3,802,551$ |

These huge decreases are due to the fact that the greater portions of the pastoral areas of the State are suffering from severe drought conditions, and these figures reflect only part of the losses, as there are additional potential losses of calves and lambs, due to the fact that natural increase over wide areas has been suspended. It has been described by many stockowners as the worst drought yet experienced in Queensland. In some districts no relief rains have fallen, whilst in many other parts only partial relief has been experienced.

The linking up of our Southern, Central, and Northern Railways would be of the greatest value in times of drought, as thousands of animals could be railed to centres where agistment was available, stock routes being impassable. Motor transport has played an important part during the past year, not only for the carriage of fodder and water, but for the transport of sheep over stock routes impossible by any other method. Mr. W. A. Russell, M.L.A., carried out successfully one of the largest undertakings by this means by transporting 10,000 full-woolled wethers from Listowel Downs, near Blackall, to Nardoo, in the Charleville district, a distance of 180 miles. Four trucks were used, travelling day and night, carrying 350 sheep each.

The cattle industry is very unsatisfactory, and unless higher prices can be obtained for fat stock, or the cost of production lessened, it will be impossible to obtain reasonable interest on the capital invested. During the year some 18,763 cattle of good quality and condition were sent from the Normanton and Cloncurry stock districts to the Northern meatworks. The values were slightly lower than last year, the works paying 17 s . per 100 lb . Some cattle-owners took advantage of the through railway from the North to Brisbane by sending cattle to the Brisbane markets, where better prices were realised.

Wool prices have not been as high as in some previous years, but they appear to be stabilised, with no immediate prospect of lower values.

Owing largely to our favourable climatic conditions, stock are particularly free from infectious diseases. Artificial feeding (except in drought periods) and housing during winter months are practically unknown. Pleuropneumonia contagiosa, as in past years, is the main infectious disease to be contended with, but only fifty-one outbreaks were reported this year as compared with sixty-one the previous year. Infectious mammitis has been more prevalent than in previous years, kut the vaccine prepared by the Government Bacteriologist has given good results.

Appendices A and B show particulars of work carried out at the Stock Experiment Stations, Yeerongpilly and Townsville, respectively; C, Report of the Instructor in Sheep and Wool; D, Report of the Deputy Registrar of Brands.

Prosecutions.
Number of Number of


## Analytical Examinations.

Forty-nine samples of viscera and contents were submitted to the Agricultural Chemist for analysis, and in 20 cases the poison present determined. In North Queensland 4 samples were analysed, of which 2 contained poison.

## Horses Exported Overseas. 525 horses.

Tuberculin Test.
The test was applied to 322 animals, the number of positive reactions being 27 .

DIPS.
The total number of registered cattle dips is 4,407, distributed throughout the State as follows :-


## Dipping Fluids.

Four hundred and six samples of dipping fluids were analysed from dips in Southern and Central Queensland; only 108 samples were of effective strength-viz., $7 \frac{1}{2}$ to $8 \frac{1}{2} \mathrm{lb}$. of arsenic per 400 gallons of water. Seventy-four samples were found more or less oxidised. In North Queensland 72 samples. were submitted for analysis.

Helidon Cleansing Area.
During the year the total inspections were as follows:-


In addition to the above the following travelling stock were dealt with :-

> STOCK DiPPED.
> Horses. 328

Owing to the dryness and severity of the winter months and stock being low in condition, cleansing operations had to be relaxed considerably in most of the districts. Inspector McNeill, officer in charge, reports that, notwithstanding the adverse circumstances, he considers good progress has been made. There has not been any serious infestations along the boundary between the cleansing and declared clean areas, and the latter has been held safe and intact.

## South Burnett Cleansing Area.

Similar weather conditions were experienced as in the Helidon area. The drought conditions were relieved in January, when a good season was assured.
The original area has been maintained clean, but on the boundary line around Nanango several tick infestations were dealt with. An extension has been made to embrace fresh country on the east and south of the old line, which will protect and greatly minimise the risk of reinfestations.

The sub-district of Cooyar has been placed under the full control of Inspector Grimley, who is in charge of the South Burnett area. The

|  | Stock Sprayed. |
| :---: | :---: |
| Horses. | Cattle. |
| 45 | 539 |

Cooyar area is now linked up with the other portions, making an unbroken line to tickinfested country. Stock-owners generally are more satisfied that thorough cleansing operations can be carried out and their interests protected by this extension. It is appreciated that the Nanango Shire Council has agreed to erect gates on the main roads leading into the area, which will be of great benefit in preventing tick-infested stock from straying into the clean country.

| Holdings inspected | 883 |
| :---: | :---: |
| Stock inspected | 42,269 |
| Stock dipped | 44,269 |
| Infested holdings (original area) | 18 |
| Infested holdings (new area) | 57 |
| Crow's Nest Cleansing Area. |  |
| Holdings inspected | 942 |
| Stock inspected- |  |
| Horses | 4,748 |
| Cattle | 49,411 |
| Stock dipped- |  |
| Horses | 231 |
| Cattle | 6,508 |
| Holdings infested | 19 |

883
$\begin{array}{llll}\text { Stock inspected } & \text {.. } & \text {.. } & 42,269 \\ \text { Stock dipped .. } & \text {. } & \text {.. } & 44,269\end{array}$

Outbreaks of Pleuro-Pneumonia.
The total number of outbreaks was 51 , as compared with 61 the previous year.

| District. | 1926. |  |  |  |  |  | 1927. |  |  |  |  |  | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | April. | May. | June. |  |
| Barcaldine |  | . | . |  | $\cdot$ | . | . |  | . | . | - | . | $\cdots$ |
| Brisbane | 1 | 2 | 1 | 3 | 2 | 4 | . . | 5 | . | 1 | 1 | . | 20 |
| Bowen | 1 | 1 | 1 | . | . | . | $\cdots$ | . | . | $\cdots$ | . | $\cdots$ | 3 |
| Cairns | . | . | . | . | . . | . | 1 | . | . | . | . | . | 1 |
| Charleville | . | . | . | . | $\cdots$ | . | .. | $\ldots$ | . | $\cdots$ | . | 1 | I |
| Clermont | . |  | . | . | . |  | . | . | . | . | . | 1 | 1 |
| Cloncurry | . | . | . | $\cdots$ | . | . | . | . | . | . | . | . | . |
| Hughenden | . | . . | . | $\cdots$ | . |  | . | $\ldots$ | . | . | . | . | . |
| Longreach . | $\cdots$ |  | . | $\cdots$ | . | . | . | . |  | . | $\cdots$ | 9 | 9 |
| Maryborough . . | . | . |  | . . |  |  | - |  |  | . | 2 | 2 | 2 |
| Rockhampton . . | . |  |  | . . | 1 | . | 1 | 2 | 3 | - | 2 | 1 | 10 |
| Roma | $\ldots$ | 2 | 1 | . | .. | . | . | . | . | 1 | $\cdots$ | $\cdots$ | 4 |
| Springsure | . . | . | , | . | . | 1 | . | . | i | . | $\cdots$ | $\cdots$ | 3 |
| Toowoomba | $\ldots$ | - | 1 | $\cdots$ | . | 1 | . | . | 1 | . | . | i | 3 |
| Townsville |  |  |  |  | . | 1 | . | . | 4 | . | 1 | 1 | 6 1 |
| Warwick |  | . | . | . | . | . . | . | . | . | $\cdots$ | 1 | $\cdots$ | 1 |
| Winton |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totals | 2 | 5 | 4 | 3 | 3 | 6 | 2 | 7 | 8 | 2 | 4 | 5 | 51 |

Quarantine Act.
The following animals passed through the quarantine period at Colmslie Quarantine Station, viz., 24 dogs (including 11 puppies).

The number of hides and skins imported and disinfected under supervision was -


Other articles entered at the Port of Brisbane were-

| Leopard skins | $\ldots$ | $\ldots$ | $\ldots$ | 14 | Riding Saddles |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tiger skin | $\ldots$ | $\ldots$ | . | 3 |  |  |  |  |  |
| Mounted horns (pairs) | $\ldots$ | $\ldots$ | 1 | .. | 12 | Saddle Girth | $\ldots$ | $\ldots$ | $\ldots$ |
| 1 |  |  |  |  |  |  |  |  |  |

Table showing Stook Movements in the Several Stock Distriots for the Year ending 30 th June, 1927.

| District. | Entered Distriot. |  |  | Removed from Distriot. |  |  | Movements in Distriot. |  |  | Stook Dipped. |  | Stook Sprayed. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Horses. | Cattle. | Sheep. | Horses. | Cattle. | Sheep. | Horses. | Cattle. | Sheep. | Horses. | Cattle. | Horses. | Cattle. |
| Barcaldine | 1,041 | 11,569 | 106,841 | 2,947 | 11,037 | 492,787 | 2,662 | 13,026 |  |  |  |  |  |
| Bowen | 841 | 7,085 | 23,200 | 4,473 | 21,339 | 16,770 | 5,263 | 13,026 47,327 | $1,047,251$ 50,531 | 68 | 4,001 | 61 |  |
| Brisbane | 2,743 | 191,792 | 471,141 | 3,259 | 47,133 | 66,742 | 6,361 | 233,785 | 58,994 | 221 | 120 75,447 |  |  |
| Cairns | 896 | 14,007 | 17,651 | 1,340 | 7,202 | 11,032 | 3,472 | 25,505 | 7,021 | 3,190 | 19,447 19 | 15 | 203 |
| Charleville | 5,281 | 65,329 | 441,115 | 9,732 | 146,867 | 622,901 | 6,494 | 55,230 | 689,143 | 3,190 | 19,768 | 15 | . . |
| Clermont | 1,305 | 14,337 | 200,691 | 2,698 | 43,766 | 95,896 | 3,735 | 22,301 | 174,226 | 74 | 10,771 | 30 |  |
| Concurry | 3,529 | 37,148 | 252,363 | 7,798 | 128,121 | 385,552 | 8,444 | 38,308 | 530,269 | 1,046 | 22,664 | 116 | 698 |
| Gladstone | 247 2,030 | 701 18,102 | 14,472 | - 274 | 3,864 | 32 | 136 | 2,737 | - 47 | 1,046 | 22,664 227 | 116 60 | 698 |
| Helidon | 2,03 576 | 18,102 8,447 | 4,843 | 2,189 812 | 26,621 11,888 | 45 | 835 | 24,553 |  | 2 | 354 | 1,162 | 7 |
| Hughenden | 1,075 | 15,092 | 4,843 129,972 | 1,812 1,849 | 11,888 23,693 |  | 2,094 | 37,706 | 250 10 | 308 | 29,208 | 31 | 441 |
| Longreach | 1,349 | 3,392 | 479,296 | 1,849 | 10,468 | 168,077 710,022 | 1,85 | 16,068 | 250,539 | . . | 8,068 | 17 | 33 |
| Maryborough | 1,109 | 35,130 | 5,989 | 2,350 |  | 710,022 1,078 | 6,058 1,886 | 12,894 | 928,755 |  | 609 | 7 |  |
| Normanton . | - 590 | 80 | 13,770 | 4,060 | 52,095 | 126,355 | 1,886 1,270 | 61,896 6,183 | 75 21,610 | 3,942 | 6,600 | 583 | 130 |
| Rockhampton | 902 | 15,418 | 51,292 | 1,684 | -35,244 | r 52,264 | 1,270 4,513 | 6,183 113,098 | 21,610 19,599 |  | 48,979 | . |  |
| Roma . . | 1,641 | 36,348 | 377,350 | 9,541 | 144,597 | 650,188 | 13,120 | 113,098 | 19,599 896,701 | 163 | 478 11902 | 61 | 159 |
| South Burnett | 741 | 8,192 | 4,015 | 1,353 | 144,907 | 11,350 | 13,120 | 122,926 | 896,701 | 332 440 | 11,902 | 67 | 708 |
| Springsure | 1,032 | 16,676 | 101,814 | 3,173 | 37,452 | 376,392 | 1,980 | 25,561 | 233,508 | 440 239 | 35,051 30,880 | 53 | 708 |
| Toowoomba | 3,860 | 82,341 | 131,265 | 8,598 | 147,991 | 310,465 | 18,452 | 376,215 | 233,508 | 239 402 | 30,880 | 134 | 6,648 |
| Townsville | 2,611 | 27,122 | 40,903 | 2,650 | 7,842 | 37,967 | 4,118 | 30,075 | 818,028 32,933 | 402 770 | 21,413 | 381 | . . |
| Warwick | 2,633 | 61,314 | 522,056 | 2,661 | 44,455 | 524,773 | 7,195 | 136,075 13693 | $\begin{array}{r} 32,933 \\ 1,007,122 \end{array}$ | 770 | 248 | 9 |  |
| Winton | 1,058 | 15,441 | 221,812 | 2,209 | 28,457 | 163,535 | 1,126 | 136,930 6,962 | $\begin{array}{r} 1,007,122 \\ 312,353 \end{array}$ | $\cdots$ | 7,892 | 11 | 42 |

Stock Sales.
The following are the particulars of stock sold through the Newmarket yards at Brisbane during the year :-


## "The Slaughtering Adt of 1898."

During the period under review, the Senior Slaughtering Inspector (Mr. Cheeseman) visited the following centres-viz., Ipswich, Boonah, Peak Crossing, Esk, Lowood, Laidley, Hatton Vale, Miles, Dulacca, Nambour, Eudlo, Cooroy, Kin Kin, Cooran, Kenilworth, Brooloo, Imbil, Kandanga, Woolooga, Rockhampton, Mackay, Townsville, Cairns, Gordon Vale, Edmonton, Mareeba, Redlynch, Beenleigh, Southport, Pimpama, Waterford, Beaudesert, Rathdowney, Mount Gipp, Tambourine, Nerang, Beechmont, and many other towns on the various branch lines.
As in previous years, the itinerant inspection of shops, slaughter-houses, \&c., has been maintained as satisfactorily as possible under existing circumstances; the majority of the premises inspected were clean and satisfactory, but, of course, there were others which necessitated extreme measures being taken.
The reports in general from outside officers indicate that the regulations were being carried out in accordance with requirements of the Act. The inspection of meat in country centres where no permanent officer is stationed is practically negligible, the only redeeming feature is that the various premises have been built according to standard plan, which enables them to be kept clean with the minimum amount of labour. Constant supervision is absolutely necessary, which necessitates the issue of many written orders which exceeded those, numerically, of former years.

The health of stock treated for human consumption was much about the same as in previous years, vide tabulated statement.
The prevalence to slaughter illegally still continues ; many complaints have been inquired into, and in several instances prosecutions have followed.
The total number of prosecutions from all sources exceeds those of previous years; there also are a number approved of and awaiting hearing at various courts.

## SLaughter-houses.

Twenty-seven new buildings have been erected in various parts of the State, together with those previously recorded, making a grand total of 894.

Apart from the foregoing, there are thirty minimum-sized slaughter-houses out of commission.


#### Abstract

\section*{New Shops.}

Forty-three new premises have been erected in various parts of the State, many of which were costly structures. In addition expensive improvements have been made to others; many of the new shops being now built in brick and, tile.

There has been no shortage of stock for killing purposes; those treated were of fair butchering quality.


## Metropolitan Killings.

A decrease in the number of cattle killed is noticed, but a marked increase in all other classes of animals treated. The figures as under are
those returned under statutory authority to the Registrar-General.

|  |  |  | 1925. |  | 1926. |
| :--- | :--- | :--- | ---: | :--- | ---: |
| Cattle | $\ldots$ | $\ldots$ | 75,221 | $\ldots$ | 69,693 |
| Calves | $\ldots$ | $\ldots$ | 40,062 | $\ldots$ | 40,941 |
| Sheep | $\ldots$ | $\ldots$ | 212,784 | $\ldots$ | 262,786 |
| Lambs | $\ldots$ | $\ldots$ | 17,859 | $\ldots$ | 18,236 |
| Pigs | $\ldots$ | $\ldots$ | 21,449 | $\ldots$ | 23,215 |

In addition to the above, the quantity of meat supplied by the various export companies is as under:-

|  | Cattle. | Calves. | Sheep. | Swine. | Meat |
| :---: | :---: | :---: | ---: | :---: | :---: |
| Totalsdries. |  |  |  |  |  |
| Totals. | 3,846 | 651 | 2,118 | 350 | $289,753 \mathrm{lb}$. |

In determining the average number of cattle by weight the maximum of 622 lb . per beast was allowed.

## Central Inspection Depôt.

There was a decrease in the number of carcasses of veal submitted for examination, but an increase in the number of carcasses of pork, viz.:-

|  |  |  | $1925-26$. |  | $1926-27$. |
| :--- | :--- | :--- | :---: | :--- | ---: |
| Veal $\ldots$ | $\ldots$ | $\ldots$ | 15,372 | $\ldots$ | 12,114 |
| Pork . | $\ldots$ | $\ldots$ | 5,223 | $\ldots$ | 5,443 |

The condemnations from the above are as follow :-

| Carcasses of veal | .. | .. | .. 237 immature |
| :--- | :--- | :--- | :--- | :--- |
| Carcasses of pork | .. | .. | .. 82 tuberculosis |
| Number of heads | .. | .. | .. 329 tuberculosis |

The comparative return of killings for the whole State, other than the metropolitan area, is as follows:-

|  |  |  | $1925-26$. |  | $1926-27$, |
| :--- | :--- | :--- | ---: | :--- | ---: |
| Bullocks | $\ldots$ | $\ldots$ | 96,666 | $\ldots$ | 85,181 |
| Cows | . | $\ldots$ | 98,185 | .. | 81,296 |
| Calves | . | $\ldots$ | 10,543 | .. | 14,824 |
| Sheep | . | $\ldots$ | 171,478 | .. | 195,433 |
| Pigs .. | .. | .. | 48,001 | .. | 38,693 |

## Bacon Factories.

It will be observed that there was a considerable decrease in the number of pigs treated at the various factories; moreover, the condemnations, too, are in excess of those of the previous year.

$$
\begin{array}{llrlrr} 
& & 1925-26 . & & 1926-27 . \\
\text { Pigs } \ldots & \ldots & \ldots & 235,006 & \ldots & 205,885
\end{array}
$$

Condemnations from the above.

| Carcasses | .. | .. | .. | 1,339 tuberculosis |
| :--- | :--- | :--- | :--- | :--- |
| Heads | . | $\ldots$ | . | 9,000 tuberculosis |
| Heads | . | .. | .. | 735 abscesses |

## Export Meat Trade.

According to official statistics there has been a big decline in the slaughter of fat stock for overseas markets:-

|  |  |  | 1925. |  | 1926. |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Cattle | .. | $\ldots$ | 552,000 | $\ldots$ | 234,716 |
| Calves | .. | . | 509 | . | 1,000 |
| Sheep | .. | . | 30,773 | .. | 2,928 |
| Pigs .. | . | .. | Nil | .. | 3,103 |

There is a marked improvement in the class of vehicles used, the motor vehicle superseding the old time horse-drawn conveyance.

The metropolitan slaughter-houses and inspection of meat is as satisfactory as can be expected until abattoirs are erected.

The following tabulated list shows stock slaughtered and condemned in the course of the period under review, and is compiled from returns furnished by permanent officers of the Department performing slaughtering duties at
the following centres:-Brisbane, Toowoomba, Ipswich, Gympie, Maryborough, Bundaberg, Rockhampton, Mount Morgan, Townsville, Cairns, Warwick, Charleville, Bowen, Roma, Dalby, Clermont, Barcaldine, Cloncurry, Springsure, Gladstone, Mareeba, Longreach, Normanton, Charters Towers, Mackay, Gayndah, and Beaudesert.

The return of swine slaughtered is exclusive of those treated at bacon factories and those examined at the Brisbane Central Depôt, a list of which is shown separately.

| Description of Stock. | Number Slaughtered. | Carcasses and Por Condemned. |  |  | Disease. |  | $\begin{gathered} \text { Per- } \\ \text { centage. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bullocks | 90,122 | 146 carcasses | . | . | Tuberculosis | .. | -162 |
|  |  | 129 forequarters | . | . | Tuberculosis |  | -143 |
|  |  | 22 hindquarters | . | . | Tuberculosis | . | - 024 |
|  |  | 217 heads | . . | . | Tuberculosis | . . | -2407 |
|  |  | 27 carcasses | . |  | Bruised | . | -029 |
|  |  | 29 forequarters | . |  | Bruised | $\cdots$ | -032 |
|  |  | 8 carcasses | $\ldots$ |  | Emaciation | . | -008 |
|  |  | 93 heads |  | . | Actinomycosis . ${ }^{\text {. }}$ | .. | . 103 |
|  |  | 2 heads | . | . | Abscesses | . | -002 |
|  |  | 4 carcasses | . | $\cdots$ | Lantana poisoning | . | . 004 |
|  |  | 2 carcasses | . | . | Septicæmia .. | . | -002 |
|  |  | 1 carcass |  | . | Old pleural lesions | . | . 001 |
|  |  | 6 forequarters | $\ldots$ | $\cdots$ | Old pleural lesions | . | -006 |
|  |  | 1 carcass |  | $\ldots$ | Putrefaction .. | $\cdots$ | -001 |
|  |  | 3 carcasses | $\ldots$ | $\ldots$ | Jaundice | . | . 019 |
|  |  | 1 carcass | .. | . | Poverty |  | -001 |
| Cows | 73,898 | 280 carcasses | . | $\ldots$ | Tuberculosis | .. | -378 |
|  |  | 128 forequarters | . | . | Tuberculosis |  | -173 |
|  |  | 22 hindquarters | . | . | Tuberculosis | . | -029 |
|  |  | 215 heads | . | . | Tuberculosis .. |  | . 2909 |
|  |  | 31 carcasses | . | $\cdots$ | Bruised |  | . 041 |
|  |  | 79 forequarters | $\cdots$ | $\cdots$ | Emaciation | $\cdots$ | . 102 |
|  |  | 4 carcasses | . | $\cdots$ | Redwater .. | $\cdots$ | . 005 |
|  |  | 51 heads | . | . | Actinomycosis .. | . | . 069 |
|  |  | 15 carcasses | . . | . | Advanced pregenancy | . | . 0203 |
|  |  | 12 heads | $\cdots$ | . | Abscesses .. |  | . 016 |
|  |  | 2 carcasses | . | . | Gangrene .. | . | -002 |
|  |  | 31 carcasses | . | . | Poverty .. | . | . 041 |
|  |  | 1 carcass | .. | . | Septicæmia . | . | -001 |
|  |  | 29 heads | . | . | Emaciation . | . | . 039 |
|  |  | 13 carcasses | . | . | Jaundice .. | . | -017 |
|  |  | 3 carcasses | . | . | Lantana poisoning | . | -004 |
|  |  | 1 carcass |  |  | Cancer . |  | . 001 |
| Calves | 30,709 | 835 carcasses | . | . | Under weight |  | $2 \cdot 719$ |
|  |  | 6 carcasses | .. | - | Emaciation | . | . 019 |
|  |  | 1 carcass | . | . | Bruised | . | -003 |
|  |  | 2 forequarters | . | . | Pleurisy | . | . 006 |
|  |  | 1 carcass | . | . | Tuberculosis | . . | -003 |
| Sheep | 403,255 | 323 carcasses | . | $\cdots$ | Emaciation |  | . 08 |
|  |  | 14 carcasses | . | . | Bruised .. | . | . 003 |
|  |  | 1 carcass | $\ldots$ | . | Lantana poisoning | . . | . 0002 |
|  |  | 2 carcasses | . . | . | Abscesses .. | . . | . 0004 |
|  |  | 5 carcasses | .. | . | Jaundice | . . | . 001 |
| Swine | 47,603 | 391 carcesses |  | .. | Tuberculosis |  | -821 |
|  |  | 1,760 heads | . | . | Tuberculosis | . | $3 \cdot 69$ |
|  |  | 9 carcasses | . | . | Abscesses | . | . 018 |
|  |  | 101 heads | $\ldots$ | . | Abscesses | . | . 212 |
|  |  | 21 carcasses | $\cdots$ | $\cdots$ | Putrefaction | $\cdots$ | . 044 |
|  |  | 1 carcass | . | . | Gangrene | . | . 002 |
|  |  | 3 careasses | $\ldots$ | . | Pneumonia | . | . 006 |
|  |  | 1 carcass | . | . | Tumors | . | -002 |
|  |  | 1 carcass | .. | . | Malnutrition . | . | -002 |
|  |  | 1 carcass | . | . | Pleuro-pneumonia | . | . 002 |

The Registrar-General supplies a valuable statement showing the number of live stock in the various pastoral districts and in the State on 1st January, 1927, together with similar details for the previous year. It will be noted that the returns from the Registrar-General's

Department, though dated as at 1st January of 1926 and 1927, respectively, are for the years 1925 and 1926. That is the usual form. Under every head there is shown for 1926 a decrease in the number of stock, and this may be taken as a result of drought losses. But the decreases do
not fully represent such losses. The RegistrarGeneral gives the number of stock in the State at a specified date. In the return he gives the bare statistical situation; but as the Press pointed out about two months ago, in estimating drought losses, account must be taken of natural increase. Thus the number of sheep in the State at 1st January, 1926 is given at 20,663,323, and at 1st January, 1927, at $16,860,772$-for the years 1925 and 1926, respec-tively-the decrease being $3,802,551$; but if the natural increase of 1926, approximately $2,000,000$, be taken into account, and it must be taken into account, the loss will be estimated at $3,802,551$, plus $2,000,000$, or $5,802,551$. In other words we had $20,663,323$ sheep at 1st January, 1926, and the natural increase being, roughly, $2,000,000$, the number at the end of 1926 would
have been, if there had been no drought losses, $22,663,323$, whereas it was $16,860,772$. It may be observed that since 1st January, 1927, in nine months of continued drought over a great area of the State, the proportionate losses have been reduced, but still they have been considerable, and in well-informed circles it is believed that to-day, 30th September, 1927, we have not more than $15,000,000$ sheep, and in some quarters the reduction is estimated to be greater. Cattle have decreased from $6,436,645$, for 1925 , to $5,464,845$, for 1926 , and the remarks as to the drought losses of sheep are applicable to them in a general way. The following are the returns supplied by the Registrar-General, and they have been tabulated, with a view to an added clarity in reforence:-

|  | Horses. |  | Cattle. |  | Sheer. |  | Pigs. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1926. | 1925. | 1926. | 1925. | 1926. | 1925. | 1926. | 1925. |
| Burke | 42,738 | 53,690 | 685,267 | 825,822 | 1,978,074 | 2,928,780 | 414 | 516 |
| Burnett | 38,185 | 39,283 | 440,562 | 467,036 | 7,487 | 5,263 | 30,808 | 32,933 |
| Cook | 44,252 | 49,072 | 520,708 | 527,624 | 12,580 | 270 | 8,323 | 7,673 |
| Darling Downs | 69,158 | 72,569 | 414,433 | 466,389 | 2,045,745 | 1,862,217 | 35,664 | 42,180 |
| Gregory North | 19,119 | 24,711 | 212,735 | 297,335 | 1,086,545 | 1,964,021 | 35 | 36 |
| Gregory South | 10,429 | 10,215 | 135,915 | 176,275 | 344,859 | 286,189 | 1 | 1 |
| Leichhardt | 40,384 | 48,058 | 568,449 | 761,676 | 840,487 | 979,070 | 1,513 | 1,915 |
| Maranoa | 28,607 | 29,254 | 235,658 | 273,224 | 3,366,810 | 2,785,128 | 1,485 | 1,553 |
| Mitchell | 33,318 | 41,258 | 114,015 | 196,115 | 4,135,681 | 6,696,458 | 460 | 498 |
| Moreton | 62,730 | 65,461 | 476,828 | 502,658 | 22,022 | 25,257 | 69,895 | 75,731 |
| North Kennedy | 62,899 | 70,456 | 454,412 | 503,296 | 22,214 | 4,528 | 5,160 | 5,673 |
| Port Curtis | 33,486 | 39,093 | 383,711 | 449,203 | 28,040 | 27,462 | 7,877 | 8,523 |
| South Kennedy | 33,879 | 37,985 | 328,545 | 432,297 | 165,182 | 154,642 | 1,709 | 1,281 |
| Warrego | 21,684 | 24,255 | 191,168 | 236,587 | 2,799,535 | 2,938,281 | 510 | 600 |
| Wide Bay | 30,754 | 33,012 | 302,439 | 319,108 | 5,511 | 5,757 | 19,808 | 20,485 |

Grand Totats.

| $\quad$ |  |  |  | Horses. | Cattle. |  | Sheep. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total for year 1926 | $\ldots$ | $\ldots$ | $\ldots$ | 571,622 | $5,464,845$ | $16,860,772$ | 183,662 |
| Total for year 1925 | $\ldots$ | $\ldots$ | $\ldots$ | 638,372 | $6,436,645$ | $20,663,323$ | 199,598 |
| Decrease | $\ldots$ | $\ldots$ | $\ldots$ | 66,750 | 971,800 | $3,802,551$ | 15,936 |

ARTHUR H. CORY (M.R.C.V.S.),
Chief Inspector of Stock.

## APPENDIX A.

## REPORT OF THE GOVERNMENT BACTERIOLOGIST.

Fees and Moneys Receiv̀ed
Following are the particulars of the amount of money received for work performed, bacteriological examination of samples of water, milk, blood, \&c., and morbid specimens; also the supply of Pleuro Virus, Blackleg Vaccin, Contagious Mammitis Vaccin, and other laboratory products:-

| f stud animals |  | $244$ | $17$ | $d$. 6 |
| :---: | :---: | :---: | :---: | :---: |
| Bleeders supplied . . |  | 170 | 0 | 0 |
| Blood for inoculation |  | 57 | 4 | 6 |
| Inoculation of animals | .. | 27 | 5 | 6 |
| Blackleg vaccin | . | 48 | 4 | 8 |
| Pleuro virus and setons |  | 401 | 1 | 4 |
| Lactic cultures |  | 18 | 18 | 0 |
| Contagious mammitis vaccin |  | 68 | 15 | 1 |
| Contagious abortion and other | tests | 12 | 6 | 6 |
| Culture media |  |  | 16 | 8 |
| Total |  | 057 | 9 | 9 |

Specimens Submitted for Bacteriological and Other Examination.

The specimens received, which greatly exceeded those of the previous year, were as follows :-


Immunisation of Stud Cattle for Tick Fever,
A total of fifty-five stud animals was received at Yeerongpilly for tick fever inoculation, and no losses were experienced here nor were any fatalities subsequently reported. Most of the animals treated came here from the Southern States, in many cases direct from the showgrounds. The full particulars of the breeds of the inoculated animals are as follows:-


## Tick Fever.

There are, I regret to say, a few stock-owners who, contrary to my advice, persist in the dangerous practice of inoculating clean cattle
and within a few days exposing them to tick infestation. In some instances this method has proved successful, but recently five high-class bulls succumbed, and the inoculation fever was undoubtedly accelerated by natural tick fever. It cannot be too emphatically stressed that animals after inoculation receive no protection for some weeks after the injection, and then only if the inoculation has proved successful-i.e., if the animals take.

Blood for inoculation in some instances has been forwarded to such distant places as Roma, Atherton, Armidale (N.S.W.), and Perth (W.A.), and in each case the inoculation proved successful.

## Bleeders.

Seventeen tested bleeders have been supplied to stock-owners. Blood drawn from these animals can be relied upon to produce reactions when injected into susceptible cattle. The prepared bleeders are, before disposal, subjected to the tuberculin test, vaccinated against blackleg, and inoculated for pleuro-pneumonia.

There are now in most ticky districts bloodsupply animals, many of which were originally purchased from Yeerongpilly; nevertheless, 2,187 doses of blood were distributed from this station, and 1,005 head of cattle were inoculated by officers of the Department.

## Pleuro Virus.

Sufficient natural pleuro virus for the inoculation of 89,421 head of cattle was supplied to stock-owners, and also 45,000 sterilised setons. Before distribution, the virus is bacteriologically examined in order to determine the presence or absence of harmful bacteria; therefore, provided precautionary measures of disinfection are observed, the losses from "bad tails" following the use of this virus should be almost negligible.

## Blackleg Vaccin.

Double vaccin for the treatment of 2,500 calves was distributed, the results obtained affording further evidence of the efficiency and safety of this method of protecting animals against blackleg disease.

## Contagious Mammitis Vaccin.

There has been a very marked increase in the demand for this product, the price reduction recently approved of by the Hon. Minister for Agriculture affording dairymen an opportunity of employing the vaccin at a very moderate cost. Vaccin for the treatment of 1,196 cows was supplied, as against 168 the previous year.

Wherever practicable an autogenous vaccin has been prepared and supplied, and in almost every case most useful results were reported. It is apparent that the period of immunity conferred by the vaccin treatment varies in individual animals, and largely for this reason I
strongly advocate the necessity for strict attention as regards methods of isolation and that disinfection be employed in conjunction with the treatment.

In many instances the reported successful results have been confirmed by bacteriological examination of samples of milk taken from animals after treatment, no trace of streptococcal infection remaining. In other cases, how-〔ver, I have been unable to procure evidence as to the success of the vaccin treatment other than an assurance from the dairymen that the treated animals have completely recovered. In some cases, however, the disease had become so advanced that vaccin treatment was unsuccessful ii. restoring a normal secretion of milk in the badly-affected quarter of the mammary gland.

## Lactic Cultures.

Two hundred and fifty-two cultures of lactic acid bacteria were forwarded to cheese factories. It has been necessary, however, in some instances to bring under the notice of factory managers the fact that during the warmer months it is cssential to more frequently employ fresh starters, as, owing to the favourable conditions for bacterial development, the starters are likely to become contaminated in a very short period.

I regret to state that as far as I can ascertain this valuable laboratory product has not been availed of in the manufacture of Queensland butter. The use of such starters in conjunction with efficient pasteurisation of the cream, must result in an improved product, for it must be remembered that lactic starters are universally used in the manufacture of Danish butter.

## Tick DiP Investigations.

This work has been continued under the direction of the Council for Scientific and Industrial Research, with a view to ascertaining the possibility of effective tick destruction with a lesser percentage of arsenic than in the present standard. The results so far with dipping solutions of lesser strengths of arsenic are not encouraging.

## Egg Pulp Investigations.

In September last I made an investigation into the cause of decomposition changes occurring in cans of eggs kept in cold storage. It was found that in most cases the bacterial contamination had taken place during the process of canning the eggs and before the cans were sealed.

It was recommended that the trouble could be eliminated by adopting more cleanly methods with the removal of the plant to more suitable sanitary surroundings.

Exhibit at Royal National Association's SHow.
The principal feature of the exhibit from the Yeerongpilly Laboratory was the demonstration to dairy farmers and those who are engaged in butter and cheese factories the necessity for bacteriological cleanliness and sterilisation of milk and cream cans and all other dairying utensils.

By means of tube and plate culture tests, together with explanatory cards, it was shown how milk and cream cans become contaminated by (1) Imperfectly washing the cow's udder, (2) the common, but insanitary, method of wet milking, and (3) improperly cleansing and sterilising milk and cream cans.

It was clearly shown that, as a result of scalding all separated milk before feeding it to the pigs, the prevalence of tuierculosis among pigs could be largely reduced.

## Lectures, Demonstratiôns, \&c.

During the past year I have visited the following places-viz., Kingaroy, Hivesville, Coolabunia, Hodgleigh, Silverleaf, Kinleymore, Mondure, Greenmount, Mount Mee, Kilcoy, Woodford, D'Aguilar, Boonah, Mount Alford, and Kalbar. At each of these dairying centres I delivered illustrated lantern lectures, the subjects dealt with being:-

Contagious Mammitis: Its prevention and treatment with autogenous vaccin;
Tuberculosis in Pigs and Cattle: Methods for its prevention, particularly stressing the necessity for the pasteurisation of all separated milk before it is fed to the pigs and calves;
The Sources of Bacteria in Milk, \&c.;
How cream cans and dairying utensils should be cleansed and sterilised; and
Blackleg disease, and its prevention by double vaccin treatment.

In most instances these lectures were delivered at the request of the various branches of the Queensland Producers' Association.

During the special winter course of instruction to managers and principal employees of butter and cheese factories, held at the Queensland Agricultural High School and College, at Gatton, I was requested by the Principal (Professor J. K. Murray) to deliver an illustrated lantern lecture on "Dairy Hygiene."

Lectures and demonstrations were also given on the subjects of meat hygiene, meat and food inspection, and practical methods of employing disinfectants, to candidates for the Royal Sanitary Institute certificate.
C. J. POUND,

Government Bacteriologist.

## APPENDIX B.

## REPORT OF THE GOVERNMENT VETERINARY SURGEON, TOWNSVILLE.

Seasonal.-The latter end of 1926 was marked by an almost complete absence of rainfall over the greater part of the area under my administration, and this feature combined with the fact that the previous wet season had been rainless produced one of the worst droughts on record. As a result, much of what at ordinary times carries sheep in large numbers was completely denuded of sheep.

Rain fell in the Cloncurry, Richmond, and Hughenden districts early in the year and relieved the situation somewhat, but the area around Winton and Longreach is still suffering the effects of the drought.

The losses in sheep in North Queensland as a result of the dry weather and lack of rain in the wet season have been very heavy.

At the present moment the general condition is bad. Good rains have fallen all along the coastal belt during the present year, and this has extended inland; in most places the rainfall for the first half of 1927 for the whole of North Queensland is well up to the average of previous years.

Stock values are very low. The meatworks prices opened at 17 s . per 100 lb . first grade beef, this being about one-third of that offering in the southern centres of Australia.

Store cattle cannot be removed south owing to the condition of the stock route through Julia Creek and Winton. The dry stages of this route between Winton and Longreach, prevent the movement of cattle in this direction, but a few mobs of store are passing southward via Pentland and Clermont.

Stock Experiment Station.-During the year 203 head of cattle have passed through the station, but only a few of these have been inoculated. The number of stud or herd bulls coming from the southern herds tends to remain at a minimum, and probably will remain so as long as the present prices of beef prevail. The herds in North Queensland must slip back as a consequence.

Diseases in Stock Act.-Outbreaks, of con-, tagious diseases in North Queensland compare favourably with those of other years. Pleuropneumonia contagiosa of cattle is practically universal throughout the North, and cases of this disease keep cropping up everywhere. The great difficulty in dealing with this disease lies in the fact that diagnosis is so difficult, the complaint running almost invariably a chronic course. This disease is the bugbear of travelling stock. The number of outbreaks for the year was eleven.

Ticks are very bad at present, especially along the coastal belt. There are some areas of country here ideal for the propagation of the tick, and given a good wet season-moisture being essential to the incubation of the egg-and the
fact that in the summer time the non-parasitic period of the tick may be considerably less than three weeks at times, there is every faculty for an enormous increase in the number of these parasites.
The dipping of cattle is not carried out nearly so often as is necessary on badly-infested country. Most stockowners are content with dipping every month or six weeks on badlyinfested country, whereas fortnightly dippings arc essential in many places, especially during the carly winter, in order to suppress or even reduce appreciably the number of these parasites. Unfortunately, the greatly reduced price of cattle during the last few years has militated greatly against any serious attempt to eradicate the tick, or even to keep it within appreciable limits. The marked improvement of cattle which have been subjected for a considerable period to heavy tick-infestation and then cleansed and moved to fresh clean country, has to be seen to be really appreciated.

Piroplasmosis of cattle has occurred in a few cases, but the disease is sporadic as a rule. It oceasionally occurs as a result of the transfer of cattle from clean to tick-infested country. Since the early investigations of Tidswill and Hunt, little has been done in the way of research so far as this disease is concerned, and there is much to be investigated yet. It is becoming evident that many ticks do not carry the piroplasm, and this is probably due to the rarity of the organism in the blood of recovered cattle.
The number of stock dipped at Government dips or under Government supervision wasHorses, 1,167; cattle; 108,713.

Stud stock introduced into North Queensland was represented by-Horses, 6; cattle (males and females), 286 ; sheep, 787.

The number of fat cattle sent to meatworks was 49,300 .
Prosecutions.-There have been eight prosecutions under the Stock Act with eight convictions.

Slaughtering Act.-Another officer has been added during the year to the slaughtering staff of North Queensland, and this officer has been appointed to Mareeba. This means that the area known as the Atherton Tableland will now be under the supervision that it has needed for so long.

Visits are continually being paid to the outside areas, and these are gradually being brought into line with other parts.

The total number of cattle slaughtered for local consumption during the year was as follows :-

$$
\begin{array}{rrr}
\text { Cattle. } & \text { Sheep. } & \text { Swine. } \\
48,558 & 43,093 & 8,707
\end{array}
$$

the average weights being-Cattle, 630 lb .; sheep, 41 lb .; swine, 80 lb .

The total number of condemnations is shown as follows:-Cattle, 103 ; sheep, 35 ; swine, 90. In addition there were 920 partial condemnations.

During the year six new slaughter-yards have been erected, none renovated; two new butcher shops erected, and three renovated.

The total number of slaughtering liconses held at 30th June, 1927, was 195.

Quarantine Act.-One dog has been admitted at the port of Townsville from London.

For the year the number of samples submitted
to the chemist for analysis was as detailed below :-


Eight pints of standard iodine were despatched during the year.
Cause of death was determined by analysis in two cases out of four samples submitted.

JOHN LEGG, B.Sc., B.V.Sc., M.R.C.V.S., Government Veterinary Surgeon.

## APPENDIX C.

## REPORT OF THE INSTRUCTOR IN SHEEP AND WOOL.

Since the last Annual Report on sheep and wool was issued, very little relief has been granted to the drought-stricken areas of the State. It is true that parts of the Northern district received beneficial rains, but this was counteracted by extension of dry conditions in other parts of the State which had not suffered in so great a degree. The recently published figures for sheep show that at the end of 1925 there were returned $20,663,323$ sheep in the State. At the end of 1926 the returns show $16,860,772$ sheep, a difference of $3,802,551$, which shows only a part of the loss. There has been practically no lambing for two years, consequently the young females which should be breeding this year are non est, and the older ewes at the end of 1925 are two years older-a very serious period in the life of sheep. Six years is about the average breeding life of ewes. As pointed out above, there has been no amelioration in conditions, and there is still the constant drain of nearly 700,000 sheep per annum slaughtered for food.

## Diseases in Sheep.

There have been very serious losses in sheep in the Southern districts owing to the presence of stomach worms (Strongylus contortus), owing to the shifting of sheep for agistment purposes from the sounder districts to the worm-infested parts of the State, it is certain that parasitic
disease will be more widespread than ever. This can and should be controlled. I have shown that if taken in time internal parasites can at least be controlled, vide "Farmers' Sheep in Queensland" Bulletin.

## Farmers' Wool Scheme.

This scheme is still operating successfully and the number of clients and quantity of wool has increased at least 20 per centum, showing that the smaller sheep farmers are realising the benefits of what, after all, is co-operation.

An Assistant Instructor in Wool has been appointed in the place of the former assistant, and is an acquisition to the Sheep and Wool Branch.

Your officer has given many lectures in sheep and wool in various parts of the State, and many lecturettes have been given by me and Mr. Carew over the radio. I have reason to know that they have been appreciated by sheep farmers.

A good many holdings have been. inspected during the year and advice given. Many persons have called at the office to inquire on sheep matters, and very many letters have been written answering questions asked therein.
W. G. BROWN,

Instructor in Sheep and Wool.

## APPENDIX D.

## REPORT OF THE DEPUTY REGISTRAR OF BRANDS.

|  |  | Fees Received. |  |
| :---: | :---: | :---: | :---: |
| Three-piece brands registered | 607 | $\begin{array}{ccc} £ & 8 . & d . \\ 302 & 10 & 0 \end{array}$ | 79,080 |
| Cancelled brands registered | 22 | 3300 | 6,447 |
| Transfers ... . | 1,172 | 29300 | 37,346 |
| Brands cancelled <br> Marks cancelled | 11 |  |  |
| Alteration of address | 234 |  |  |
| Symbols registered | 32 | 160 0 | 1,338 |
| Cattle marks registered.. | 411 | $20510 \quad 0$ | 23,540 |
| Distinctive brands registered | 29 |  | 854 |
| Sheep brands and marks registered | 380 | $12810 \quad 0$ | 9,630 |
| Sheep brands and marks transferred | 251 | 3176 | 4,053 |
| Total | . | £1,153 176 |  |

The figures relating to the registrations, transfers, \&c., show a decrease, with the exception of those in connection with sheep brands and earmarks, which are slightly larger than last year. Until the effects of the present drought have passed, it is not to be expected that the registration of new brands and earmarks will increase, and in view of the state of the cattle industry, a further increase may be expected in the number of new brands and earmarks for sheep, together with a corresponding increase in transfers.

During the year a number of horse and cattle brands, which were cancelled in 1921, became available for reallotment, and inquiry has been received for these old brands, which are preferred by many applicants to the brands contained in the new series.

## H. S. ILIFF,

Deputy Registrar of Brands.

## REPORT OF THE REGISTRAR OF CO-OPERATIVE ASSOCIATIONS.

## "The Primary Producers' Co-operative Associations Acts, 1923 to 1926."

In accordance with Rule 52 of Part II. of the Schedule to the abovenamed Acts, I have the honour to submit, for transmission to the Governor in Council, my report for the year ended 30th June, 1927.

Since my last report, fourteen additional associations have been registered, making a total of 112 associations registered under the Acts.
The fourteen associations registered for the year under review are comprised as follows :-
Dairy, Butter, and Cheese Associations, having a
capital divided into shares and with limited liability

Sugar Associations-
Having a capital divided into shares and with limited liability
Without any share capital and with liabilit $\dot{y}$ limited to the assets of the Association ..
Fruitgrowers' Association-
Having a capital divided into shares and with limited liability
Without any share capital and with liability limited to the assets of the association ..
Stock and Produce Association, having a capital divided into shares and with limited liability

The total registrations under the Acts to 30 th June, 1927, are as enumerated below :-
Dairy, Butter, and Cheese Associations, having a capital divided into shares and with limited liability ..
Bacon Association, having a capital divided into shares and with limited liability

Producers' Associations, having a capital divided into shares and with limited liability

2
Packing Associations, having a capital divided into shares and with limited liability

2
Canning, Jam, and Preserving Association, having a capital divided into shares and with limited liability .
Publication Association, having a capital divided into shares and with limited liability
Stock and Produce Association, having a capital divided into shares and with limited liability
Sugar Associations-
Having a capital divided into shares and with limited liability
Without any share capital and with liability limited to the assets of the Association ..
Fruitgrowers' Associations-
Having a capital divided into shares and with limited liability
Without any share capital and with liability limited to the assets of the Association ..
Fat Pigs Selling Association, without any share capital and with liability limited to the assets of the Association

1
Dairy, Butter, and Cheese Association, without any share capital and with liability limited to the assets of the Association

1
Associations without any share capital and with unlimited liability

Fourteen exemptions (including co-operative dipping companies) have been granted, and sixty-seven auditors haye been licensed under the Acts.

JAMES P. ORR, Registrar.

## REPORT OF THE REGISTRAR-GENERAL ON AGRICULTURAL PRODUCTION FOR THE YEAR 1926.

## INDEX.



INDEX.


## REPORT OF THE REGISTRAR-GENERAL ON AGRICULTURAL PRODUCTION FOR THE YEAR 1926.

## DAIRYING.

Table No. I.
Return Showing the Progress of the Datrying Industry sinoe the Year 1909.


| District. |  | Total Milk Obtained. |  | how utiliskd. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | For Butter on Farms. |  | For Cheese on Farms. | For Domestic Purposes by Producer | Separated for sale. |  | $\begin{aligned} & \text { Sold for } \\ & \text { Consumption } \\ & \text { as Milk. } \end{aligned}$ |  | Sold to Condensed Milk <br> Factories |  | Sold to Cheese Factories. |
| Moreton |  | Gallons.$63,737,814$$31,912,541$$4,965,626$$8,290,185$$1.537,326$$27,051,224$$1,417,419$ |  | $\begin{aligned} & \text { Cullons } \\ & 1,97929 \\ & 1,533,364 \\ & 411,114 \\ & 230,108 \\ & 113,215 \\ & 1,19.824 \\ & 344,044 \end{aligned}$ |  | ${ }_{\text {Gallons }} \mathbf{1 5 , 1 9 9}$ | $\begin{array}{r} \text { Gallons. } \\ 2,003,889 \\ 1,361,755 \\ 308,261 \\ 317989 \\ 109,176 \\ 1,233,917 \\ 511,207 \end{array}$ |  |  | $\begin{aligned} & \text { Gallons. } \\ & 4,41,147 \\ & 394,707 \\ & 372,555 \\ & 185,369 \\ & 24,720 \\ & 564,31 \\ & 389,928 \end{aligned}$ |  | $\begin{aligned} & \text { Gallons. } \\ & 995,579 \\ & \ldots \\ & \ldots \\ & \ldots \\ & \ldots \\ & \hline 67,176 \end{aligned}$ |  | Gallons. 323,010475,762 2,000298913 6,353 8,188,335 |
| Wide Bay |  |  |  | 2,50 |  |  |  |  |  |  |  |  |
| Port Curtis |  |  |  | ... |  |  |  |  |  |  |  |  |
| Rockingham ... | ... ... |  |  | $\ldots$ |  |  |  |  |  |  |  |  |
| Maranoa Downs | ... ... |  |  | $\cdots{ }_{64}$ |  |  |  |  |  |  |  |  |
| Other Districts ${ }^{\text {a }}$ | ... ... |  |  | ... |  |  |  |  |  |  |  |  |
| Total, 1926 Total, 1925 |  | $\begin{aligned} & \begin{array}{l} a 132,144,165 \\ b 16 \overline{2}, 656,338 \end{array} \end{aligned}$ |  |  |  | $\begin{aligned} & 5,726,647 \\ & 5,755,443 \end{aligned}$ |  | $\begin{aligned} & 17,763 \\ & 16,370 \end{aligned}$ | $\begin{aligned} & 5,846,084 \\ & 5,998,220 \end{aligned}$ | $\begin{aligned} & 103,314,026 \\ & 131,915,172 \end{aligned}$ |  | $\begin{aligned} & 6,352,517 \\ & 6,048,409 \end{aligned}$ |  |  | $\begin{aligned} & 1,662,755 \\ & 2,437,100 \end{aligned}$ | $9,224,373$ $-13,482,674$ |
| Increase, 1926 Deerease, 1926 |  | 33,512,223 |  |  |  | 31,796 |  | 1,393 | 152,136 | 28,601,146 |  | 301,108$\ldots$ |  | 774,345 |  | 4,258,391 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Distriet. | stablishments. |  |  |  | datry cattie. |  | butter made. |  |  |  | cherse made. |  |  |  |  |
|  | Dairying. | $\begin{aligned} & \text { Butter } \\ & \text { Factories. } \end{aligned}$ | $\begin{aligned} & \text { Cheese } \\ & \text { Factories. } \end{aligned}$ |  | In Milk. | Dry. | $\begin{aligned} & \text { At } \\ & \text { Factories. } \end{aligned}$ | $\stackrel{\text { By }}{\text { Farmers. }}$ | Total. |  | At |  | $\begin{aligned} & \text { By } \\ & \text { Farmers } \end{aligned}$ | Total. |  |
| Moreton | $\xrightarrow{\text { No. }}$ 7,776 | No. 16 |  |  | ${ }_{156,160}^{\text {No }}$ | ${ }_{\substack{\text { No. } \\ 46,575}}^{\text {c, }}$ | $\begin{gathered} \mathrm{Lb} . \\ 17,887,048 \end{gathered}$ | ${ }_{812,678}^{\text {Lb. }}$ |  |  | Lb. 265,968 509,078 |  | Lib. | $\begin{gathered} \text { Lb, } \\ 280,168 \\ 511,578 \end{gathered}$ |  |
| Wide Bay Port Curtis | 5,440 | 12 |  |  |  |  | 121,773 19,227 | 54,078 13,116 | 15.679 .145 $2.736,342$ | 681,434 151,337 |  |  | ${ }^{18,699726} 18.363,579$ |  | 2,500 |  |
| Port Curtis Rockingham | 1,071 | 4 |  |  |  | 3 | 19,884 | - ${ }_{\text {c,072 }}$ | ${ }_{2,779,880}$ | (10, |  | , 7,95 | 261,435 |  | $\cdots$ | 2601,435$7,684,174$ |
| Maranoa -.. | $3+3$ | 12 |  |  | 4,770 | 2,938 | 540,585 | 41,083 |  | 1,668 |  |  | . |  |  |
| Downs $\begin{aligned} & \text { Dothet... } \\ & \text { Other Districts... }\end{aligned}$ | 4,974 1,598 | 12 |  |  | 7,343 7,449 | 28,983 6,151 | $9,244,839$ 76,360 | 499.196 112,884 |  | li,035 |  |  |  | 7,684,174 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total, 1925 ... | 22,681 | 51 |  |  | 463,436 | 147,990 | 68,239,338 | 2,509,308 |  | 8,646 | 13,96 |  | 15,370 | 13,980,538 |  |
| Increase, 1926 Decrease, 1926 | 130 | 1 |  | 3 | 65,830 | $\overline{9,923}$ | 19,595, 339 | 161,622 | 19,756,661 |  | 5,211,577 |  | 1,394 | 5,240,183 |  |

a $2,241,564$ gallons of this were sent from the Moreton Division to New South Wales
i, 2,668,524 gallons of this were sent from the Moreton Division to New South Wales.

* Exclusive of 55,708 heifers intended for milking.


## Table No. III.

BUTTER, CHEESE, AND CONDENSED MILK.
Return Showing Quantity Exported Oversea for Five Years (Australian Produce Only).

| Year. | Butter. |  |  | Chress. |  |  | Condensed Miuk. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity Exported Oversea. | Value. | $\begin{aligned} & \text { Value } \end{aligned}$ $\text { per } 1 \mathrm{~b} \text {. }$ | Quantity Exported Oversea. | Value. | Value per lb | Quantity Oversea. | Value. | $\begin{aligned} & \text { Value } \\ & \text { per lb. } \end{aligned}$ |
| $\begin{aligned} & 1921-22 \\ & 192-23 \\ & 1923-24 \\ & 1924-25 \\ & 1925-26 \end{aligned}$ | $\begin{array}{r} \text { lbs. } \\ 40,723,861 \\ 21,060,593 \\ 16,657,683 \\ 44,127,410 \\ 36,605,395 \end{array}$ | $\begin{gathered} £ \\ 2,382,125 \\ 1,58,123 \\ 1,131,481 \\ 2,808,598 \\ 2,404,626 \end{gathered}$ | $\begin{array}{ll} \text { s. } & d . \\ 1 & 2 \\ 1 & 6 \\ 1 & 6 \\ 1 & 4 . \\ 1 & 30 \\ 1 & 31 \end{array}$ | $\begin{array}{r} \text { lbs. } \\ 10,782,950 \\ 4,387,992 \\ 2,735,376 \\ 7,803,009 \\ 6,463,120 \end{array}$ | $\begin{gathered} £ \\ 370,878 \\ 187,045 \\ 96,595 \\ 273,494 \\ 250,683 \end{gathered}$ |  | $\begin{gathered} \text { lbs. } \\ 7,926,297 \\ 2,161,099 \\ 267,364 \\ 1,096,802 \\ 507,833 \end{gathered}$ |  | $\begin{array}{ll} \begin{array}{l} \text { s. } \\ \text { d. } \\ 1 \end{array} \\ 1 & 0 . \\ 1 & 0 y \\ 1 & 0 \\ 0 & 11 \\ 0 & 11 \end{array}$ |

Table No. IV.
CONDENSED MILK MANUFACTURED-RETURN FOR FIVE YEARS

| 1922 | ... | ... | ... |  | $\ldots$ | ... | ... |  | 14 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1923 | ... | ... | $\ldots$ | ... | $\ldots$ | $\ldots$ | . | $\ldots$ | 8,131,648 |
| 1924 | ... | ... | ... | ... | $\ldots$ | ... | ... |  | 11,549,064 |
| 1925 |  | ... | ... | ... | $\ldots$ | ... | ... |  | 9,744,973 |
| 1926 | ... | ... | .. |  |  |  |  |  | 6,533,966 |

## POULTRY.

Table No. V.
Return Showing the Numbers of Pouttry on Farms and Eqas Produced in the Principal Districts of the State for the Year 1926.


## APIARIES.

Table No. VI.
Return Showing the Partioulars of the Bee Industry for the Year 1926.

| Petty Sessions District. | Number of Hives. |  | Honey. | $\begin{gathered} \text { Average } \\ \text { per } \\ \text { Produc- } \\ \text { tive } \\ \text { Hive. } \end{gathered}$ | Wax. | Petty Sessions District. | Number of Hives. |  | Honey. | $\begin{gathered} \text { Average } \\ \text { per } \\ \text { Productive } \\ \text { Hive. } \end{gathered}$ | Wax. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Productive. | Non- Productive. |  |  |  |  | Productive. | $\begin{aligned} & \text { Non- } \\ & \text { Produc- } \\ & \text { tive. } \end{aligned}$ |  |  |  |
| Atherton | 58 | 22 | $\begin{aligned} & \text { Lb. } \\ & 7,170 \end{aligned}$ | $\stackrel{\mathrm{Lb} .}{123 \cdot 62}$ | $\begin{aligned} & \text { Lb. } \\ & 165 \end{aligned}$ | Redcliffe | 119 | 95 | $\begin{aligned} & \mathrm{Lb} . \mathrm{Lb} \\ & 9,390 \end{aligned}$ | $\begin{gathered} \mathrm{Lb} . \\ 78^{\prime} \cdot 91 \end{gathered}$ | $\begin{gathered} \text { Lb. } \\ 132 \end{gathered}$ |
| Brisbane (A) | 158 | 189 | 9,810 | 62.09 | 138 | Rockhampton | 1,107 | 197 | 42,152 | 38.08 | 597 |
| Caboolture | 1,176 | 225 | 18,352 | 15.61 | 1,090 | Southport | 640 | 57 | 24,000 | $37 \cdot 50$ | 230 |
| Chinchilla ... | 172 | 310 | 11,547 | $67 \cdot 13$ | 223 | Stanthorpe | 232 | 26 | 18,260 | 78.71 | 40 |
| Conk | 84 | 70 | 6,044 | 71.95 | 384 | Warwick | $9+9$ | 228 | 52,710 | 55.54 | 820 |
| Dalby | 371 | 217 | 15,420 | $41 \% 6$ | 230 | Woodford | 181 | 27 | 7,016 | $38 \cdot 76$ | 200 |
| Gatton | 162 | 190 | 7,168 | 44.25 | 12 | All other Districts | 2,191 | 2,204 | 79,136 | $36 \cdot 12$ | 1,938 |
| Gympie | 990 | 120 | 31,510 | 31.83 | 450 |  |  |  |  |  |  |
| Herberton... | 156 | 10 | 7,030 | 45.06 | 150 | Totals, 1926 | 1263 | 4,789 | 461,009 | $40 \cdot 93$ | 8,785 |
| Kiiliarney ... | 708 | 153 | 52,846 | 7493 | 650 | Totals, 1925 | 14,526 | 4,190 | 801,587 | 54.81 | 11,888 |
| Logan | 657 | 178 | 16,104 | 24.51 | 423 |  |  |  |  |  |  |
| Maroochy | 389 | 119 | 27,430 | 70.51 | 160 | Increase, 1926 | ... | 599 |  |  |  |
| Maryborough | 763 | 152 | 17,920 | 23.49 | 753 | Decrease, 1926 | 3,363 | ... | 340,578 | $13 \cdot 88$ | 3,103 |

Note.-Total value honey and wax-1925, £14,996; 1926, £8,430.

Table No. VII.
Return Showing Progress of Holdings and Area Cultivated.-Return for 10 Years.

| Year. | Number of Holdings Returned. | Increase per ceit. on Previous Year. | Increase per cent. on Figures of 1904. | Area under Cultivation. | Increase per cent, on Previous Year. | Increase per cent. on Figures for 1904. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1904 ... | 17,854 |  |  | 577,896 | $\ldots$ | ... |
| 1917 ... | 25,872 | $0 \cdot 62$ | 44.91 | 998,036 | $-7 \cdot 36$ | 72.70 |
| 1918 ... | 26,041 | $0 \cdot 65$ | $45 \cdot 86$ | 982,066 | $-1.60$ | 69.94 |
| 1919 ... | 26,713 | 2:58 | $49 \cdot 62$ | 988,541 | 0.66 | $71 \cdot 6$ |
| 1920 ... | 26,921 | 0.78 | $50 \cdot 78$ | 1,018,444 | $3 \cdot 02$ | $76 \cdot 23$ |
| 1921 ... | 28,122 | $4 \cdot 46$ | 57.51 | 1,045,342 | $2 \cdot 64$ | $80 \cdot 89$ |
| 1922 ... | 29,390 | 451 | 64.61 | 1,090,816 | 4:35 | 88.76 |
| 1923 ... | 31,464 | $7 \cdot 06$ | $76 \cdot 23$ | 1,198,166 | $9 \cdot 84$ | $107 \cdot 33$ |
| 1924 ... | 32,359 | $2 \cdot 84$ | $81 \cdot 24$ | 1,275,039 | $6 \cdot 42$ | $120 \cdot 63$ |
| 1925 ... | 33,533 | $3 \cdot 63$ | 87.82 | 1,241,118 | $-2 \cdot 66$ | 114.76 |
| 1926 ... | 32,051 | $-4.42$ | 79.52 | 1,288,518 | $3 \cdot 82$ | $122 \cdot 97$ |

Table No. VIII.
Return Showing Labour Employed, Including Owners or Occupiers Working on Holdings,

| petty sessions district. |  |  | labour. |  |  |  | value of machinery and implements. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Farming. |  | Dairying. |  | Farming. | Dairying. | Irrigation. | $\begin{aligned} & \text { Travelling } \\ & \text { Machinery } \end{aligned}$ | Total. |
|  |  |  | Males. | Females. | Males. | Females. | £ | £ | £ | ${ }^{2}$ | £ |
| Allora ... | ... | $\ldots$ | ${ }_{6} 396$ | $\begin{aligned} & 11 \\ & 16 \end{aligned}$ | 187 | 189 | 114,741 | 7,491 | 130 | 390 | 122,752 |
| Ayr |  |  | 1,614 | 6 | \% | 12 | 169,235 | , 394 | 318 | 84,850 | 75,074 |
| Beaudesert |  | ... | 552 | 3 | 567 | 416 | 45,005 | 31,607 | 1,725 | 1,290 | 79,627 |
| Biggenden |  |  | 321 | 14 | 490 | 283 | 15,757 | 29,482 | 330 | 590 | 46,159 |
| Bowen |  |  | 321 | f |  | 10 | 16,334 | 590 | 22,101 | 745 | 39,770 |
| Brisbane (A) |  | $\ldots$ | 1,010 | 50 | 523 | 200 | 27,210 | 7,992 | 6,368 | 10,500 | 52,070 |
| Bundaberg |  |  | 1,898 | 23 | 310 | 360 | 133,923 | 13,714 | 12,000 | 24,483 | 184,120 |
| Cairns |  |  | 1,605 | 3 | 36 | 19 | 167,913 | 632 |  | 20,501 | 189,046 |
| Childers... |  |  | 570 | 2 | 16 |  | 58,177 | 2,335 | 360 | 12,925 | 73,797 |
| Clifton ... |  |  | 728 | 4 | 144 | 260 | 197,245 | 10,219 | 50 | 5,448 | 212,962 |
| Crow's Nest |  |  | 385 |  | 168 | 341 | 23,916 | 21,214 | ... |  | 45,130 |
| Dalby ... |  |  | 736 | 136 | 868 | 368 | 41, 806 | 37,435 |  | 3,455 | 82,696 |
| Douglas... |  |  | 320 | 1 | 21 | 11 | 35,010 | 1,260 |  |  | 36,270 |
| Dugandan |  |  | 908 | 4 | 503 | 448 | 69,060 | 14,832 | 1,890 | 5,379 | 91,161 |
| Esk Gatton |  |  | 542 | 87 | 529 | 305 | 42,224 | 17,741 | 827 | , 507 | 61,299 |
| Gatton ${ }_{\text {Gayndah }}$ |  |  | 944 | 18 | 666 | 487 | 64,860 | 15,394 | 5,289 | 1,000 | 86,543 |
| Gayndah Gin Gin |  |  | 439 | 6 | 454 | 469 | 33,745 | 36,049 | 575 | 865 | 71,234 |
| Gin Gin Gladstone |  |  | 452 | 1 | 23 | 55 | 32,786 | 3,478 |  | 4,669 | 40,933 |
| Gladstone |  |  | 871 | 17 | 446 | 363 | 32,846 | 22,502 | 1,145 | 1,233 | 57,726 |
| Goombungee |  |  | 198 |  | 61 | 176 | 20,240 | 8,552 | 200 | 2,029 | 31,021 |
| Gympie |  | ... | 1,285 | 10 | 1,450 | 916 | 28,622 | 74,811 | 200 |  | 103,633 |
| Harrisville |  |  | 619 | 2:6 | 577 | 355 | 47,813 | 11,210 | 1,060 | 92 | 60,175 |
| $\stackrel{\text { Ingham }}{\text { Innisfail }}$. ${ }^{\text {a }}$ | ... | $\ldots$ | 1,178 | 45 2 | 3 | 6 | 153,392 183,038 | 170 | ... | 24,472 | 178,034 |
| Killarney |  | $\ldots$ | 1339 | ${ }_{3}^{2}$ | 127 | 80 | 183,038 70,964 | 9,753 | 575 | 4,00 | 183,334 |
| Laidley |  | $\ldots$ | 603 | 68 | 323 | 335 | 51,327 | 7,917 | 70 |  | 85,492 59,314 |
| Logan ... |  | ... | 679 | 81 | 523 | 427 | 27,737 | 10,263 | 470 | 1,060 | 39,530 |
| Lowood ... |  | ... | 499 | 127 | 402 | 403 | 37,168 | 8,453 | 389 | 1, 50 | 46,060 |
| Mackay ... |  | ... | 2,824 | 11 | 27 | 8 | 307,449 | 4,807 | ... | 3,654 | 315,910 |
| Maroochy |  |  | 1,644 | 199 | 737 | 438 | 46,806 | 30,151 | ... | 3,452 | 80,409 |
| Maryborough . |  | $\ldots$ | 700 | 15 | 261 | 169 | 36,882 | 6,432 | 363 | 2,475 | 46,152 |
| ${ }_{\text {Nanango }}^{\text {Nerang }}$ |  |  | 1,094 | 4 | 989 | 467 | 110,243 | 67,680 | 535 | 853 | 179,311 |
| Nerang Oakey |  | ... | 261 | 7 | 596 | 319 | 8,(02 | 24,107 | 630 | 440 | 33,779 |
| Oakey Pittsworth |  | $\ldots$ | 776 | 4 | 669 | 594 | 91,331 | 38,097 |  | 2,365 | 131,793 |
| Pittsworth Proserpine |  | $\ldots$ | 721 | 4 | 618 | 157 | 144,966 | 26,647 | ... | 4,675 | 176,288 |
| Proserpine Redeliffe |  | ... | 549 | 1 | 8 | 13 | 69,238 | 375 |  |  | 69,613 |
| Redcliffe Rockhampton ... |  | ... | 410 | 5 | 379 | 257 | 17,105 | 13,193 | 1,080 | 295 | 31,673 |
| Rockhampton ... Roma |  | ... | 943 | 72 | 385 | 289 | 45,092 | 21,173 | 15,418 | 7,839 | 92,522 |
| Roma ${ }_{\text {Rosewoud }}$. |  | ... | 428 | 5 | 313 | 195 | 50,185 | 8,836 | ... | 300 | 59,321 |
| Stanthorpe |  |  | 744 | 14 | +27 | 292 | - 33,085 | 8,606 222 | 330 | 270 | 34,918 33,907 |
| Tiaro ... |  |  | 380 |  | 323 | 219 | 24,261 | 15,310 |  |  | 39,571 |
| Toowoomba |  |  | 556 | 67 | 380 | 192 | 43,980 | 10,301 | 6,068 | 8,725 | 69,077 |
| Warwick |  | ... | 1,026 | 7 | 393 | 250 | 147,736 | 10,735 | 700 | 7,180 | 166,351 |
| Wienholt |  | ... | 1,360 |  | 1,440 | 690 | 118,766 | 68,976 | 182 | 1,560 | 189,484 |
| All other Districts. | ... | $\ldots$ | 4,891 | 172 | 3,046 | 2,285 | 242, 565 | 114,205 | 40,636 | 16,453 | 414,159 |
| Total, 1926 |  |  | 42,027 | 1,590 | 21,172 | 14,849 | 3,551,061 | 907,283 | 504,990 | 272,929 | 5,236,263 |
| Total, 1925 |  |  | 42,574 | 1,301 | 21,583 | 15,016 | 3,414,005 | 897,234 | 494,200 | 179,502 | 4,984,941 |
| Increase, 192 Decrease, 19 |  | $\ldots$ | 517 | $289$ | 411 | 167 | 137,056 $\ldots$ | 10,049 | 10,790 | 93,427 $\ldots$ | 251,322 |

Table No. IX.
Return Showing Land Treated for Cultivation, Etc., for the Year 1926.


* See Table No. XI, for details of areas and owners.

Table No. X.
Return Showing the Value of Agricultural Crops for the Year 1926


Table No. XI.
Return Showing Area under Culitivation and Sizes of Farms for the Year 1926.

| Petty Sessions District. | Under 5 Acres. |  | 5 and under 20 acres. |  | 20 and under 50 Acres. |  | 50 Acres and Over. |  | Totals. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Owners. | Acres. | Owners. | Acres. | Owners. | Acres. | Owners. | Acres. | Owzers. | Acres. |
| Allora |  |  | 1 | 20 | 9 | 345 | 302 | 50,153 | 312 | 50,518 |
| Atherton | 96 | 199 | 160 | 1,622 | 115 | 3,665 | 169 | 13,748 | 540 | 19,234 |
| Ayr | 6 | 10 | 37 | 460 | 129 | 4,549 | 401 | 35, 837 | 573 | 40,856 |
| Beaudesert | 21 | 71 | 193 | 2,356 | 183 | 5,449 | 43 | 3,076 | 440 | 10,952 |
| Biggenden | 51 | 143 | 123 | 1,306 | 67 | 1,917 | 6 | 450 | 247 | 3,856 |
| Bowen | 27 | 75 | 125 | 1,481 | 52 | 1,566 | ${ }_{6}$ | 445 | 210 | 3,567 |
| Brisbane (A) | 188 | 491 | 444 | 4,493 | 60 | 1,638 |  | 62 | 693 | 6,684 |
| Bundaberg | 104 | 288 | 338 | 3,858 | 363 | 11,124 | 101 | 14,422 | 906 | 29,692 |
| Cairns | 37 | 73 | 116 | 1,373 | 215 | 7,059 | 288 | 28,552 | 656 | 37,057 |
| Cardwell | 8 | 17 | 38 | 470 | 184 | 6,185 | 19 | 1,158 | 249 | 7,830 |
| Childers | 30 | 85 | 60 | 723 | 75 | $\stackrel{2}{2} 532$ | 132 | 14,192 | 297 | 17,532 |
| Chinchilla | 7 | 22 | 28 | 333 | 53 | 1,814 | 49 | 4,226 | 137 | 6,395 |
| Clifton |  |  | 7 | 55 | 11 | 393 | 476 | 92,370 | 494 | 92,818 |
| Condamine | 10 | 23 | 46 | ¢32 | 59 | 1,803 | 52 | 5,655 | 167 | 8,013 |
| Crow's Nest | 7 | 22 | 93 | 1,161 | 161 | ¢,262 | 92 | 6,612 | 353 | 13,057 |
| Dalby | 12 | 38 | 101 | 1,099 | 144 | 4,286 | 162 | 17,129 | 419 | 22,552 |
| Douglas | 8 | 19 | 37 | 435 | 63 | 1,944 | 54 | 4,823 | 162 | 7,221 |
| Dugandan | 10 | 31 | 98 | 1,323 | 361 | 12,218 | 149 | 10,785 | 618 | 24,357 |
| Eidsvol 1 | 12 | 34 | 61 | 768 | 57 | 1,734 | 18 | 1,141 | 148 | 3,677 |
| Esk | 17 | 43 | 96 | 1,169 | 150 | 4,831 | 96 | 8,522 | 359 | 14,565 |
| Gatton | 7 | 24 | 66 | 850 | 269 | 9,357 | 255 | 20,185 | 597 | 30,416 |
| Gayndah | 63 | 166 | 219 | 2,529 | 151 | 4,475 | 40 | 2,850 | 473 | 10,020 |
| Gin Gin | 34 | 85 | 93 | 1,050 | 129 | 4,168 | 47 | 3,282 | 303 | 8,585 |
| Gladstone | 98 | 296 | 280 | 2,934 | 169 | 5,012 | 39 | 3,304 | 586 | 11,546 |
| Goombungee | G | 18 | 3 | 29 | 37 | 1,369 | 107 | 11,836 | 147 | 13,234 |
| Goondiwindi | ${ }_{6}^{6}$ | 18 | 13 | 149 | 22 | 649 | 42 | 5,515 | 83 | 6,331 |
| Gympie | 300 | 793 | 624 | 6,332 | 144 | 3,965 | 11 | ${ }_{6}^{690}$ | 1,054 | 11,780 |
| Harrisville | 10 | 29 | 72 | 94 | 166 | 5,785 | 127 | 9,361 | 375 | 16,120 |
| Helidon | 5 | 18 | 47 | 575 | 103 | 3,352 | 78 | 5,458 | 233 | 9,403 |
| Highfields | 9 | 4 | 36 | 434 | 90 | 2,998 | 121 | 10,453 | 250 | 13,889 |
| Ingham | 19 | 65 | 101 | 1,136 | 153 | 5,232 | 265 | 23,348 | 538 | 29,781 |
| Inglewood | 7 | 19 | 22 | 249 | 28 | 863 | 48 | 5,732 | 105 | 6,863 |
| Innisfail | 18 | 40 | 62 | 759 | 273 | 9,004 | 290 | 23,092 | 643 | 32,895 |
| Ipswich | 4 | 13 | 76 | 895 | 63 | 1,890 | 14 | 829 | 157 | 3,627 |
| Jondaryan |  |  | 5 | 70 | 9 | 288 | 28 | 3,599 | 42 | 3,957 |
| Killarney | 4 | 10 | 11 | 118 | 24 | 801 | 191 | 29,597 | 230 | 30,526 |
| Laidley | 4 | 13 | 72 | 958 | 197 | 6,653 | 163 | 13,750 | 436 | 21,374 |
| Logan | 62 | 171 | 323 | 3,824 | 82 | 2,091 |  |  | 467 | 6,086 |
| Lowood | 10 | 110 | 42 | \% 5031 | 173 | 5,807 | 105 | 7,106 | ${ }_{1} 311$ | 13,489 |
| Mackay | ${ }^{47}$ | 110 17 | 262 22 | 3,031 300 | 120 | 17,745 | 684 33 | 61,761 2,220 | 1,511 | 82,647 6,404 |
| Maroochy | 324 | 841 | 774 | 7,972 | 163 | 4,527 | 22 | 1,349 | 1,283 | 14,689 |
| Maryborough | 85 | 225 | 296 | 3,359 | 150 | 4,303 | 17 | 1,361i | 548 | 9,253 |
| Mitchell | 1 | 2 | 4 | 45 | 17 | 539 | 19 | 2,576 | 41 | 3,162 |
| Mount Morgan | 36 | 89 | 100 | 1,182 | 139 | 4,344 | 73 | 5,917 | 348 | 11,532 |
| Nanango | 28 | 88 | 154 | 1,789 | 320 | 10,998 | 371 | 32,410 | 873 | 45,285 |
| Nerang | 82 | 219 | 149 | 1,520 | 23 | 653 | 5 | 959 | 259 | 3,351 |
| Oakey | 3 | 8 | 52 | 656 | 143 | 4,652 | 408 | 54,678 | 606 | 59,994 |
| Pittsworth | 2 | 6 | 14 | 200 | 59 | 2,142 | 504 | 79,896 | 579 | 82,244 |
| Proserpine | 17 | 54 | 111 | 1,393 | 137 | 4,416 | 69 | 5,355 | 334 | 11,218 |
| Redcliffe | 43 | 109 | 199 | 2,219 | 47 | 1,400 | 1 | 76 | 290 | 3,804 |
| Rockhampton | 239 | 557 | 350 | 3,584 | 147 | 4,372 | 53 | 5,695 30,030 | 779 | 14,208 |
| Roma | 13 | 30 | 51 | 622 | 60 | 2,026 | 217 | 30,030 | 341 | 32,708 |
| Rosewood | 25 | ${ }_{83}^{10}$ | - 451 | 5,532 | 176 | 5,606 4,345 | 12 | 3,834 | 652 | 10,694 |
| Tiaro | 77 | 200 | 181 | 2,054 | 104 | 3,098 | 18 | 1,280 | 380. | 6,632 |
| Toowoomba | 46 | 151 | 136 | 1,394 | 72 | 2,317 | 167 | 27,532 | 421 | 31,414 |
| Warwick | 14 | 39 | 105 | 1,099 | 120 | 3,901 | 473 | 67,170 | 712 | 72,209 |
| Wienholt | 28 |  | 164 | 2,040 | 344 | 11,423 | 422 | 35,496 | 958 | 49,038 |
| All other Districts | 522 | 1,283 | 861 | 8,621 | 313 | 9,233 | 98 | 8,351 | 1,794 | 27,488 |
| Total, 1926 |  |  |  | 98,802 | 8,129 | 260,010 | 8,311 | 922,031 |  | 1,288,518 |
| Total, 1925 | 3,829 | 9,389 | 9,613 | 106,060 | 8,346 | 264,724 | 7,919 | 860,945 | 29,707 | 1,241,118 |
| Increase, 1926 Decrease, 1926 | 890 | 1,714 | 744 | 7,258 | 217 | 4,714 | 392 | 61,086 | 1,459 | 47,400 |

See Table No. IX.

Table No. XII.
Irrigation.-Return for 10 Years.

| Year, |  |  |  |  |  | Acres Irrigated. | Year. |  |  |  |  |  | Acres Irrigated. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 | ... | ... | $\ldots$ | .. | $\ldots$ | 4,467 | 1922 | ... | $\ldots$ | $\ldots$ | $\ldots$ | ... | 14.314 |
| 1918 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | ... | 6,947 | 1923 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 18,417 |
| 1919 | ... | $\ldots$ | ... | ... | $\cdots$ | 9,267 | 1924 | ... | ... | ... | ... | $\cdots$ | 18,235 |
| 1920 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 9,803 | 1925 | ... | $\ldots$ | $\ldots$ | ... | $\ldots$ | 21,669 |
| 1921 | ... | $\ldots$ | ... | $\ldots$ | ... | 11,264 | 1926 | ... | $\ldots$ | ... | .. | ... | 38,044 |

Table No. XIII.
Return Showing the Area Irrigated and the Prinoipal Crops Treated for the Year 1926.


Table No. XIV.
WHEAT (GRAIN),
Return for Ten Years Showing the Area and Produce of Wheat for Grain

|  |  |  |  |  |  |  |  |  |  | increask | DECREASE ON YEAR, | IE previous |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | Area. | Produce. | $\begin{aligned} & \text { Average per } \\ & \text { Acre. } \end{aligned}$ |
| 1917 |  |  |  |  |  | . | Acres. 127,815 | $\begin{gathered} \text { Bushels. } \\ 1,035,268 \end{gathered}$ | $\begin{aligned} & \text { Bushels, } \\ & 8 \cdot 10, \end{aligned}$ | Acres. $-99,963$ | Bushels. $-1,427873$ | Bushels. |
| 1918 |  |  |  |  |  | $\ldots$ | 21,637 | 101,509 |  |  | - $-1,427,873$ | - 2.71 |
| 1919 |  | ... |  | $\ldots$ | ... | $\ldots$ | 46,478 | 1311,638 | 6.71 | - 24,841 | - 930,759 $-\quad 207,129$ | $\begin{array}{r}-3.27 \\ \hline\end{array}$ |
| 1920 | $\ldots$ | ... | ... |  | $\ldots$ | $\ldots$ | 177,320 | 3,707,357 | $20 \cdot 91$ | 130,842 | 3,395,719 |  |
| 1921 |  |  |  |  | $\ldots$ | $\ldots$ | 164,670 | 3,025,786 | $18 \cdot 37$ | -12,650 | -681,571 | $\begin{array}{r}14.20 \\ -\quad 254 \\ \hline\end{array}$ |
| 1922 | $\ldots$ | ... | $\ldots$ |  | ... | $\ldots$ | 145,492 | 1,877,836 | $12 \cdot 91$ | - 19,178 | - $-1,147,950$ | - 2.54 |
| 1923 |  |  |  |  |  | ... | . 51,149 | 243,713 | 4.76 | -94,315 | -1,634,123 | - $8 \cdot 15$ |
| 1924 |  | ... | $\ldots$ |  |  | ... | 189,145 | 2,779, 829 | 14.70 | 137,996 | 2,536,116 | $9 \cdot 94$ |
| 1926 |  |  | .. |  |  |  | 165,999 57,084 | 1,973,477 | $11 \cdot 89$ 6.65 | -23,146 | - 806,352 | - $2 \cdot 81$ |
| Average of Ten Years |  |  |  |  |  |  | 57,084 | 379,339 | 6.65 | -108,915 | - 1,694,138 | - $5 \cdot 24$ |
|  |  |  |  |  |  | ... | 114,679 | 1,543,875 | $13 \cdot 46$ | ... | ... | ... |

Table No. XV.
WHEAT.
Requrn for Teen Years Showing Average Yield per Acre in Each State.


Table No. XVI.
Return for Two Years Showing the Area and Produce of Wheat for Grain in the Severat


Table No. XVII.
Return Showing the Quantity of Wheat Treated in Queensland during the Year 1925-6.

| District. | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { Establish- } \\ & \text { ments. } \end{aligned}$ | $\begin{gathered} \text { Number } \\ \text { of Hands } \\ \text { Em- } \\ \text { ployed. } \end{gathered}$ | Pairs of Stones. | Sets of Rollers. | Wheat Treated. | ylour madx. |  | meal made. |  | bran and pollard. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Tons. | Value. . | Tons. | Value. | Bushels. | Value. |
|  |  |  | Pairs. | Sets. | Bushels. |  | e |  | $\varepsilon$ |  |  |
|  | 12 | 359 | 7 | 109 | 2,984,305 | 61,587 | 992,759 | 649 | 9,979 | 2,611,659 | 251,279 |
| Total, 1924-5 .. | 12 | 311 | 7 | 117 | 2,230,708 | 52,592 | 835,823 | 598 | 9,105 | 2,096,314 | 154,048 |

## Table No. XVIII.

BARLEY.
Return for Two Years Showing the Result of the Crop.

| Barley. |  |  |  |  |  |  |  |  |  | 1925. | 1926. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Reaped for grain | ... | ... | ... | ... | ... | ... | ... | ... | ... | A cres. 7,001 |  |
| Mown for hay |  | ... | ... | ... | ... | ... |  |  | ... |  |  |
| Used for green food | ... | ... | ... | ... | ... | $\ldots$ | .... | ... | ... | 14,032 | 19,002 |
| Totals | ... | ... | ... | ... | ... | ... | ... | ... | ... | 21,170 | 19,469 |

Table No. XIX.
BARLEY.
Reiurn for Two Years Showing Result of Grain Crof.

| Year. |  |  |  |  |  | Area for Grain. | Produce. | Average Produce per Acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1925 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\begin{aligned} & \text { Acres. } \\ & 7,001 \end{aligned}$ | $\begin{aligned} & \text { Bushels. } \\ & 92,441 \end{aligned}$ | Bushels. <br> $13 \cdot 20$ |
| 1926 | ... | ... | $\ldots$ | ... | $\ldots$ | 399 | 1,991 | $4 \cdot 99$ |
| Decrease, 1926 | $\cdots$ | ... | $\ldots$ |  | ... | 6,602 | 90,450 | $8 \cdot 21$ |

Table No. XX.
BARLEY.
Return Showing Result of Crop, Distinguishing between Malting and Other Varieties, for the Year 1926.

| Petty Sessions District. |  |  | Malting Grain. |  |  | Other Varieties Grain. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Acres. | Bushels. | A verage per Acre, | Acres. | Bushels. | Average per Acre, |
| AlloraCliftonCondamineDugandanInglewoodInilarneyKillayOakeyPittsworthWarwickYeulba |  | ... | 10 | 54 | $5 \cdot 40$ | ... | ... |  |
|  | - | $\ldots$ | 176 | 671 | $3 \cdot 81$ |  |  |  |
|  | - | ... | ... | $\ldots$ |  | 18 | 192 30 | 10.67 2.00 |
|  |  | $\ldots$ | ${ }^{-} 10$ | 75 | 750 |  |  |  |
|  | ... | $\ldots$ |  |  |  | 26 | 234 | 9.00 |
|  | $\ldots$ | $\cdots$ | 15 | 65 | 4.33 | $\ldots$ | $\ldots$ | ... |
|  |  | $\ldots$ | 32 | 153 | 4.78 | 82 | 450 |  |
|  |  |  |  | ... |  | 8 | 24 | 3.00 |
|  | Total | ... | 250 | 1,060 | 4.24 | 149 | 930 | $6 \cdot 21$ |

Table No. XXI.
MALT.
Return for Ten Years Showing quantity of Malt Made and How Dealt With.

| Year. |  |  |  |  | Made from Imported Barley. | Made from Queensland Barley. | Total Malt Made. | Beer (including Waste). | Malt used in Breweries as returned to Excise. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Bushels. | Bushels. | Bushels. | Gallons. | Bushels. |
| 1916 | $\cdots$ | ... | ... | $\cdots$ | 47,730 |  | 47,730 | 5,586,940 | 161,764 |
| 1917 | ... | ... | ... | ... | , | 70,117 | 70,117 | 6,167,638 | 181,067 |
| 1918 | ... | ... | ... | $\ldots$ |  | 58,139 | 58,139 | 6,889,707 | 206,992 |
| 1919 | ... | $\ldots$ | ... | $\ldots$ | 66,119 | 1,270 | 67,389 | 8,466,242 | 256,658 |
| 1920 | ... | ... | ... | ... | 43,400 | 24,898 | 68,298 | 9,063,791 | 261,992 |
| 1921 | ... | $\ldots$ | $\ldots$ | $\ldots$ | , | 64,000 | 64,000 | 7,476,595 | 225,749 |
| 1922 | ... | ... | ... | ... | ... | 58,958 | 58,958 | 6,887,772 | 201,436 |
| 1923 | . $\cdot$ | ... | . | $\cdots$ | ... | 42,974 | 42,974 | 6,843,125 | 211,136 |
| 1924-5 |  | ... | $\cdots$ | $\ldots$ | ... | 38,333 | 38,333 | 6,488,405 | 209,995 |
| 1925-26 | ... | $\cdots$ | $\ldots$ | $\ldots$ | $\ldots$ | 25,413 | 25,413 | 7,045,7i3 | 227,617 |

Table No. XXII.
MAIZE.
Return for Five Years Showing the Area and Produce of Maize.

| Year. |  |  |  |  |  |  |  | Grain. |  | Average per Acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1922 | ... | ** | ... | ... | $\cdots$ | $\cdots$ | $\cdots$ | Acres. 149,048 | Bushels. 3,217,848 | Bushels. <br> $21 \cdot 59$ |
| 1923 | ... | ... | ... | ... | - | $\ldots$ | ... | 120,092 | 2,024,902 | 16.86 |
| 1924 | - | ... | ... | ... | , | ... | ... | 229,160 | 7,330,821 | 31.99 |
| 1925 | ... | ... | ... | ... | $\ldots$ | $\ldots$ | ... | 154,252 | 3,384,172 | $21 \cdot 94$ |
| 1926 | $\ldots$ | ... | ... | ... | $\ldots$ | $\ldots$ | ... | 137,542 | 2,658,890 | $19 \cdot 33$ |

Table No. XXIII.
MAIZE (GRAIN).
Refurn Showing the Area and Production in Ead Division of the State for the Year 1926.

| Division or Group. |  |  |  |  | Acres. | Produce. | Average. | Proportion of Divisional Area to Total Area of |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Bushels. | Bushels. |  |
| Moreton ... | ... | ... | $\ldots$ | .. | 46,920 | 806,814 | $17 \cdot 20$ | 34-11 |
| Wide Bay ... | ... | ... | ... | ... | 35,311 | -699,581 | $16 \cdot 13$ | 25.67 |
| Port Curtis | $\ldots$ | ... | ... | ... | 1,151 | 18,008 | 15.65 | $0 \cdot 84$ |
| Edgecumbe | ... | ... | ... | ... | 81. | 1,575 | $19 \cdot 44$ | $0 \cdot 06$ |
| Rockingham | ... | ... | $\ldots$ | ... | 17,906 | 886,952 | 4953 | 13.02 |
| York Peninsula | $\ldots$ | ... | $\ldots$ | ... | 69 | 1,791 | $25 \cdot 96$ | 0.05 |
| Carpentaria | ... | ... | ... | ... | ... | ... | ... | ... |
| Central Western | $\ldots$ | ... | ... | ... | ... | ... | ... | ... |
| South Western | $\ldots$ | ... |  |  |  |  |  |  |
| Central . ${ }^{\text {Maranoa }}$ | ... | ... |  | $\ldots$ | 28 | 371 | 13.25 | 0.02 |
| $\mathrm{Maranoa}_{\text {Downs }}$... | ... | $\ldots$ | $\ldots$ | ... | 39 | 261 | $6 \cdot 69$ | $0 \cdot 03$ |
| Downs | ... | ... | ... | $\ldots$ | 36,027 | 373,542 | $10 \cdot 37$ | $26 \cdot 20$ |
| Total | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 137,542 | 2,658,895 | $19 \cdot 33$ | $100 \cdot 00$ |

Table No. XXIV.
MAIZE.
Return for Two Years Showing the Area and Profuce in Eade Prindipal District of the State.

| Petty Sessions District. |  |  | Area for Grain. |  |  | Produce. |  |  | Average per Acre. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1925. | 1926. | $\begin{aligned} & \text { Increase } \\ & \text { or } \\ & \text { Decrease } \end{aligned}$ |  | 1926. | $\begin{aligned} & \text { Increase } \\ & \text { or } \\ & \text { Decrease } \end{aligned}$ | 1925. | 1926. |  |
|  |  |  | Ac | Acres. | Acres | Bushels. | cls. | shels. | Bushels. | Bushels. | Bushels. |
| Allora |  |  | 2,832 | 3,388 | 556 | 59,034 | 44,077 | 14,957 | 20.85 | 13.01 | 7.84 |
| Atherton |  |  | 15,160 | 17,818 | 2,658 | 417,054 | 884,449 | 467,395 | $27 \cdot 51$ | 49.64 | 22.13 |
| Beaudesert |  |  | 3,008 | 1,896 | - 1,112 | 89,934 | 42,132 | - 47,802 | 29.90 | 2\% 22 | 7.68 |
| Clifton |  |  | 6,215 | 5,857 | 358 | 105,567 | 56,119 | - 49,448 | 16.99 | 9.58 | - 7.41 |
| Cooyar |  | $\ldots$ | 844 | 734 | 110 | 18,171 | 13,887 | - 4,284 | 21.53 | 18.92 | - 2.61 |
| Crow's Nes |  | $\ldots$ | 5,979 | 6,077 | 98 | 144,261 | 131,601 | - 12,660 | $24 \cdot 13$ | 21.66 | - 2.47 |
| Dalby |  | ... | 1,091 | 879 | 212 | 22,269 | 10,639 | - 11,630 | 20.41 | $12 \cdot 10$ | - 8331 |
| Dugandan |  |  | 10,646 | 9,762 | 884 | 260,919 | 184,923 | - 75,996 | 24.51 | $18 \cdot 94$ | - 5.57 |
| Esk |  |  | 3,345 | 2,037 | - 1,308 | 72,526 | 38,278 | - 34,248 | 21.68 | 18.79 | - 2.89 |
| Gatton |  | ... | 6,1ヶ1 | 5,256 | - 915 | 115,845 | 68,144 | - 47,701 | 18.77 | 12.96 | - 5.81 |
| Gladstone |  |  | 608 | 720 | 112 | 13,363 | 12,737 | - 626 | 21.98 | 17.69 | - 4.29 |
| Goombunge |  | $\ldots$ | 3,161 | 2,960 | - 1,101 | 62,812 | 34,104 | - 28,708 | 1987 | 16.56 | - 3.31 |
| Harrisville |  | ... | 4,114 | 2,629 | - 1,485 | 80,361 | 55,189 | - 25,172 | 19.53 | 20.99 | $1 \cdot 46$ |
| Helidon |  |  | 1,282 | 1,317 | 35 | 18,708 | 19,825 | 1,117 | 14.59 | 15.05 | $0 \cdot 46$ |
| Highfields |  |  | 3,393 | 2,632 | 761 | 83,068 | 51,544 | - 31,524 | 24.48 | 19.58 | - 490 |
| Kilcoy |  |  | 725 | 660 | 65 | 21,647 | 17,138 | 4,509 | $29 \cdot 86$ | 25.97 | - 3.89 |
| Killarney |  | ... | 4,352 | 4,219 | 133 | 78,831 | 75,483 | 3,348 | 18.11 | 17*9 | - 0.22 |
| Laidley |  | $\ldots$ | 7,221 | 6,811 | 410 | 143,833 | 81,934 | 61,899 | 19.92 | 12.03 | - $7 \cdot 89$ |
| Logan |  |  | 526 | 493 | 33 | 12,148 | 10,559 | - 1,589 | $23 \cdot 10$ | 21.42 | - 1.68 |
| Lowood |  | ... | 5,792 | 4,424 | - 1,368 | 124,553 | 55,493 | -- 69,060 | 21.50 | 12.54 | - 896 |
| Marburg |  | ... | 1,961 | 974 | - 987 | 30,879 | 12,695 | - 18,184 | 15.75 | 13.03 | - $2 \cdot 72$ |
| Nanango | ... | ... | 17,386 | 16,632 | 754 | 395,830 | 251,887 | --143,943 | 22.77 | $15 \cdot 14$ | - 7.63 |
| Nerang |  |  | 387 | 435 |  | 10,063 | 10,810 |  | 26.00 | 24.85 | - 1.15 |
| Oakey |  | .. | 8,438 | 3,586 | - 4,852 | 148,193 | 32,928 | -115,265 | 17.56 | 9.18 | -8.38 |
| Rosewood |  | ... | 2,168 | 1,941 | - 227 | $39,723$ | 29,364 | - 10,359 | $18 \cdot 32$ | 15.13 | - $3 \cdot 19$ |
| Toowoomba |  |  | 3,871 | 2,464 | - 1,407 | 73,533 | 40,668 | - 32,865 | 19.00 | 16.50 | 2.50 |
| Warwick |  | ... | 7,919 | 9,352 | 1,433 | 143,575 | 15,275 | - 128,300 | 18.13 | $1 \cdot 63$ | -16.50 |
| Wienholt |  |  | 16,057 | 15,366 | 691 | 366,832 | 240,924 | - 125,908 | $22 \cdot 85$ | $15 \cdot 68$ | - 717 |
| All oth | ricts | ... | 9,600 | 7,123 | - 2,477 | 230,640 | 136,089 | - 94,551 | 24.03 | $19 \cdot 11$ | $4: 92$ |
| Total State |  | ... | 154,252 | 137,542 | -16,710 | 3,384,172 | 2,658,895 | $-725,277$ | 21.94 | 19:33 | $2 \cdot 61$ |

Table No. XXV.
OATS.
Retuan for Five Years Showing the Area under Crof.

| Oats. |  |  | 1822. | 1923. | 1924. | 1925. | 1926. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Reaped for grain ...Mown for hayCut for green fodder |  | ... | Acres. 1,216 | Acres. 216 | Acres. 4,010 | Acres. 1,293 | Acres. 210 |
|  | $\ldots$ | ... | 4,542 | 1,344 | 8,304 | 2,214 | 790 |
|  | $\ldots$ | ... | 36,200 | 46,083 | 29,519 | 46,160 | 45,687 |
| Totals | ... | ... | 41,958 | 47,643 | 41,833 | 49,667 | 46,687 |

Table No. XXVI.
OATS.
Reiurn for Two Years Showing the Result of the Grain Crop


Table No. XXVII.
RYE.
Return for Five Years Showing the Area and Produce of the Grain Crof.

| Year. |  |  |  |  |  |  | Area. | Produce. | Average per Acre. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Acres. | Bushels. | Bushels. |
| 1922 | ... | ... | . ${ }^{\text {a }}$ | $\ldots$ | ... | $\ldots$ | 4 | 39 | $9 \cdot 75$ |
| 1923 | ... | ... | ... | ... | ... | ... | 9 | 64 | $7 \cdot 11$ |
| 1924 | ... | $\ldots$ | ... | ... | $\ldots$ | ... | 65 | 2,379 | 36.60 |
| 1925 | ... | ... | ... | $\ldots$ | ... | .. | 26 | 615 | $23 \cdot 65$ |
| 1926 | ... | $\ldots$ | ... | ... |  | $\cdots$ | 3 | 89 | $29 \cdot 67$ |

## Table No. XXVIII.

## POTATOES.

Return for Five Years Showing the Area, Production, and Value of the English Potato Cror.

|  |  | Acres. | Tons. |  |  |  |  |  | Value. |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: | :---: |
| 1922 | $\ldots$ | 7,649 | $\ldots$ | 10,517 | $\ldots$ | $£ 77,826$ |  |  |  |
| 1923 | $\ldots$ | 6,127 | $\ldots$ | 8,878 | $\ldots$ | $£ 131,505$ |  |  |  |
| 1924 | $\ldots$ | 9,493 | $\ldots$ | 20,314 | $\ldots$ | $£ 179,440$ |  |  |  |
| 1925 | $\ldots$ | 10,478 | $\ldots$ | 15,386 | $\ldots$ | $£ 220,597$ |  |  |  |
| 1926 | $\ldots$ | 8,642 | $\cdots$ | 9,749 | $\cdots$ | $£ 169,246$ |  |  |  |

Table No. XXIX.
COTTON.
Return for Two Years Showing the Area and Produge of Cotton.


[^1]Table No. XXX.
SUGAR.
Return Showing the Number of Plantations, Area of and Average Area for the Year 1926.

| - |  | Number of Plantations under 5 acres. | Number of Plantations <br> 5 acres and over. | Area under Cane. | Average to each Planter. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Acres. | Acres. |
| No. 1 District | $\ldots$ | 41 | 2,060 | 100,687 | 48 |
| No. 3 District | $\ldots$ | 332 | 2,284 | 102,702 | 43 |
| No, 4 District | ... | 238 | 1,785 479 | 56,350 6,780 | 27 9 |
| Total ... | ... | 736 | 6,608 | 266,519 | 36 |

Table No. XXXI.
Return for Five Years Showing the Number of Plantations, Area and Produce of Sugar-dane.

| Year. | Number of Plantations under 5 arees | Number of Plantations 5 acres and over. | A verage to each Planter | Acres Cultivated. | Acres Crushed. | produce. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Tons Cane. | Tons Sugar, at 94 per cent. Net Titre. |
| $1922 \ldots$ | $\cdots$ | 4,971 | 41 | 202,303 | 140,850 | 2,167,990 | 287,785 |
| 1923 ... | 746 | 5,487 | 35 | 219,965 | 138,742 | 2,045,808 | 269,175 |
| 1924 .. | 849 | 6,213 | 36 | 253,519 | 167,649 | 3,171,341 | 409,136 |
| 19:5 ... | 909 | 6,730 | 35 | 269,509 | *189 466 | $3,668,252$ | 485,585 |
| $1926 \ldots$ | 736 | 6,608 | 36 | 266,519 | 189.312 | 2,952,662 | 389,272 |

* Not including 200 acres cat, but cane destroyed, 4,007 tons.

Table No, XXXII.
Return for Five Years Showing Percrntages of Yields.


Table No. XXXIII.
Return Showing Area, Produce, \&c., in each Division of the State for the Year 1926.

| Division and District. | $\begin{gathered} \text { Area } \\ \text { for } \\ \text { Plants. } \end{gathered}$ | $\begin{gathered} \text { Area } \\ \text { Stand-over } \\ \text { or } \\ \text { Unproductive. } \end{gathered}$ | $\begin{aligned} & \text { Area } \\ & \text { Crushed for } \\ & \text { Sugar. } \end{aligned}$ | Total Area for sugar. | Weight of | Sugar, 94 NT T $\ddagger$ | Molasses Returned. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Roskingham and York PeninsulaCairns and Douglas Ingham and Innisfail, \&o. | $\begin{array}{r} \text { Acres. } \\ 789 \\ 1,177 \end{array}$ | $\begin{gathered} \text { Acres. } \\ 5,3,360 \\ 8,451 \end{gathered}$ | Acres. $\begin{gathered} 33,837 \\ 51,073 \end{gathered}$ | Acres. <br> 39,986 <br> 60,701 | Tons. <br> 655,712 <br> 900,42 ! | $\begin{aligned} & \text { Tons. } \\ & 92,962 \\ & 128,142 \end{aligned}$ | $\begin{gathered} \text { Gallons. } \\ 3,223,945 \\ 4,806,789 \end{gathered}$ |
| Total | 1,966 | 13,811 | 84,9i0 | 100,687 | 1,617,641 | 221,104 | 8,030,734 |
| Edqecumbe- <br> Ayr and Townsville Proserpine and Bowen Mackay | $\begin{array}{r} 969 \\ 28 \\ 1,611 \end{array}$ | $\begin{array}{r} 13,179 \\ 2,973 \\ 19,926 \end{array}$ | $\begin{array}{r} 16,617 \\ 6,707 \\ 40,692 \end{array}$ | $\begin{array}{r} 30,765 \\ 9,708 \\ 62,229 \end{array}$ | $\begin{array}{r} 269,760 \\ 64,577 \\ 519,817 \end{array}$ | $\begin{array}{r} 38,672 \\ 8,936 \\ 70,199 \end{array}$ | $\begin{array}{r} 1,409,254 \\ 370,000 \\ 2,396,800 \end{array}$ |
| Total | 2,608 | 36,078 | 64,016 | 102,702 | 854,154 | 117,807 | 4,176,054 |
| Wide Bay- <br> Bundaberg, Gin Gin, \&e. <br> Biggenden, Childers, Mary- <br> borough, Tiaro, \&ce. <br> Gympie* | 263 | $\begin{array}{r} 7,588 \\ 11,336 \\ 125 \end{array}$ | $\begin{array}{r} 22,448 \\ 11,550 \\ 358 \end{array}$ | $\begin{array}{r} 30,299 \\ 23,063 \\ 484 \end{array}$ | $\begin{array}{r} 232,647 \\ 116,204 \\ 6,890 \end{array}$ | $\begin{aligned} & 30,393 \\ & 12,276 \end{aligned}$ | $\begin{array}{r} 1,375,948 \\ 668,674 \end{array}$ |
| Total | 441 | 19,049 | 34,356 | 53,846 | 355, 741 | 42,669 | 2,044,622 |
| Port Curtis- <br> Gladstone§ ... <br> St. Lawrence $\dagger$ | 56 | 496 | $\begin{array}{r} 10 \\ 1,942 \end{array}$ | $\begin{array}{r} 10 \\ 2,494 \end{array}$ | $\begin{array}{r} 67 \\ 31,589 \end{array}$ | $\ldots$ | $\ldots$ |
| Total | 56 | 496 | 1,952 | 2,504 | 31,656 | ... | In |
| Moreton- <br> Logan and Nerang <br> Maroochy, \&c. | $\begin{array}{r}6 \\ 39 \\ \hline\end{array}$ | $\begin{array}{r} 665 \\ 1,992 \end{array}$ | $\begin{array}{r} 548 \\ 3,530 \end{array}$ | $\begin{aligned} & 1,219 \\ & 5,561 \end{aligned}$ | $\begin{array}{r} 9,693 \\ 56,777 \end{array}$ | $\begin{array}{r} 949 \\ 6,743 \end{array}$ | $\begin{array}{r} 60,823 \\ 374,200 \end{array}$ |
| Total | 45 | 2,657 | 4,078 | 6,780 | 66, 170 | 7,692 | 435,023 |
| Total of State | 5,116 | 72,091 | 189,312 | a266,519 | 2,925,662 | 389,272 | 14,686,433 |

* Crushed in Maroochy and Tiaro. $\dagger$ Crushed in Mackay. a Area excinsive of 2,728 acres cut for fodder. \$ Crushed in Bundaberg.
${ }^{\ddagger}+{ }^{+}$Ten crnshed by a mill in another district the sugar is not necessarily made from the tonnage of cane shown in the cane of one d strict is
N.B.-According to the "Imperial Food Journal," it is proposed to form a Sugar Federation of the British Empire, and steps in that direction are being considered by a committee representing all the sugar-producing and many of the sugar-using interests of the
Dominions. At present most of the Empire cane sugar comes from Mauritins Wrest Indies, Britisl- Guigns total is only about 16 per cent, of the aggregate import of sugar into the United Kingdom. Now that an Empire preference is operative the time is ripe for an organised effort to encourage the Empire to grow most, if not all, of the sugar refined in Great Britain.

Table No. XXXIV.
Return Showing the Sugar Averages in each Division of the State for the Year 1926.


Table No. XXXV.
Return for Two Years Showing the Area and Produce in each Division of the State.


Crushed in Edgecumbe and Wide Bay, Part of the cane grown in Gympie was crushed in
Table No. XXXVI.
Return for Two Years Showing Percentages in Each Division of the State.


Table No. XXXVII.
Return Showing the Area and Production of Sugar-cane and Sugar Beet in Australia for the Year 1926.


## Table No. XXXVIII.

Return Showing Number of Sugar Mifis in Queensland during the Year 1925-26.

| Manufactories. | Works. | Hands Employed. | valde. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Machinery. | Land and Premises. | Output. |
| $\left.\begin{array}{l}\text { Refineries } \\ \text { Sugar Mills }\end{array}\right\}$ In operation, 1925-6 $\left\{\begin{array}{l}\text {... } \\ \ldots\end{array}\right.$ | $\begin{gathered} \text { No. } \\ \underset{2}{2} \\ 37 \end{gathered}$ | $\} \quad \begin{gathered} \mathrm{No} . \\ 7,146 \end{gathered}$ | $\begin{gathered} \mathbf{£} \\ 5,962,568 \end{gathered}$ | $879,122$ | $\stackrel{ \pm}{11,289,627}$ |
| Total ... ... ... | 39 |  |  |  |  |

## Table No. XXXIX.

SUGAR MILLS.
Return showing the Financtal Assistance Rendered to Sugar Mills, \&c., and their present Indebtedness at 31st December, 1926.
Number of Sugar Mill Companies to which advances have been made under-

1. The Sugar Works Guarantee Acts

The Sugar Works Guarantee Acts
"The Sugar Works Act of 1911 " (Babinda and South Johnstone)
"The Sugar Works Act of 1922 " (Tully River Mill) ...
"To.
From Consolidated Revenue (North Eton and Racecourse)
From General Loan Fund
F
Number of Tramway Companies to which advances have been made under-
3. The Sugar Works Guarantee Acts (Double Peak) .. .. .. .. .. 1

Under other conditions
5. Total amount of advances made to 31st December, 1926, under the Sugar Works Guarantee Acts-


Table No. XL.
ARROWROOT.
Return for Two Years Showing Area and Produce, \&c., of Arrowroot Tubers in Petty Sessions Districts.


Table No. XLI.
Return showing Arrowroot Manufactured during the Year 1925-26.


Table No. XLII.
TOBACCO.
Return for Two Years, Showing Area and Production of Tobacco.


Table No. XLIII.
COFFEE.
Return for Two Years Showing Area and Produotion of Coffee.

| Division and Petty SessionsDistrict. | Not Bearing: |  | Bearing. |  |  |  | $\begin{gathered} \text { Average } \\ \text { per Acre } \\ \text { (Bearing). } \end{gathered}$ |  |  | $\begin{gathered} 1926 . \\ \text { Increase or } \\ \text { Decrease } \\ \text { in Produce. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1925. | 1926. |  | 1925. |  | 1926. | 1925. | 1926. |  |  |
|  | Acres. | Acres. | Acres. | $\begin{gathered} \text { Lb. } \\ \text { (Parchment.) } \end{gathered}$ | Acres. | $\begin{gathered} \text { Lb. } \\ \text { (Parchment.) } \end{gathered}$ | Lb. | Lb. | Acres. | Lb. |
| Moreton- <br> Maroochy | 2 | 2 | 9 |  | 11 |  | 555 | 365 | 2 | - 974 |
| Wide BayMaryborough ... | ... | $\ldots$ | 1 | 200 | 3 | 1,420 | 200 | 473 | 2 | 1,220 |
| Rockingham- <br> Atherton | $\ldots$ | ... | ... | ... | 3 | 3,360 | ... | 1,120 | 3 | 3,360 |
| Totals ... ... | 2 | 2 | 10 | 5,192 | 17 | 8,798 | 519 | 489 | 7 | 3,606 |

Table No. XLIV.
VINES.
Return for Two Years Showing Area and Production of Vines.

| Year. |  |  |  | vingyard. |  |  | Grapes Gathered. | Average per Acre (B aring). |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Acres Bearing. | Acres not Bearing. | Total. |  |  |
| 1925 | $\ldots$ | ... | . | 1,166 | 490 | 1,656 | $\xrightarrow{\text { Lb. }}$ 2, |  |
| 1926 | ... | ... | . | 1,268 | 414 | 1,682 | 3,610,997 | 2,848 |

Table No. XLV.
Return for Two Years Showing Area under Vines and Produotion of Grapes in the Principal Districts of the State.

| Petty Sessions District. |  |  | area under vinfs. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1925. |  |  | 1926. |  |  |  | 1925. | 1926. <br> Grapes <br> Gathered. |
|  |  |  | Bearing. | $\begin{aligned} & \text { Not } \\ & \text { Bearing. } \end{aligned}$ | Total Area. | Bearing. | $\begin{aligned} & \text { Not } \\ & \text { Bearing. } \end{aligned}$ | Total Area. |  | Grapes Gathered. |  |
| Brisbane (A) ... |  |  | $\begin{array}{r} \text { Acres. } \\ 385 \end{array}$ | Acres. $71$ | $\begin{gathered} \text { Acres. } \\ 456 \end{gathered}$ | Acres. $320$ | Acres. $20$ | $\begin{gathered} \text { Acres. } \\ 340 \end{gathered}$ | $\begin{gathered} \text { Acres. } \\ -116 \end{gathered}$ | $\stackrel{\text { Lb. }}{744,846}$ | ${ }_{677,936}^{\mathrm{Lb} .}$ |
| Charters Towers |  |  | 12 | 3 | 15 | 14 | 2 | 16 | ${ }^{-1}$ | 32,596 | 30,902 |
| Chinchilla ... | . | $\ldots$ | 1 | ... | 1 | 2 | ... | 2 | 1 | 9,447 | 13,542 |
| Dalby ... | ... | $\ldots$ | 3 | ... | 3 | 4 | ... | 4 | 1 | 13,572 | 6,070 |
| Gayndah ... |  | $\ldots$ | 1 | $\ldots$ | 1 | 1 |  | 1 |  | 1,065 | 13,085 |
| Herberton ... | $\ldots$ | $\ldots$ | 4 | 2 | 6 | ¢ | 2 | 7 | 1 | 10,744 | 10,060 |
| Logan ... |  |  | 7 | $\ldots$ | 7 | 8 | 1 | 9 | 2 | 16,290 | 15,585 |
| Lowood ... |  |  | 28 |  | 28 | 43 | 2 | 45 | 17 | 76,270 | 104,560 |
| Maryborough |  | ... | 17 | 2 | 19 | 18 | 2 | 20 | 1 | 29,543 | 17,218 |
| Nanango ... | ... |  | 6 | ... | 6 | 2 | ... | 2 | - 4 | 17,819 | 4,616 |
| Oakey ... |  | $\ldots$ | 5 | 1 | 6 | 6 | 1 | 7 | , | 15,516 | 7,810 |
| Rockhampton |  | $\ldots$ | 20 | 5 | 25 | 20 | 9 | 29 | 4 | 63,459 | 24,623 |
| Roma |  | $\ldots$ | 280 | 73 | 353 | 302 | 57 | 359 | 6 | 529,172 | 526,689 |
| Stanthorpe |  | ... | 280 | 314 | 594 | 409 | 301 | 710 | 116 | 1,034,835 | 1,861,100 |
| St. George | ... | $\ldots$ | 3 |  | 3 | 2 |  | 2 | - 1 | 11,400 | 11,800 |
| Toowoomba | ... | $\ldots$ | 16 | 1 | 17 | 12 | 1 | 13 | - 4 | 26,372 | 25,476 |
| Warwick |  |  | 37 | 1 | 38 | 39 | 6 | 45 | 7 | 116,027 | 145,193 |
| Wynnum |  |  | 7 |  | 7 | 8 |  | 8 | - 1 | 36,240 | 31,516 |
| All other Districts | ... |  | 64 | 17 | 71 | 53 | 10 | 63 |  | 113,353 | 83,216 |
| Totals | ... | ... | 1,166 | 490 | 1,656 | 1,268 | 414 | 1,682 | 26 | 2,898,546 | 3,610,997 |

Table No. XLVI.
Return for Five Years Showing the Average Production of Grapes in Certain Petty Sessions Districts of the State.

| Petty Sessions District. |  |  |  | 1922. Average per Acre. | 1923. Average per Acre. | 1924. <br> Average per Acre. | 1925. Average per Acre. | $\begin{gathered} 1926 . \\ \text { Average per Acre } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Brisbane (A) | ... | $\ldots$ | ... | $\stackrel{\mathrm{Lb} .}{1,397}$ | $\stackrel{\text { Lb. }}{1,958}$ | $\underset{2,589}{\mathrm{Lb} .}$ | $\begin{aligned} & \mathrm{Lb} . \\ & 1,935 \end{aligned}$ | $\underset{2,119}{\text { Lb. }}$ |
| Roma | $\ldots$ | ... | $\ldots$ | 3,075 | 2,277 | 1,946 | 1,890 | 1,744 |
| Stanthorpe ... | ... | $\ldots$ | ... | 3,585 | 7,913 | 2,786 | 3,696 | 4,550 |
| Tcowoomba | ... | ... | ... | 1,425 | 1,329 | 1,642 | 1,648 | 2,123 |
| Warwick | ... | ... | ... | 1,447 | 2,892 | 1,167 | 3,136 | 3,723 |
| State | $\ldots$ | ... | ... | 2,188 | 3,108 | 2,343 | 2,486 | 2,848 |

## Table No. XLVII.

WINE.
Return for Five Years Showing Number of Makers, Wine Made, and Wine Spirit Distilled.

| Year. |  |  |  |  |  |  |  |  |  |  | Number of Makers. | Quantity of Wine Made. | Quantity of Wine Spirit Distilled. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1922 | ... | $\ldots$ | ... | $\cdots$ | ... | ... | $\cdots$ | ... | $\cdots$ | $\cdots$ | 65 | $\begin{aligned} & \text { Gallons. } \\ & 53,171 \end{aligned}$ | $\begin{aligned} & \text { Gallons. } \\ & 905 \end{aligned}$ |
| 1923 | ... | ... | $\cdots$ | $\cdots$ | ... | ... | ... | $\cdots$ | ... | ... | 57 | 37,242 | 640 |
| 1924 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 58 | 33,119 | 234 |
| 1925 | $\cdots$ | ... | $\cdots$ | $\cdots$ | $\cdots$ | ... | $\ldots$ | $\cdots$ | ... | ... | 48 | 39,375 | 281 |
| 1926 | $\ldots$ | ... | ... | ... | ... | ... | $\cdots$ | ... | ... | $\cdots$ | 49 | 32,974 | 316 |

Table No. XLVIII.
Return Showing the Principal Distriots in which Wine was Made during the Year 1926.


Table No. XLIX.
BANANAS.
Return for Two Years Showing the Area and Production of Bananas in thr Prinotpal Distriots of the State.

| Petty Sessions District. | Area. |  |  |  | Produce. |  | Increase or Decrease-1926. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1925. | $\begin{aligned} & \text { Bearing, } \\ & 1926 \text {, } \end{aligned}$ | Not yet Bearing, 1926. | $\begin{aligned} & \text { Total. } \\ & \text { 1926. } \end{aligned}$ | 1925. | 1926. | Area. | Produce. |
| Brisbane (A) | $\begin{aligned} & \text { Acres. } \\ & 1,438 \end{aligned}$ | $\begin{gathered} \text { Acres. } \\ 937 \end{gathered}$ | Acres. 373 | $\begin{gathered} \text { Acres. } \\ 1,310 \end{gathered}$ | Bunches. 283,552 | Bunches. $220,718$ | $\begin{array}{r} \text { Acres. } \\ -\quad 128 \end{array}$ | $\begin{gathered} \text { Bunches. } \\ -\quad 62,834 \end{gathered}$ |
| Bundaberg | 183 | 95 | 36 | 131 | 29,429 | 25,820 | 48 | - 3,609 |
| Caboolture | 275 | 507 | 164 | 671 | 46,959 | 115,942 | 396 | 68,983 |
| Cairns | 159 | 151 | 41 | 192 | 27,247 | 27,266 | 33 | 19 |
| Cleveland | 128 | 89 | 39 | 128 | 21,896 | 19,858 |  | - 2,038 |
| Gladstone | 179 | 122 | 31 | 153 | 24,105 | 12,420 | - 26 | - 11,685 |
| Gympie . | 5,975 | 4,193 | 2,490 | 6,683 | 953,825 | 1,252,816 | 708 | 298,991 |
| Kilcoy ... | 317 | 212 | 193 | 405 | 40,472 | 35,766 | 88 | - 4,706 |
| Logan ... | 537 | 501 | 168 | 669 | 118,490 | 141,546 | 132 | 23,056 |
| Maroochy | 2,561 | 1,981 | 665 | 2,646 | 530,644 | 426,047 | 85 | - 104,597 |
| Maryborough ... | 264 | 177 | 111 | 288 | 48,681 | 38,850 | 24 | - 9,834 |
| Nerang ... | 547 | 478 | 163 | 641 | 105,477 | 110,728 | 94 | 5,251 |
| Redcliffe ... | 787 | 556 | 346 | - 902 | 154,635 | 145,746 | 115 | - 8,889 |
| Rockhampton | 456 | 294 | 127 | 421 | 84,977 | 60,896 | - 35 | -- 24,081 |
| Southport ... | 7 | 57 |  | 57 | 512 | 17,100 | .. 50 | 16,588 |
| Tiaro ... ... | 208 | 193 | 82 | 275 | 37,851 | 31,754 |  | - 6,097 |
| All other Districis | 845 | 579 | 338 | 917 | 74,029 | 71,522 | 72 | 2,507 |
| Totals | 14,766 | 11,122 | 5,367 | 16,489 | 2,582,784 | 2,754,795 | 1,723 | 172,011 |

Table No. L.
Return Showing the Average Yield of Bananas in the Princtpal Districts of the State during the Year 1926.


Table No. LI.
PINEAPPLES.
Return for Two Years Showing the Area and Production of Pineapples in the State.

| Petty Sessions District. | 1925. |  | 1926. |  |  |  | Increase or Decrease-1926. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Area. | Produce. | Bearing. | Not yet Bearing. | Total Area. | Produce. | Area. | Produce. |
| Bowen | Acres. 80 | Dozen. $11,049$ | $\begin{array}{r} \text { Acres. } \\ 79 \end{array}$ | Acres. | Acres. 90 | Dozen. <br> 11,496 | Acres. 10 a | Dozen. 447 |
| Brisbane ( A ) ${ }^{\text {a }}$... | 322 | 92,127 | 306 | 46 | 352 | 104,151 | 30 | 12,024 |
| Brisbane (B) ... | 131 | 23,706 | 101 | 25 | 126 | 25,040 | - 5 | 1,334 |
| Caboolture ... ... | 533 | 111,658 | 611 | 143 | 754 | 115,611 | 221 | 3,953 |
| Cleveland ... ... | 565 | 153,790 | 483 | 122 | 605 | 279,509 | 40 | 125,719 |
| Gympie ... ... | 83 | 12,655 | 9 | 37 | 46 | 1,595 | - 37 | - 11,060 |
| Logan ... ... | 270 | 28,621 | 111 | 20 | 131 | 33,879 | $-139$ | \%,258 |
| Maroochy ... | 1,261 | 310,117 | 944 | 386 | 1,330 | 269,458 | 69 | - 40,659 |
| Maryborough | 100 | 18,311 | 86 | 48 | 134 | 23,295 | 34 | 4,984 |
| Redeliffe ... | 19. | 13,380 | 13 |  | 15 | 2,687 | - 4 | - 10,693 |
| Rockhampton | 186 | 30,421 | 179 | 19 | 198 | 25,170 | 12 | - $\quad 5,251$ |
| Tiaro ... | 45 | 34,391 | 17 | 9 | 20 | 1,830 | --. 19 | - 32,561 |
| Wynnum ... ... | 91 | 25,163 | 64 | 11 | 75 353 | 19,005 40,522 | $\begin{array}{r}16 \\ -\quad 44 \\ \hline\end{array}$ | $\begin{array}{r}\text { r } \\ -\quad 6,158 \\ \hline, 275\end{array}$ |
| All other Districts | 309 | 37,247 | 271 | 82 | 353 | 40,522 | 44 |  |
| Total ... ... | 3,995 | 902,636 | 3,274 | 961 | 4,235 | 953,248 | 240 | 50,612 |

Table No. LII.
ORANGES.
Return for Two Years Showing the Area and Production of Oranges in the Principal Districts of the State

| Petty Sessions District. |  |  |  | Area. |  | Bearing, 1926 , | Not yet Bearing, | Produce. |  | Increase or Decrease 1926. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 1925. | 1928. | Area. | Area. | 1925. | 1926. | Area. | Produce. |
| Beaudesert... |  |  |  | Acres. $23$ | Acres. $22$ | Acres. | Acres. | Bushels. 1,779 | Bushels. | Acres. | Bushels. |
| Bowen ... |  | ... |  | 114 |  | 98 | 24 | 5,523 | 2,947 |  |  |
| Bundaberg |  |  |  | 20 | 40 | 33 | 7 | 4,485 | 4,411 | 20 | - 2,576 |
| Caboolture ... |  |  | $\ldots$ | 118 | 109 | 87 | 22 | 3,767 | 4,564 | - 9 | - 797 |
| Cairns |  |  |  | 37 | 41 | 36 | 5 | 4,381 | 9,253 | 4 | 4,872 |
| Cardwell ... |  |  | ... | 74 | 97 | 65 | 32 | 10,874 | 9,579 | 23 | - 1,295 |
| Charters Towers |  | ... | ... | 43 | 63 | 47 | 16 | 4,875 | 4,576 | 20 | - 299 |
| Childers ... |  |  | ... | 55 | 61 | 35 | ${ }_{26}$ | 3,260 | 4,062 | 6 | 802 |
| Cleveland ... | ... | ... |  | 55 | 44 | 18 | 26 | 3,365 | 1,796 | - 11 | - 1,569 |
| Cook ... |  | ... |  | 62 | 64 | 56 | 8 | 4,096 | 1,387 | 2 | - 2,709 |
| Douglas ... | ... | ... | ... | 12 | 12 | 11 | 1 | 1,303 | 1,023 |  | 280 |
| Esk ... |  | ... | ... | 70 | 61 | 33 | 28 | 5,613 | 1,689 | - 9 | - 3,924 |
| Gatton ... |  | ... | ... | 43 | 59 | 43 | 16 | 4,477 | 2,130 | 16 | - 2,347 |
| Gayndah ... | ... | ... | ... | 79 | 72 | 37 | 35 | 5,755 | 1,541 | - 7 | - 4,214 |
| Gin Gin ... |  |  |  | 7 | 14 | 9 | 5 | 881 | 1,488 | 7 | - 607 |
| Gladstone ... | ... | ... | $\ldots$ | 32 | 20 | 9 | 11 | 2,025 | , 394 | - 12 | - 1,631 |
| Gympie ... |  | ... | ... | 38 | 25 | 14 | 11 | 2,779 | 1,810 | - 13 | - 969 |
| Helidon ... | $\ldots$ | ... | ... | 17 | 23 | 15 | 8 | 2,860 | 634 | 6 | - 2,226 |
| Ingham ... |  |  |  | 22 | 19 | 12 | 7 | 3,898 | 1,290 | - 3 | - 2,608 |
| Logan ... | ... | $\ldots$ | $\ldots$ | 100 | 116 | 86 | 30 | 11,889 | 12,945 | 16 | 1,056 |
| Lowood ... |  |  |  | 18 | 15 | 10 | 5 | 1,359 | 1,621 | - 3 | 262 |
| Mackay ... |  | ... | ... | 58 | 74 | 54 | 20 | 3,199 | 5,465 | 16 | 2,266 |
| Maroochy | ... | ... | ... | 1,220 | 1,328 | 934 | 394 | 96,408 | 113,367 | 108 | 16,959 |
| Mary borough |  |  | .. | 515 | 480 | 380 | 100 | 32,877 | 38,614 | - 35 | 5,737 |
| Nerang ... | ... | ... | ... | 96 | 103 | 72 | 31 | 3,952 | 6,834 |  | 2,882 |
| Redeliffe ... |  | ... | $\ldots$ | 27 | 23 | 19 | 130 | 3,138 | 1,861 | - 4 | 1,277 |
| Rockhampton | ... | $\ldots$ | $\ldots$ | 292 | 273 | 143 | 130 | 20,414 | 14,628 | - 19 | - 5,786 |
| Wiaro ${ }_{\text {Wodford }}$... |  | $\ldots$ | $\ldots$ | 17 | 72 17 | 14 | ${ }_{3}^{9}$ | +, 2,248 | 4,197 | - 6 | - 51 |
| All other Districts |  | $\ldots$ | ... | 414 | 430 | 288 | 142 | 25,804 | 3,066 24,878 | 16 | 488 926 |
| Total |  |  |  |  | 3,899 | 2,734 | 1,165 | 281,862 | 283,775 | 143 | 1,913 |
|  |  |  |  |  |  |  |  |  | 283,7\% |  | 1,913 |

Table No. LIII.
MANGOES.
Return for Two Years Showing the Area and Production of Mangoes in the Prinoipal Districts of the State.

| Petty Sessions District. |  |  | Area. |  | Bearing, 1926. | Not yetBearing, 1928. | Produce. |  | Increase or Decrease 1826. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1925. | 1926. |  |  | 1925. | 1926. |  |  |
| Atherton |  | ... | Acres. | Acres. | Acres. | Acres. | Bushels. | Bushels. 266 | Acres. | Bushels. |
| Bowen ... ${ }^{\text {a }}$ | ... | $\ldots$ | 47 | 27 | 21 | 6 | 4,351 | 6,903 | - 20 | - 2,552 |
| Brisbane (A) ... |  | $\ldots$ | 4 | 6 | 5 | 1 | 964 | 487 |  | - $\quad 477$ |
| Bundaberg ... | .. | $\ldots$ | 1 | 4 | 3 |  | 272 | 489 | 3. | 217 |
| Clairns ${ }_{\text {Cleveland }}$ | $\ldots$ | $\ldots$ | 5 | 3 | 3 5 | $\ldots$ | 1,080 | 475 430 | $-\quad 2$ | - 605 |
| Cook ... ... | .... | $\ldots$ | 7 | 5 | 5 | $\ldots$ | 2,225 | 430 662 | - $\quad 3$ | 151 $-\quad 1563$ |
| Douglas ... | $\ldots$ | ... | 6 | 6 | 6 | $\ldots$ | 1,336 | 1,178 |  | - 1,063 |
| Gin Gin | ... | $\ldots$ | 1 | 3 | 3 | ... | 720 | 1,249 | 2 | - 529 |
| Gladstone ... | .. | $\ldots$ | 5 | 3 | 3 |  | 603 | 365 | - 2 | - 238 |
| Ingham $\ldots$.... | .. | $\ldots$ | $\begin{array}{r}13 \\ 8 \\ \hline\end{array}$ | 16 10 | 15 8 | 1 | 3,229 | 14,337 |  | 11,108 |
| Mackay ... | $\ldots$ | $\ldots$ | 47 | 38 | 36 | 2 | 8,944 | 8,117 | $\begin{array}{r} \\ \hline\end{array}$ | $\begin{array}{r}1156 \\ -\quad 827 \\ \hline\end{array}$ |
| Maryborough ... |  | ... |  | 6 | 6 | - | 1,670 | 2,180 | - 3 | - $\quad 827$ $-\quad 510$ |
| Mount. Morgan | <. | ... | 5 | 4 | 3 | I | ${ }^{1} 611$ | 2,557 | 1 | - 54 |
| Proserpine ... | $\ldots$ | $\ldots$ | 13 | 11 | 10 | 1 | 2,472 | 1,092 | - 2 | - 1,380 |
| Redclifie ${ }^{\text {R }}$... | $\ldots$ | $\ldots$ | 6 | 6 | ${ }^{5}$ |  | 1,238 | 774 |  | - 494 |
| Rockhampton ... | ... | ... | 11 | 43 7 | 39 .6 | 4 | 2,628 1,823 | 3,670 1,401 | $\begin{array}{r} 3 \\ \hline \end{array}$ | 1,042 $-\quad 422$ |
| All other Districts | ... | ... | 47 | 31 | $24$ | 7 | 1,823 | 4,768 | $\begin{aligned} & - \\ & \hline \end{aligned}$ | $\begin{array}{r}422 \\ -\quad 746 \\ \hline\end{array}$ |
| Totals | ... | ... | 296 | 240 | 211 | 29 | 39.636 | 50,338 | - 56 | 10,702 |

Table No. LIV.
STRAWBERRIES.
Return for Two Years Showing the Area and Production of Strawberries in the Prinoipaì Distriots of the State.

| Petty Sessions District. |  |  |  |  | Area. |  | Produce. |  | Increase or Decrease - |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1925 | 1928. |  | 1928 | 1028 | 1928 |
|  |  |  |  |  | Acres. | Acres. 1 | $\begin{aligned} & \text { Quarts. } \\ & 535 \end{aligned}$ | $\begin{array}{r} \text { Quarts. } \\ 340 \end{array}$ | Acres. | - Quarts. $\quad 195$ |
| Bowen ... | $\ldots$ | ... | ... | $\ldots$ | 1 |  |  |  | - ${ }^{-1}$ | - 280 |
| Brisbane (A) ... | $\cdots$ | ... | ... | ... | 14 | 7 | 13,795 | 2,740 | - 7 | - 11,055 |
| Brisbane (B) ... | ... | ... | ... | $\ldots$ | 2 |  | 216 |  | - 2 | - 216 |
| Cleveland ... | ... | ... | ... | $\ldots$ | 50 | 40 | 77,008 | 64,696 | - 10 | - 12,312 |
| Gladstone $\begin{aligned} & \text { Gympie }\end{aligned}$ | ... | ... | $\ldots$ | $\cdots$ | 1 | 2 | 2,362 | 3,040 | - 1 | - 678 |
| Logan $\quad$... | $\ldots$ | $\ldots$ | ... | $\ldots$ | 1 | . | 1,344 |  | ${ }^{\text {... }} 1$ | - 1,344 |
| Maroochy ... | ... | ... | ... | ... | 24 | 24 | 14,525 | 17,344 | ... | 2,819 |
| Rockhampton | ... | ... | ... | ... | 3 | 3 | 5,116 | 7,975 |  | 2,859 |
| Wynnum . | ... | ... | ... | ... | 12 | 9 | 13,731 | 6,397 | - | - 7,384 |
| Totals | ... | ... | ... | ... | 111 | 86 | 129,612 | 102,532 | - 25 | - 27,080 |

N.B.-Brisbane (B) refers to South Brisbane.

## Table No. LV.

APPLES.
Return for Two Years Showing the Area and Produotion of Apples in the Princtpal Distriots of the State.

| Petty Sessions District. |  |  |  |  | Area. |  | Increase or Decrease 1826. | Bearing, 1926. | $\begin{aligned} & \text { Not } \\ & \text { Bearing, } \\ & 1926 . \end{aligned}$ | Produce. |  | Increase or <br> Decrease 1926. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1925. | 1926. |  |  |  | 1925. | 1926. |  |
| Herberton ... | ... | $\ldots$ | $\ldots$ | ... | Acres. $4$ | Acres. $5$ | Acres. 1 | Acres. $4$ | Acres. $1$ | Bushels. <br> 69 | Bushels. 22 | Bushels. $-\quad 47$ |
| Nanango ... | ... | ... | ... | ... | 6 | 1 | 5 | 1 | $\ldots$ | 166 | 14 | - 152 |
| Stanthorpe ... | ... | ... | ... | ... | 4,082 | 3,877 | 205 | 2,557 | 1,320 | 125,907 | 107,686 | -18,221 |
| Toowoomba |  | ... | ... | ... | 5 | 4 | 1 | 4 | ... | 204 | 134 | - 70 |
| Warwick |  |  | ... | ... | 257 | 310 | 53 | 187 | 123 | 3,891 | 5,738 | 1,847 |
| All other Districts | ... | ... | ... | ... | 6 | 6 | ... | 6 | ... | 132 | 216 | 84 |
| Totals ... | ... | ... | ... | ... | 4,360 | 4,203 | $-157$ | 2,759 | 1,444 | 130,369 | 113,810 | -16,559 |

Table No. LVI.
OTHER FRUITS.
Return Showing the Area and Production of Other Fruits during the Year 1926.

| - |  |  |  |  |  |  | Bearing. | Not Bearing. | Yield. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apricots |  |  |  |  |  |  | Acres. 65 | Acres. 33 | 2,188 bushels |
| Cape gooseberries | ... | ... | $\ldots$ | ... | . | ... | 6 | ... | 7,000 quarts |
| Cherries ... | ... | ... | ... | ... | ... | ... | 12 |  | 287 bushels |
| Custard apples ... | ... | ... | ... | ... | ... | ... | 245 | 113 | 29,296 bushels |
| Figs | ... | ... | ... | ... | ... | ... | 12 |  | 2,010 bushels |
| Lemons | ... | ... | ... | ... | ... | $\ldots$ | 171 | 38 | 19,158 bushels |
| Limes | ... | ... | ... | ... | ... | ... | 11 |  | 210 bushels |
| Nectarines | ... | ... | ... | ... | $\ldots$ | $\ldots$ | 60 | 10 | 3,336 bushels |
| Passion fruit | ... | ... | ... | ... | $\ldots$ | ... | 61 |  | 3,678 bushels |
| Papaws | ... | ... | ... | ... | ... | $\ldots$ | 258 | 81 | 62,147 dozens |
| Peaches | ... | ... | ... | ... | ... | $\ldots$ | 1,554 | 279 | 84,292 bushels |
| Pears | ... | ... | ... | ... | ... | ... | 176 | 85 | 8,490 bushels |
| Persimmons | ... |  | ... | ... |  | ... | 8 | 3 | 440 bushels |
| Plums | ... |  | $\cdots$ | ... | $\cdots$ | $\ldots$ | 917 | 419 | 41,963 bushels |
| $\begin{array}{ll}\text { Quinces } \\ \text { Rosellas } & \text {... }\end{array}$ | $\ldots$ | $\ldots$ | . | . | . | . | 22 2 | $\ldots$ | 635 bushels 105 bushels |
| nosellas ... | $\cdots$ | $\cdots$ | ** | ... | $\cdots$ | $\cdots$ |  | $\ldots$ |  |

Table No. LVII.
OTHER VEGETABLES.
Return for Two Years Showing Area and Production of Other Vegetables,


Table No. LVIII
PRINCIPAL OTHER CROPS
Return for Two Years Showing the Area and Production of Other Crops.


Table No. LIX.

## PASTURAGE.

Return for Five Years Showing the Area Under Pasturage.


Table No. LX.
HAY.
Return for Two Years Showing the Area and Production of Hay Crops.

| Hay Orops. |  |  |  |  |  |  | Area. |  | Increase or Decrease 1926 | Produce. |  | Increase or Decrease1926. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | 1925. | 1926. |  | 1925. | 1926. |  |
| WheatOatsLucerneOther |  | ... ... | ... | ... |  |  | Acres. 10,514 | Acres. 2,798 | Acres. $-\quad 7,716$ | Tons. <br> 9,040 | Tons. | Tons. |
|  | ... | ... | $\ldots$ | $\ldots$ | $\ldots$ | ... | 2,214 | 2,790 | - 1,424 | 2,398 | 1,736 | 二 1,662 |
|  | $\ldots$ | $\cdots$ | $\ldots$ | ... | ... | ... | 50,526 | 33,263 | -17,263 | 82,861 | 40,601 | -42,260 |
|  | ... | ... ... | ... | ... | ... |  | 3,574 | 3,290 | - 284 | 5,443 | 4,502 | - 941 |
|  |  | Totals | ... | ... | ... | ... | 66,828 | 40,141 | $-26,687$ | 99,742 | 47,740 | -52,002. |

Table No. LXI.
ARTIFICIALLY SOWN PASTURE.
Return for Two Years Showing the Area under Artificially Sown Pastures.

| Petty Sessions District. |  |  |  |  |  | 1925. | 1926. | Increase, 1926. | Decrease, |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atherton | ... |  |  |  |  | $\begin{gathered} \text { Acres. } \\ 45,516 \end{gathered}$ | $\begin{aligned} & \text { Acres. } \\ & 47,561 \end{aligned}$ | $\begin{aligned} & \text { Acres. } \\ & 2,045 \end{aligned}$ | Acres. |
| Beaudesert | ... | $\ldots$ |  |  | $\ldots$ | 6,622 | 10,613 | 3,991 | ... |
| Biggenden | ... | ... |  |  | ... | 18,911 | 21,643 | 2,732 | ... |
| Cooyar | ... | ... |  |  | ... | 2,080 | 5,232 | 3,152 |  |
| Dalby | ... | ... | ... |  | ... | 24,092 | 23,865 |  | 227 |
| Dugandan | ... | ... | ... |  | ... | 5,506 | 6,261 | 755 | ... |
| Eidsvold | ... |  |  |  | ... | 2,726 | 13,435 | 10,709 | ‥08 |
| Gayndah | ... | ... | ... |  | ... | 17,008 | 15,120 | ... | 1,888 |
| Gladstone | ... | ... | ... | ... | ... | 21,322 | 20,698 |  | 624 |
| Gympie | ... | ... | ... | ... | ... | 93,942 | 94,138 | 196 8,306 | . |
| Maroochy | $\ldots$ | $\ldots$ | $\ldots$ | ... | $\ldots$ | 42,017 | 50,323 46,409 | 8,306 | ... |
| N anango | $\ldots$ | $\ldots$ | ... | ... | ... | 45,375 | 46,409 | 1,031 288 | ... |
| Nerang | ... | ... | ... | ... | ... | 29,771 | 30,059 | 288 |  |
| Pittsworth Redcliffe | ... | $\ldots$ | $\ldots$ |  | ... | 8,537 | 5,932 |  | 2,605 |
| Redcliffe | ... | ... | ... |  | ... | 11,960 | 13,239 | 1,279 | ... |
| Rockhampton | ... | ... | ... |  | ... | 15,942 | 18,747 | 2,805 |  |
| Wienholt | ... | ... | ... |  | ... | 77,485 | 62,165 |  | 5,320 |
| Woodford All other Districts | ... | ... | ... |  | ... | 11,801 | ]2,161 | 360 |  |
| All other Districts | ... | ... | ... | ... | ... | 51,439 | 45,927 | ... | 5,512 |
| Totals | $\ldots$ | $\cdots$ | ... | ... | ... | 532,052 | 543,528 | 11,476 | $\ldots$ |

Table No. LXII.
ENSILAGE.
Return for Two Years Showing Number of Makers and Ensilage Made in the Several Petty Sessions Distriots of the State.

| Petty Sessions District, |  |  |  |  | 1925. |  | 192. |  | Increase, 1926. <br> Tons. | Decrease, 1926. <br> Tons. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{aligned} & \text { No. of } \\ & \text { Makers. } \end{aligned}$ | Tons. | No, of Makers. | Tons. |  |  |
| Atherton ... |  | $\ldots$ | ... | ... | 3 | 180 | 1 | 45 |  | 135 |
| Beaudesert |  | ... | ... | ... | 2 | 80 | 2 | 110 | 30 | ... |
| Biggenden ... | ... | ... | ... | ... | 1 | 4 | 1 | 1 | ... | 3 |
| Brisbane (A) | ... | ... | ... | ... | 6 | 320 | 1 | 20 | $\ldots$ | 300 |
| Brisbane (B) | ... | ... | ... | ... | 11 | 1,445 | 8 | 872 |  | 573 |
| Cairns ... | $\ldots$ | ... | ... | ... | 1 | 40 | 1 | 60 | 20 | ... |
| Chinchilla ... | , | . | ... | ... | $\ldots$ | ... | 1 | 75 | 75 | ... |
| $\begin{array}{ll}\text { Coen } \\ \text { Dalby } & . . . \\ \end{array}$ | ... | ... | ... | ... | $\cdots$ | $\ldots$ | 1 | 1 | 1 | $\cdots$ |
| Dalby ${ }^{\text {Dugandan }}$... | ... | ... | ... | ... | 1 | 50 | 3 |  |  | 50 |
| Dugandan | .. | ... | ... | ... | 1 | 45 | 3 | 213 | 1.68 | $\ddot{\square}$ |
| Eidsvold ... | ... | ... | ... | ... | 2 | 45 |  | 775 | ำ7 | 45 |
| Esk ... | . | ... | ... | . | 7 | 448 | 7 | 775 | 327 | ... |
| Gatton ... | .. | ... | ... | ... | 2 | 170 | 3 | 250 | 80 | $\ldots$ |
| Gayndah | .. | ... | ... | ... | ... | ... | 1 | 20 | 20 | ... |
| Gladstone ... | $\ldots$ | ... | ... | ... | ... | ... | 3 | 75 | 75 | $\ldots$ |
| Goodna ... | $\ldots$ | ... | ... | ... | , | $\because$ | 1 | 181 | 181 | ... |
| Gympie ... | ... | ... | ... | ... | 1 | 60 | 1 | 60 | . | ... |
| Harrisville | ... | ... | ... | ... | 1 | 10 | 1 | 20 | 10 | ... |
| Herberton ... | ... | ... | ... | ... | 1 | 100 | 2 | 175 | 75 |  |
| Ipswich ... | ... | ... | ... | ... | 1 | 20 | 1 | 10 |  | 10 |
| Kilcoy ... | ... | ... | ... | ... |  | . | 1 | 120 | 120 | - ... |
| Logan ... | ... | -. | ... | ... | 1 | 20 | 1 | 60 | 40 | $\ldots$ |
| Marburg ... | ... | ... | ... | ... | 1 | 1 |  |  | $\ldots$ | 1 |
| Maroochy ... | ... | ... | ... | $\ldots$ | 1 | 70 | 1 | 70 | ... |  |
| Nanango ... | ... | ... | ... | ... | 9 | 630 | 2 | 45 | ... | 585 |
| Nerang ... | ... | ... | ... | $\ldots$ | 2 | 150 | 1 | 120 | 780 | 30 |
| Pittsworth | ... | ... | ... | ... | 1 | 20 | 1 | 800 | 780 |  |
| Redcliffe ... | ... | ... | ... | ... | 2 | 36 |  |  | $\cdots$ | 36 |
| Rockhampton | ... | ... | ... | ... | 1 | 20 | 2 | 330 | 310 |  |
| Rosewood ... | ... | ... | ... | . | 2 | 140 | 1 | 120 | ... | 20 |
| Springsure | ... | ... | ... | .. | 1 | 200 | $\ldots$ | $\ldots$ | - $\quad$. | 200 |
| Stanthorpe Toowoomba | ... | ... | ... | ... | 1 | 100 | ... | $\cdots$ | ... | 100 |
| Toowoomba Woodford ... | ... | ... | ... | . | 1 | 26 | $\cdots$ | 100 | $\ldots$ | 26 104 |
| Wynnum ... | $\ldots$ | ... | $\cdots$ | $\ldots$ | 1 | 20 | ... | 100 |  | 20 |
| Totals | $\ldots$ | $\ldots$ | ... | ... | 67 | 4,654 | 50 | 4,728 | 74 | ... |

Return Showing the Resulite of the Datrying Indubtry in the Seyeral Petty Sessions Distriots of the State during the Year 1926.

| District. | $\begin{gathered} \text { Total } \\ \text { Motal } \\ \text { Obtained. } \end{gathered}$ | How utilusk. |  |  |  |  |  |  | stablishment |  |  | dairry cattik. |  |  | $\begin{aligned} & \text { Average } \\ & \text { por } \\ & \text { Dow } \end{aligned}$ | buttre made |  |  | chesse madr. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | For Butter on Parms. | $\begin{gathered} \text { For } \\ \text { Choese } \\ \text { On Farms. } \end{gathered}$ | For Domestic Producer. | $\underbrace{\text { Sale. }}_{\text {Separated for }}$ for | $\left.\begin{gathered} \text { Sola for } \\ \text { Consump } \\ \text { tion as Milik. } \end{gathered} \right\rvert\,$ | $\begin{array}{c}\text { Sola to Con- } \\ \text { densed Milk } \\ \text { Factories. }\end{array}$ | $\begin{gathered} \text { Sold to } \\ \text { Cheese } \\ \text { Factories. } \end{gathered}$ | Dairy- ing. | $\begin{aligned} & \text { Butber } \\ & \text { Fare- } \\ & \text { Fories } \end{aligned}$ | $\begin{aligned} & \text { Cheose } \\ & \text { Hare } \\ & \text { troies. } \end{aligned}$ | In Milk. | Dry. | $\begin{array}{\|l\|l\|} \text { Heifers, } \\ \text { Hete. } \end{array}$ |  |  | $\begin{gathered} \mathrm{By} \\ \text { Barmers. } \end{gathered}$ | Total. | ${ }_{\text {At }}^{\text {Atories. }}$ | $\stackrel{\text { By }}{\text { By }}$ ( | Total. |
| Brisbane (A) Brisbane (B) <br> Beaudesert <br> Oaboolture Cleveland Crow's Nest Dugandan Gatto Goodua: Fawisville Ipswich Kilcoy Logan Lowood Maroochy Redeliffe Rosewood Woodford Wynnum |  | Gallons. 8,926 151,067 17 2,940 30,423 164,620 89,020 145,851 141,066 60,150 41,1554 119,627 166,900 49,886 32,682 189,794 124,291 43,509 64,266 3,015 41,704 7,104 | Gallons. <br> *. <br> $\ldots$ <br> ... <br> 199 <br> $\ldots$ $\ldots$ $\ldots$ <br> *.4 <br> *.. <br> ... <br> 17,000 <br> .... | 211,262 <br> 39,232 <br> 146,998 <br> $\begin{array}{r}25,158 \\ 77 \\ \hline 724 \\ \hline\end{array}$ 25,58667,380117,488 <br> 103,034 1330,41430,623 72,12746,646 46,04645,59955,066 ${ }_{9}^{65,777}$ 91,625177137,7075 24,6600,856 ${ }_{65}^{6,004}$ 5,74151,73816,45218 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\ldots$ 69,950 ... 1,193 $\cdots$ $\ldots$ .... 68,515 87,008 39,352 | Lb. <br> $\ldots$ <br> ... <br> $\ldots$ $\ldots$ $\ldots$ $\ldots$ <br> $\because 200$ <br> ... <br> ... <br> ... <br> $\ldots$ $\ldots$ $\cdots$ $\cdots$ <br> ... <br> 14,000 | Lb. <br> 69,850 <br> 1,393 <br> .... <br> ... <br> $8 . . \ddot{15}$ <br> 87,058 14,000 39,359 <br> 39,352 |
| Total Moreton <br> Wide Bay- <br> Biggenden Bundaberg <br> Childers <br> Eiasvold <br> Gin Gin <br> Gympie ... <br> Maryborough ... <br> Mount Perry Nanango Tiaro <br> Wienholt <br> Total Wide Bay . | 53,737,841 | 1,97, 4,928 | 15,199 | 2,003,88 | 4,004,08 | 4,421,14 | ${ }^{990,579}$ | 323,01 | 7,776 | 16 | 4 | 156,160 | 46,575 | 25,641 | ${ }^{265}$ | 17,887,0 | 812,678 | 18,0 | 265,988 | 14,200 | 280,168 |
|  |  |  |  |  |  |  |  | 283,784 <br> $4,0,00$ 72,347 <br> $\ldots$ <br> 103,489 <br> 12̈,142 |  | ${ }^{1}{ }_{2}$ | $\begin{aligned} & { }_{l}^{2} \\ & \cdots \\ & \cdots \\ & \cdots \\ & \cdots \\ & \cdots \\ & \cdots \\ & \cdots \\ & { }_{2} \end{aligned}$ |  |  |  |  |  |  |  | $29<, 259$ 79,097 132,722 ... |  | 79,097 <br> … <br> $132 \ddot{7}_{22}^{2}$ <br> 2,5C0 |
|  | 34, |  | 2,50 | 1,381,75 | 31,174,43 |  |  | 475, | 5,40 | 12 | 5 |  |  |  |  | 9, |  | ,363, | 509,07 |  | 511, |
| Port CurtisBanana... Mount Morgan Rockhampton . St. Lawrence .. Total Port Curtis | $\begin{aligned} & 2,423,242 \\ & 5058,872 \\ & \hline, 045,583 \\ & \hline 1,929 \end{aligned}$ |  | … | $\begin{gathered} 91,889 \\ 41,968 \\ 158,26 \\ 13,103 \end{gathered}$ | $\begin{array}{r} 394,763 \\ 1,32 \bar{\delta}, 044 \end{array}$ |  |  | $\dddot{2,000}$ | $\begin{gathered} 452 \\ \hline 152 \\ 598 \\ 36 \end{gathered}$ | 1 1 1 2 | $\stackrel{. . .}{. . .}$ | $\begin{gathered} 8,166 \\ \hline, 4241 \\ 8,534 \\ 8,56 \end{gathered}$ | $\begin{aligned} & 1,0,93 \\ & 8,596 \\ & 1206 \end{aligned}$ | $\begin{aligned} & 1,395 \\ & 1,309 \\ & 1,744 \end{aligned}$ | $\begin{aligned} & 17979 \\ & \begin{array}{l} 134 \\ 134 \\ 109 \end{array} \end{aligned}$ | ${ }_{339,377}^{357,967}$ |  | $\begin{gathered} 2,999,374 \\ 30,095 \\ 40,0651 \\ \hline 2,849 \end{gathered}$ | $\ldots$ | $\begin{aligned} & \cdots \\ & \cdots \\ & \cdots \end{aligned}$ | $\ldots$ |
|  | 4,986,626 | 411,114 |  | 308,26 | 3,871,696 | 372,505 |  | 2,000 | 1,24 | 4 |  | 9,227 | 13,216 | 2,88 | 154 | 36,34 | 15,337 | 2,887,6 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table No. LXIII.-continued.
Return Showing the Results of the Dairying Industry in the Several Petty Sessions Distriots of the State during the Year 1926-continued.

| District. | $\begin{gathered} \text { Total } \\ \text { Obtak } \\ \text { Obtined. } \end{gathered}$ | нow vimused. |  |  |  |  |  |  | estabishavits. |  |  | dairy cattre. |  |  | $\begin{gathered} \text { Average } \\ \text { pere } \\ \text { Cow. } \end{gathered}$ | buttre mads. |  |  | chersk made. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | For Butter <br> on Farms. | $\begin{gathered} \text { For } \\ \text { Chease } \\ \text { on Farms. } \end{gathered}$ | $\left\lvert\, \begin{gathered} \text { For } \\ \text { Pomestic } \\ \text { Purposes by } \\ \text { Producer. } \end{gathered}\right.$ | Separated for Sale. | $\begin{gathered} \text { sold for } \\ \text { conoump } \\ \text { cononas } \\ \text { tionik. } \end{gathered}$ | $\left\lvert\, \begin{gathered} \text { Sold to to } \\ \text { Condensed } \\ \text { Milk } \\ \text { Factories. } \end{gathered}\right.$ | $\begin{gathered} \text { Sold to } \\ \text { Chaeses } \\ \text { Factories. } \end{gathered}$ |  |  |  | In Milk. | Dry. | $\left\lvert\, \begin{gathered} \text { Heiters, } \\ \text { sec, } \end{gathered}\right.$ |  | Factories. |  | Total | ${ }_{\text {Factories }}$ At | $\stackrel{\text { Farmers. }}{\text { By }}$ | Total. |
|  | $\begin{array}{r} \text { Gallons. } \\ \\ 7,830,321 \\ 147,805 \\ 1,165 \\ 3,000 \\ 173,963 \\ 41,093 \\ 92,833 \end{array}$ | Gallons. <br> 213,612 8,696 <br> 350 <br> 3,390 <br> 3,810 | Gallons. ** ... ... ... | $\begin{array}{r} \text { Gallons. } \\ 136,639 \\ 74,087 \\ 815 \\ 3,000 \\ 11,737 \\ 33,778 \\ 57,823 \end{array}$ | Gallons. <br> 7,173,284 <br> $1 \dddot{34}, 632$ <br> .... | Gallons. <br> 77,873 65,022 <br> $\cdots$ $\cdots$ 7,04 7,065 31,205 | Gallons. <br> ... <br> $\ldots$ $\ldots$ $\ldots$ <br> $\ldots$ $\ldots$ $\ldots$ | Gallons. <br> 228,913 <br> ... <br> ... | No. $\begin{array}{r} 482 \\ 227 \\ 5 \\ 3 \\ 37 \\ 124 \\ 193 \end{array}$ | No. $4$ ... $\cdots$ | $\begin{gathered} \text { No. } \\ { }^{3}{ }^{3} \\ \cdots \\ \cdots \\ \cdots \\ \hline . . \end{gathered}$ | $\begin{gathered} \text { No. } \\ \substack{11,691 \\ 718 \\ 131 \\ 13 \\ 680 \\ 863 \\ 353 \\ 444} \end{gathered}$ | No. 4,682 506 506 20 20 372 151 311 311 | $\begin{aligned} & \text { No. } \\ & 1,115 \\ & 119 \\ & \cdots \\ & \cdots \\ & \cdots \\ & \hline 149 \\ & 32 \\ & 52 \end{aligned}$ |  | Lb. <br> $2,446,844$ <br> $\ldots$ 33,036 <br> $\ldots$ | Lb. <br> 40,368 3,646 <br> 3,646 30 <br>  | $\begin{gathered} \text { Lb. } \\ \begin{array}{c} 2,487,212 \\ 3,668 \\ 30 \\ 30 \\ 33,769 \\ 51,247 \\ 1,247 \end{array} \end{gathered}$ | Lb. <br> 264,435 <br> ... <br> ... <br> ... | Lb. | Lb. <br> 264,435 <br> .. $\ldots$ $\ldots$ <br> ... |
| Total Rockingham | 8,290, 185 | 230,108 |  | 317,87 | 7,327,916 | 185,36 | ... | 228,913 | 1,071 | 5 | 3 | 13,88 | 6,07 | 1,42 | 415 | 2,479,88 | 46,07 | 2,525,9 | 264,43 |  | 264,436 |
| $\begin{gathered} \text { Maranao- } \\ \text { Mitchell } \\ \text { Romaa ... } \\ \text { Surat .... } \begin{array}{c} \text { Yeulba ... } \end{array} \\ \hline \end{gathered}$ | 61,67 $1,390,579$ <br> 8\% 8,072 | $\begin{array}{r} 7,096 \\ 100,699 \\ 5,420 \\ 5,4 \end{array}$ | $\stackrel{. .}{.}$ | $\begin{gathered} 9,477 \\ \left.\begin{array}{c} 9,664 \\ 6,6,045 \end{array}\right) \end{gathered}$ | $\begin{gathered} 15,102 \\ \begin{array}{c} 1,66,248 \\ 72,512 \end{array} \\ 72,58 \end{gathered}$ |  | … | $\dddot{6}, 353$ | $\begin{gathered} 30 \\ 299 \\ \end{gathered}$ | ${ }^{\prime} 1$ | $\cdots$ <br> $\cdots$ <br> $\cdots$ <br> $\cdots$ | $\begin{array}{r} 251 \\ 4,349 \\ \hline 170 \\ \hline 170 \end{array}$ | $\begin{gathered} 188,615 \\ { }_{2,615}^{185} \\ \hline 185 \end{gathered}$ | $\begin{aligned} & 45 \\ & 699 \end{aligned}$ | $\begin{aligned} & 114 \\ & 200 \\ & 2729 \end{aligned}$ | 5iö,585 | $\begin{gathered} 2,894 \\ 36,767 \\ 2,114 \end{gathered}$ | $\begin{array}{r} 2,899 \\ 576,60 \\ 2,6,114 \end{array}$ | $\cdots$ | $\begin{aligned} & \cdots .: \\ & \cdots \\ & \cdots \end{aligned}$ | $\cdots$ |
| al Maranoa | 1,537,326 | 113,2 |  | 109,17 | 1,288,80 | 24, | ... | 6,35 | ${ }^{34}$ | 1 |  | 4,72 | 2,83 | 750 | 199 | 540,68 | 41.08 | 581,6 | ... | ... | ... |
|  |  |  |  |  |  |  |  |  |  | $\begin{gathered} { }_{1}^{1} \\ \ldots \\ \ldots \\ \cdots \\ { }_{1}^{1} \\ \ldots \\ \ldots \\ 1 \\ 1 \\ 1 \end{gathered}$ |  |  |  |  |  |  |  |  |  |  |  |
| rotal D | 27,254,22 | 1.11 | ${ }^{64}$ | 1,233,91 | 15,480,517 | 566,391 | 667,176 | 8,28 | 4,974 | 12 | ${ }^{64}$ | 74,34 | 28,983 | 9,025 | ${ }^{261}$ | 9,244,839 | 499,196 | 9,744,035 | 7,684, | ${ }^{64}$ | , 177 |
| Other Pistriets ... | 1,416,419 | 344,094 | ... | 511,207 | 171,490 | 389,628 | ... | .. | 1,598 | 1 |  | 7,449 | 6,151 | 1,783 | 104 | 76,360 | 112,984 | 189,34 |  |  |  |
| Grand Total, 1926 | $a 132,144,165$ $3165,656,388$ | $\begin{aligned} & \substack{5,726,647 \\ 5,758,443} \end{aligned}$ | $\begin{aligned} & 17,763 \\ & 18,370 \end{aligned}$ | $\begin{aligned} & 5,94,08,084 \\ & 5,998,20 \end{aligned}$ | $103,314,026$ <br> $131,015,172$ | $\begin{aligned} & 6,352,517 \\ & 6,048,409 \end{aligned}$ | $\begin{aligned} & \substack{1,66,7,755 \\ 2,437,100} \end{aligned}$ | $\underset{13,482,674}{9,24,33}$ | $\overline{{ }_{22,451}^{2,581}}$ | ${ }_{50}^{51}$ | ${ }_{73}^{76}$ | 397,606 463,436 | 157,913 <br> 147,490 | 55,708 | 2388 271 | $48,644,199$ $68,239,338$ | ${ }^{2,509,388}$ | $50,991,985$ $70,748,646$ | $\underset{\substack{8,723,591 \\ 13,265,168}}{ }$ | 16,764 15,370 1, |  |
| Increase, 1926 Decrease, 1926 | 33,512,223 | 31,796 | $1,393$ | 152,136 | 28,601,146 | 304,108 | 774,345 | 4,258,301 | 130 | 1 | 3 | 65,830 | 9,923 |  | 33 | 9,595,1 | 161,522 | 19,756,661 | 5,24,577 | $\stackrel{1,394}{ }$ | 5,244,18 |

Return Showing the Total Extent of Land under Cultivation, and the Area under each Description of Crop, in the Several Petty Sessions Distriots

Table No. LXIV.-continued.

Table No. LXIV

Table No. LXV.
Return Showing the Gross Produce of Prinotpal Crops Rafsed in the Several Petty Sessions Digtricts of the State during the Year 1926.


170
Table No. LXV.-continued.
Return Showing the Gross Produce of Prinotpal Crops Ratsed in the Several Petty Sessions Districts of the State during the Year 1926-continued.


171
Table No. LXV.-continued.
Return Showing the Gross Produce of Pringipal Crops Raised in the Several Petty Sessions Distriots of the State during the Year 1926 -continued.

Showing the Total Extent of Lakd under Cultifation and the Area under fach Description of Crop in Queensland－Return for Ten Years．


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Table No. LXVIII.

Table No. LXIX.
Refurn Showina the Area and Produge Obtained during tae Year 1926 from Certatn Otaer Crops, details of which are not inoluded in the General Table.


Table No. LXX.
Return Showing the Total Extent ce Land Cultivated for Hay, Together with the Yield of Hay, in each of the Several Petty Sessions Districts of the State and the Average Yield per Acre during the Year 1926.


Table No. LXXI.
Return Showing the Total Extent of Land Culmifated for Green Crops in eade of the Several Petty Sessions Distriots of the State during the Year 1926.

Table No. LxxII.


Table No. LXXIII.
Return Showing the Area, Yield, and Value of Crops for the Year 1926.



Registrar-General.

## REPORT OF THE REGISTRAR-GENERAL ON LIVE STOCK FOR THE YEAR 1926.

INDEX.


INDEX.




## REPORT OF THE REGISTRAR-GENERAL ON LIVE STUCK FOR THE YEAR 1926.

Table No. I.
Return showing the Number of Live Stock in the State for Two Years, and the Increase or Decrease for the Year 1926.

| Year. |  |  | Horses. | Cattle. | Sheep. | Swine. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1925 | ... | ... | 638,372 | 6,436,645 | 20,663,323 | 199,598 |
| 1926 | ... | ... | 571,622 | 5,464,845 | 16,860,772 | 183,662 |
| Numerical Increase in 1926 | ... | ... | $\ldots$ | $\ldots$ | ... | ... |
| Numerical Decrease in 1926 | $\ldots$ | . | 66,750 | 971,800 | 3,802,551 | 15,936 |
| Centesimal Increase in 1926 | $\ldots$ | ... | ... | $\ldots$ |  | ... |
| Centesimal Decrease in 1926 | $\ldots$ | ... | $10 \cdot 46$ | $15 \cdot 10$ | 18.40 | $7 \cdot 98$ |

Table No. II.
Return for Ten Years Showing the Number of Horses, Cattle, Sheep, and Swine in the State.

| Year. |  |  |  |  |  | Horses. | Cattle. | Sheep. | Swine. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 |  | ... | $\ldots$ |  |  | 733,014 | 5,316,558 | 17,204,268 | 172,699 |
| 1918 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 759,726 | 5,786.744 | 18,220,985 | 140,966 |
| 1919 | .. |  |  |  | .. | 731,705 | 5,940,433 | 17,379,332 | 99,593 |
| 1920 | ... | ... |  |  | $\ldots$ | 742,217 | 6,455,067 | 17,404.840 | 104,370 |
| 1921 | $\ldots$ | ... | $\ldots$ |  | $\ldots$ | 747,543 | 7,047,370 | 18,402,349 | 145,083 |
| 1922 | $\ldots$ | ... | $\ldots$ | $\ldots$ | $\ldots$ | 714,055 | 6,955,463 | 17,641,071 | 160,617 |
| 1923 | $\ldots$ | $\ldots$ |  | ... | $\ldots$ | 661,593 | 6,396,514 | 16,756,101 | 132,243 |
| 1924 | $\ldots$ | , |  |  | , | 660,093 | 6,454,653 | 19,028,252 | 156,163 |
| 1925 |  |  |  |  | ... | 638,372 | 6,436,645 | 20,663,323 | 199,598 |
| 1926 | $\ldots$ |  |  |  |  | 571,622 | 5,464,845 | 16,860,772 | 183,662 |

Table No. III.
Return for Ten Years showing the Centesimal Increase or Deorease in Live Stook.

| Year. |  |  |  |  |  | Horses. | Cattle. | Sheep. | Swine. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 | ... | ... | ... | $\ldots$ | $\ldots$ | 5.09 | 11.56 | 10.82 | $33 \cdot 12$ |
| 1918 | ... | $\cdots$ | ... | ... | ... | $3 \cdot 64$ | $8 \cdot 84$ | $5 \cdot 91$ | $-18 \cdot 37$ |
| 1919 | $\ldots$ | ... | ... | ... | $\ldots$ | - 3.69 | $2 \cdot 66$ | - 462 | $-29.35$ |
| 1920 | ... | $\ldots$ | ... | ... | ... | $1 \cdot 44$ | $8 \cdot 66$ | $0 \cdot 15$ | 480 |
| 1921 | ... | ... | ... | ... | ... | 0.72 | $9 \cdot 18$ | 5.73 | 39.01 |
| 1922 | ... | ... | ... | ... | ... | - 4.48 | - 130 | - 4.14 | 10.71. |
| 1923 | $\ldots$ | .. | ... | ... | $\ldots$ | - $7 \cdot 35$ | - $8 \cdot 04$ | - 5.02 | $-17.67$ |
| 1924 |  |  | .. |  | $\ldots$ | - 0.23 | 0.91 | 13.56 | 18.09 |
| $19 \% 5$ |  |  |  |  |  | - 3.23 | $\begin{array}{r} -0.28 \end{array}$ | $\begin{array}{r} 859 \end{array}$ | $27 \cdot 81$ |
| 1926 |  | ... |  | ... | ... | $-10 \cdot 46$ | $-15 \cdot 10$ | - 18.40 | -7.98 |

- Deerease.

Table No. IV.
Return showing the Density and the Proportion of the Various Kinds of Live Stock in the severat Pastoral Districts and the Number per Capita in the State for the Year 1926.
In Ccrwerting Horses and Cattle to Terms of Sheep, Ten Head of Sheep are Taken as Equal to One Horse or Head of Cattle.

|  |  | 홍 \% \& |  | Honses. |  |  | Cattle |  |  | Sheer. |  | ${ }^{\text {a }}$ | RINDS in | ERMS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pastoral District. | Acres. |  | $\begin{aligned} & \text { Acres } \\ & \text { per } \\ & \text { Head. } \end{aligned}$ |  | Percentage Total in state. |  |  | Per- centage to Totarin State. | $\begin{gathered} \text { Acres } \\ \text { per } \\ \text { Head. } \end{gathered}$ |  |  | $\begin{aligned} & \text { Acres } \\ & \text { per } \\ & \text { Head. } \end{aligned}$ |  | $\begin{array}{\|l\|l} \text { Per- } \\ \text { centage } \\ \text { toto } \\ \text { Total in } \\ \text { State. } \end{array}$ |
| Burke | 65,383,040 | 15.24 | 1,530 | $0 \cdot 42$ | $7 \cdot 48$ | 95 | 6.71 | 12.54 | 33 | 19.36 | 11.73 | 706 |  | 11.99 |
| Burnett | 7,972,480 | 1.86 | 1,209 | $3 \cdot 07$ | 6.65 | 18 | 35.37 | 806 | 1,065 | ${ }_{0} \cdot 6.6$ | ${ }_{0}^{11} 04$ | 1.66 | $384 \cdot 92$ | 6.24 |
| Cook ... | 63,601,920 | 14.82 | 1,437 | $0 \cdot 45$ | $7 \cdot 74$ | 122 | 5.24 | $9 \cdot 53$ | 5,056 | $0 \cdot 13$ | 0.08 | 11.23 | -56.98 | 7.33 |
| Darling Downs ... | 16,249,600 | 3.79 | 235 | $2 \cdot 72$ | $12 \cdot 10$ | 39 |  | $7 \cdot 58$ | 5 8 | 80.57 | $12 \cdot 13$ | $2 \cdot 36$ | 271.04 | 8.91 |
| Gregory North | $54,266,240$ | $12 \cdot 64$ | 2,838 | $0 \cdot 23$ | $3 \cdot 35$ | 255 | 251 | $3 \cdot 89$ | 50 | 12.81 | 6.44 | $15 \cdot 9 t$ | $40 \cdot 16$ | $4 \cdot 41$ |
| Gregory South | 31,617,920 | 7.37 | 3,032 | $0 \cdot 21$ | $1 \cdot 82$ | 233 | $2 \cdot 75$ | $2 \cdot 49$ | 92 | 6.98 | $2 \cdot 05$ | $17 \cdot 48$ | 36•60 | $2 \cdot 34$ |
| Leichbardt | 30,946,560 | $7 \cdot 21$ | 766 | 0.84 | $7 \cdot 06$ | 54 | 11.76 | 10.40 | 37 | 17.38 | 4.99 | 447 | $143 \cdot 29$ | 8.97 |
| Maranoz ... | 25,110,400 | $5 \cdot 85$ | 878 | 0.73 | $5 \cdot 01$ | 107 | 6.01 | $4 \cdot 31$ | 7 | 85.81 | $19 \cdot 97$ | 4-18 | $153 \cdot 17$ | 7.78 |
| Mitchell ... | 35,431,480 | $8 \cdot 26$ | 1,063 | $0 \cdot 60$ | $5 \cdot 83$ | 311 | 2.06 | $2 \cdot 09$ | 9 | 74.70 | $24 \cdot 53$ | 6.32 | 10132 | $7 \cdot 26$ |
| Moreton ... | 5,649,920 | 1.32 | 90 | $7 \cdot 11$ | 10.97 | 12 | 54.01 | 873 | 257 | $2 \cdot 49$ | $0 \cdot 13$ | 1.04 | 613*68 | $7 \cdot 02$ |
| North Kennedy | 21,832,960 | 5. 09 | 347 | 1.84 | 11.00 | 48 | 13.32 | 832 | 983 | $0 \cdot 65$ | $0 \cdot 18$ | 4.20 | $152 \cdot 29$ | 6.73 |
| Port Curtis | 8,994,560 | $2 \cdot 09$ | 269 | $2 \cdot 38$ | $5 \cdot 85$ | 23 | $27 \cdot 30$ | $7 \cdot 02$ | 321 | $2 \cdot 00$ | $0 \cdot 17$ | $2 \cdot 14$ | 298.85 | $5 \cdot 44$ |
| South Kennedy | 19,528,960 | 4.55 | 576 | 1.11 | 5.93 | 59 | 10.77 | 6.01 | 118 | $5 \cdot 41$ | $0 \cdot 98$ | $5 \cdot 15$ | $12+19$ | 491 |
| Warrego ... | 37,333,760 | $8 \cdot 70$ | 1.722 | 037 | $3 \cdot 79$ | 195 | 3-28 | 3.50 | 13 | 47.99 | $16 \cdot 60$ | 7.58 | 84.48 | $6 \cdot 38$ |
| Wide Bay | 5,200,000 | $1 \cdot 21$ | 169 | 3.79 | 5•38 | 17 | 37.22 | $5 \cdot 53$ | 944 | 0.68 | 0.03 | 1.56 | 41076 | $4: 32$ |
| State | 429,120,000 | $100 \cdot 00$ | 751 | 0.85 | $100 \cdot 00$ | 79 | $8 \cdot 15$ | $100 \cdot 0$ | 25 | 20.15 | $100 \cdot 00$ | 5.56 | 115.18 | $100 \cdot 00$ |
| Number per Capita Population... |  |  | $0 \cdot 65$ |  | ... | $6 \cdot 19$ |  | ... | $19 \cdot 11$ |  |  | $87 \cdot 54$ |  | .. |

Table No. V.
The following table shows, from the latest information available, the live stock density in various countries :-

|  |  |  |  |  | Live Stock in Terms of Sheep per Square Mile |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Queensland |  | $\ldots$ | $\ldots$ | $\ldots$ | ... | 115 |
| New South Wales | $\ldots$ | $\ldots$ | ... | $\ldots$ | $\ldots$ | 293 |
| Victoria | $\ldots$ | ... | ... | ... | $\ldots$ | 384 |
| Argentina | .. | ... | .. | ... | $\ldots$ | 425 |
| Germany | $\ldots$ | ... | $\ldots$ |  | $\ldots$ | 1,184 |
| Union of South Africa |  |  |  |  | $\ldots$ | 299 |
| United Kingdom ... |  | $\ldots$ | $\ldots$ | $\ldots$ |  | 973 |
| United States of America |  |  | ... | ... | $\ldots$ | 263 |

Table No. VI.
Return showing Number and Proportion of Horses, Cattle, Sheep, and Swine in the Southern, Centrai, and Northern Divisions of the State for the Year 1926.

| Division. |  |  |  |  | Horses. |  | Cattle. |  | Sheep. |  | Swine. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | No. | \% | No. | \% | No. | \% | No. | \% |
| Southern Division Central Division Northern Division |  | $\ldots$ | ... |  | 268,496 | 46.97 | 2,327,553 |  | 8,620,821 | $51 \cdot 13$ | 158,517 |  |
|  | ... | $\ldots$ | ... | ... | 125,561 | 21.97 | 1,292,426 | $23 \cdot 65$ | 6,187,335 | 36.70 | $\begin{array}{r}158,558 \\ \hline, 658\end{array}$ | 86.1 5.26 |
|  |  |  |  | ... | 177,565 | 31.06 | 1,844,866 | 33.76 | 2,052,616 | $12 \cdot 17$ | 15,487 | 8.43 |
| Total State | ... | ... | ... | ... | 571,622 | 100.00 | 5,464,845 | 100.00 | 16,860,772 | $100 \cdot 00$ | 183,662 | $100 \cdot 00$ |

Table No. VII.
Return showing Number of Horses, Cattle, and Sheep per Square Mile and per Capita of Population in the Southern, Central, and Northern Divisions of the State for the Year 1926.

| Division. |  | $\begin{aligned} & \text { Area in } \\ & \text { sq. miles. } \end{aligned}$ | Population. | Horses. |  | Cattle. |  | Sherf. |  | All Kinds in terms of Shezp. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Per Sq. Mile. | Per Capita of Population. | $\begin{aligned} & \text { Per } \\ & \text { Sq. Mile. } \end{aligned}$ | Per Capita of Population. | $\begin{aligned} & \text { Per } \\ & \text { sq. Mile. } \end{aligned}$ | Per Capita of Population. | $\begin{aligned} & \text { Per } \\ & \text { Sq. Mile. } \end{aligned}$ | Per Capita of Population. |
| Southern Division | $\ldots$ | 209,980 | 627,521 | $1 \cdot 28$ | $0 \cdot 43$ | 11.08 |  |  |  |  |  |
| Central Division | ... | 209,340 | 103,573 | 0.60 | $1 \cdot 21$ | $6 \cdot 17$ | $12 \cdot 48$ | $29 \cdot 56$ | $59 \cdot 74$ | -97.29 | $\begin{array}{r} 55 \cdot 11 \\ 196 \cdot 65 \end{array}$ |
| Northern Division | ... | 251,180 | 151,099 | $0 \cdot 71$ | $1 \cdot 18$ | 7.34 | $12 \cdot 21$ | 8.17 |  |  | $\begin{aligned} & 196 \cdot 65 \\ & 147 \cdot 43 \end{aligned}$ |

[^2]Table No. VIII.
Return showing the Number of Horses Imported and Exported into and from the State for the Year 1926.


Table No. IX.
Return for Ten Years showing the Number of Entire and other Horses.

| Year. |  |  |  |  |  |  | Entire Horses. | Other Horses. | Total. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 | $\ldots$ | $\ldots$ | ... |  |  | . | 7,762 | 725,252 | 733,014 |
| 1918 | ... | ... | ... | ... | ... | $\ldots$ | 7,664 | 752,062 | 759,726 |
| 1919 | ... | ... | ... |  | ... | $\ldots$ | 6,616 | 725,089 | 731,705 |
| 1920 | $\ldots$ | ... | ... | $\ldots$ | $\ldots$ | $\ldots$ | 6,402 | 735,815 | 742.217 |
| 1921 | ... | ... | $\ldots$ | ... | $\ldots$ | $\ldots$ | 6,164 | 741,379 | 747,543 |
| 1922 | ... | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 4,930 | 709,125 | 714,055 |
| 1923 | ... | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 4,728 | 656,865 | 661,593 |
| 1934 | ... | ... | $\ldots$ | ... | $\ldots$ | $\ldots$ | 3,717 | 656,376 | 660,093 |
| 1925 | ... | $\ldots$ | ... | ... |  | ... | 2,827 | 635,545 | 638,372 |
| 1926 | ... | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | ... | 2,221 | 569,401 | 571,622 |

Table No. X.
Return for Ten Years showing the Number of Owners and the Sizes of Herds under
Various Groupings, also the Inorease or Decrease for the Year 1926.
For Details of Sizes of Herds of Cattle in Pastoral Districts, for the Year 1926, see Table No. XXXIV.


* Included in group 301 to 500.
$\dagger$ Included in group 1,001 to 5,000 .

Table No. XI.
Return for Ten Yrars showing the Number of Owners and the Sizes of Flocks under various Grouptngs; also the Increase or Decrease for the Year 1926.
For Details of Sizes of Flocles of Sheep in Pastoral Districts for the Year 1926 see Table No. XXXVI.


## Table No. XII.

Return for Ten Years showing the Results of Lambing, Losses, Etc., in the State.
For Details for the Year 1926 see Tables No. XLV. and XLVI.

|  | 1917. | 1918. | 1919. | 1820. | 1921. | 1932. | 1923. | 1924. | 1925. | 1926. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total sheep as per Stock Returns on | 15,524,293 | 17,204,268 | 18,220,985 | 17,379,332 | 17,404,840 | 18,402,399 | 17,641,071 | 16,756,101 | 19,028,252 | 20,663,323 |
| Ewes mated with Rams | 6,545,209 | 7,587,417 | 7,056,171 | 7,405,279 | 7,762,276 | 7,574,309 | 7,225,507 | 8,181,332 | 8,772,276 | 6,557,034 |
| Lambs Marked | 4,067,987 | 4,038,680 | 2,564,548 | 3,729,026 | 4.711,185 | 3,420,409 | $3,052,893$ | 4,833,145 | 4,638,376 | 2,245,998 |
| Percentage of Lambing | $62 \cdot 15$ | $53 \cdot 23$ | $36 \cdot 34$ | $50 \cdot 35$ | $60 \cdot 69$ | $45 \cdot 16$ | $42 \cdot 25$ | 56.99 | 52.88 | $34 \cdot 25$ |
| Purchases | 2,877,416 | 3,088,904 | 3,557,278 | 3,826,035 | 3,283,819 | 3,115,912 | 3,904,803 | 5,143,617 | 4,173,815 | 3,889,789 |
| Sales ... | 3,586,183 | 3,584,631 | 4,274,909 | 5,321,673 | 5,325,881 | 4,521,108 | 5,053,173 | 5,646,885 | 4,793,725 | 4,409,589 |
| Total Losses | 1,485,042 | 2,280,379 | 2,421,744 | 1,962,362 | 1,436,413 | 2,543,675 | 2,577,987 | 1,877,428 | 2,187,262 | 5,335,207 |
| Killed for Food on Holding | 194,203 | 243,857 | 266,826 | 245,518 | 235,151 | 232,866 | 211,506 | 180,298 | 186,133 | 193,542 |
| Total Sheep as per Stock Returns on 31st December | 17,204,268 | 18,220,995 | 17,379,332 | 17,404,810 | 18,402,399 | 17,641,071 | 16,756,101 | 19,028,252 | 20,663,323 | 16,860,772 |
| Skins obtained during the Year | 192,323 | 243,053 | 277,690 | 262,231 | 232,935 | 216,969 | 214,389 | *182,755 | $\dagger 180,852$ | $\dagger 201,169$ |

## Table No. XIII.

- Return for Two Years showing the Number of Cattle, Etc., Exported and Killed.


[^3]Table No. XIV.
Return for Ten Years showing the Number of Cattle and Sheep Imported into and Exported from the State Overland and Oversea.

| * Year. |  | Cattle. |  | Sherp. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Inwards. | Outwards. | Inwards. | Outwards. |
| 1917 | $\left\{\begin{array}{l} \text { Overland, Calendar year } \ldots \\ \text { Overland, Financial year } \ldots . \\ \text { Oversea, Financial year } \end{array}\right.$ | $\begin{gathered} \text { Number. } \\ 36,729 \\ 40.651 \\ 12 \end{gathered}$ | $\begin{array}{r} \text { Number. } \\ 97,552 \\ 83,867 \\ 38 \end{array}$ | $\begin{gathered} \text { Number. } \\ 73,185 \\ 68,445 \end{gathered}$ | $\begin{aligned} & \text { Number. } \\ & 476,778 \\ & 589,185 \\ & 202 \end{aligned}$ |
| 1918 | $\left\{\begin{array}{l} \text { Overland, Calendar year ... } \\ \text { Overland, Financial year ... } \\ \text { Oversea, Financial year. ... } \end{array}\right.$ | $\begin{aligned} & 55,048 \\ & 21,862 \end{aligned}$ | $\begin{array}{r} 101,995 \\ 112,358 \\ 66 \end{array}$ | $\begin{array}{r} 205,763 \\ 134,341 \\ y \end{array}$ | $\begin{array}{r} 476,255 \\ 405,263 \\ 32 \end{array}$ |
| 1919 | $\left\{\begin{array}{l} \text { Overland, Calendar year ... } \\ \text { Overland, Financial year ... } \\ \text { Oversea Financial year ... } \end{array}\right.$ | $\begin{aligned} & 58,618 \\ & 83,146 \end{aligned}$ | $\begin{array}{r} 91,874 \\ 63,518 \\ 10 \end{array}$ | $\begin{aligned} & 396,731 \\ & 437,982 \end{aligned}$ | $\begin{array}{r} 409,982 \\ 382,717 \\ 9 \end{array}$ |
| 1920 | $\left\{\begin{array}{l}\text { Cverland, Calendar year ... } \\ \text { Overland, Financial year ... } \\ \text { Oversea, Financial year ... }\end{array}\right.$ | $\begin{array}{r} 51,202 \\ 38,694 \\ 1 \end{array}$ | 351,475 <br> 152,469 <br> 37 | $\begin{array}{r} 280,406 \\ 328,604 \\ 11 \end{array}$ | $\begin{array}{r} 1,493,206 \\ 684,723 \\ 4 \end{array}$ |
| 1921 | $\left\{\begin{array}{l}\text { Overland, Calendar year ... } \\ \text { Overland, Financial year ... } \\ \text { Oversea, Financial year }\end{array}\right.$ | $\begin{array}{r} 57,111 \\ 50,761 \\ 2 \end{array}$ | $\begin{array}{r} 300,862 \\ 429,507 \\ 436 \end{array}$ | $\begin{aligned} & 74,4,59 \\ & 96,079 \end{aligned}$ | $\begin{array}{r} 1,566,245 \\ 1,927,428 \\ 1,074 \end{array}$ |
| 1922 | $\left\{\begin{array}{l} \text { Overland, Calendar year ... } \\ \text { Overland, Financial year ... } \\ \text { Oversea, Financial year } . . . \end{array}\right.$ | $\begin{aligned} & 30,939 \\ & 67,497 \end{aligned}$ | $\begin{array}{r} 158,966 \\ 230,409 \\ 169 \end{array}$ | $\begin{aligned} & 273,518 \\ & 196,334 \end{aligned}$ | $\begin{array}{r} 922,246 \\ 1,325,195 \\ 74 \end{array}$ |
| 1923 | $\left\{\begin{array}{l} \text { Overland, Calendar year ... } \\ \text { Overland, Financial year ... } \\ \text { Uversea, Financial year ... } \end{array}\right.$ | $\begin{aligned} & 31,090 \\ & 26,042 \end{aligned}$ | 215,790 <br> 133,134 1,131 | $\begin{aligned} & 332,480 \\ & 339,532 \end{aligned}$ | $\begin{aligned} & 725,144 \\ & 565,756 \\ & 62 \end{aligned}$ |
| 1924 | $\left\{\begin{array}{l} \text { Overland, Calendar year ... } \\ \text { Overland, Financial year ... } \\ \text { Oversea, Financial year ... } \end{array}\right.$ | $\begin{aligned} & 67,681 \\ & 61,747 \end{aligned}$ | $\begin{aligned} & 195,943 \\ & 256,093 \end{aligned}$ $483$ | $\begin{aligned} & 222,489 \\ & 231,325 \end{aligned}$ | $\begin{array}{r} 642,055 \\ 912,849 \\ 25 \end{array}$ |
| 1925 | $\left\{\begin{array}{l} \text { Overland, Calendar year } \ldots \\ \text { Overland, Financial year } . . . \\ \text { Uversea, Calendar year } \\ \text { Oversea, Financial year } \end{array} \ldots\right.$ | $\begin{array}{r} 23,353 \\ 29,431 \\ 4 \\ 4 \end{array}$ | $\begin{array}{r} 243,322 \\ 194,608 \\ 53 \\ 63 \end{array}$ | $\begin{aligned} & 283,795 \\ & 242,674 \end{aligned}$ | $\begin{array}{r} 606,237 \\ 461,161 \\ 13 \\ 16 \end{array}$ |
| 1926 | $\left\{\begin{array}{l} \text { Overland, Calendar year } . . . \\ \text { Overland, Financial year } \ldots \\ \text { Oversea, Calendar year } \\ \text { Oversea, Financial year } \end{array} \ldots\right.$ | $\begin{aligned} & 14,530 \\ & 18,592 \end{aligned}$ | $\begin{array}{r} 335,600 \\ 335,724 \\ 72 \\ 49 \end{array}$ | $\begin{aligned} & 448,586 \\ & 225,579 \end{aligned}$ | 684,498 <br> 791,533 6 |

* Interstate Coastwise Traffic no longer available.

Table No. XV.
Return showing the Number, \&G., of Bacon-Curing and Meat-Preserving Works for the Year ended 30 th June, 1926, and Increase or Decrease on Previous Year.

| Kind of Establishment. |  | Number. | Number of Hands Employed. | Value of Machinery and Plant. | Value of Land and Premises. | Value of Output. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bacon Curing |  | 7 | 555 | $\stackrel{\stackrel{\ell}{114,291}}{ }$ | $\stackrel{\mathcal{L}}{161,654}$ | $\stackrel{\&}{1,284,012}$ |
| Meat Preserving | - ... | 12 | 3,656 | 902,487 | 1,479,906 | 4,077,626 |
|  | $\begin{aligned} & \text { Totals, 1925-26 ... } \\ & \text { Totals, } 1924-25 \ldots \end{aligned}$ | 19 19 | $\begin{aligned} & 4,211 \\ & 4,371 \end{aligned}$ | $\begin{array}{r} 1,016,778 \\ 973,558 \end{array}$ | $\begin{aligned} & 1,641,560 \\ & 1,638,201 \end{aligned}$ | $\begin{aligned} & 5,361,638 \\ & 6,564.770 \end{aligned}$ |
|  | Increase, 1925--26 <br> Decrease, 1925-26 | $\ldots$ | 160 | 43,220 $\ldots$ | 3,359 $\cdots$ | 1,203;132 |

Table No. XVI.
Return showing Number of Swine Slaughtered and the Products therejf in tee several Petty Sessions Districts of the State for the Year 1926.

| Petty Sessions District. |  |  |  |  |  | Swine Slaughtered. | Fresh Pork. | Salt and Preserved | Bacon and Hams. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Number. | Lb. | Lb. | Lb. |
| Atherton |  | ... | ... | ... | ... | 5,118 | 104,775 | 2,335 | 366,973 |
| Bowen | ... | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 54 | 3,373 | 430 | 100 |
| Brisbane* |  | ... | ... | $\ldots$ | $\ldots$ | 166,235 | 1,068,178 | 1,020,501 | 10,859,447 |
| Bundaberg |  | ... | $\ldots$ | $\ldots$ | ... | 112 | 510 | 844 | 11,904 |
| Clifton |  | $\ldots$ |  | ... | $\ldots$ | 169 | 251 | 10,337 | 7,357 |
| Crow's Ne |  | ... | ... | $\ldots$ | $\ldots$ | 140 | ... | 670 | 16,609 |
| Dalby | ... | ... | ... | $\ldots$ | ... | 124 | 3,474 | 2,583 | 6,996 |
| Gatton | ... | $\ldots$ | $\ldots$ | ... | $\ldots$ | 251 | 3,630 | 11,679 | 16,511 |
| Gayndah |  | ... | $\ldots$ | ... | $\ldots$ | 109 | 2,590 | 8,666 | 360 |
| Gladstone |  | ... | $\ldots$ | ... | ... | 51 | 923 | 2,477 | 1,315 |
| Gympie |  | ... | $\ldots$ | $\ldots$ | $\ldots$ | 64 | 1,563 | 2,396 | 1,210 |
| Harrisville |  | $\ldots$ | ... | $\ldots$ | $\ldots$ | 218 | 6,156 | 12,213 | 3,346 |
| Ipswich | ... | $\ldots$ | ... | $\ldots$ | $\ldots$ | 75 | 4,810 | 330 | 1,000 |
| Killarney |  | $\ldots$ | $\ldots$ | ... | ... | 128 | 3,075 | 2,875 | 8,230 |
| Laidley | ... | ... | ... | $\ldots$ | ... | 82 | ... | 10,415 | 300 |
| Logan | , | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 285 | 9,837 | 15,505 | 15,129 |
| Lowood | ... | ... | ... | .. | ... | 220 | 11,853 | 10,302 | 8,525 |
| Mackay | $\ldots$ | ... | $\ldots$ | ... | $\ldots$ | 113 | 5,315 | 3,758 | 320 |
| Marburg |  | $\cdots$ | $\ldots$ | ... | $\ldots$ | 112 | 4,992 | $\ldots$ | 7,880 |
| Maryborou |  | $\ldots$ | $\ldots$ | ... | $\ldots$ | 6,647 | 26,595 | 41,310 | 469,386 |
| Nanango |  | ... | ... | $\ldots$ | $\ldots$ | 365 | 5,068 | 2,986 | 26,229 |
| Oakey |  | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ | 280 | 19,827 | 7,091 | 7,822 |
| Pittsworth |  | ... | $\ldots$ | $\ldots$ | $\ldots$ | 236 | 2,463 | 2,775 | 14,752 |
| Rockhamp |  | $\ldots$ | ... | $\ldots$ | $\ldots$ | 206 | 7,817 | 4,078 | 3,431 |
| Roma | ... | $\ldots$ | $\ldots$ | $\ldots$ | ... | 148 | 4,480 | 3,016 | 3,365 |
| Stanthorpe |  | .. | $\ldots$ | $\ldots$ | $\ldots$ | 81 | 1,356 | 3,020 | 3,435 |
| Toowoomb |  | $\ldots$ | ... | . | $\ldots$ | 49,972 | 1,349 | 4,634 | 3,554,513 |
| Warwick | .. | ... | $\ldots$ | $\ldots$ | ... | 5,176 | 43,731 | 7,055 | 357,564 |
| Wienholt |  | ... | $\ldots$ | $\ldots$ | $\ldots$ | 392 | 4,904 | 16,677 | 10,221 |
| All other | Distr |  | $\ldots$ | . | ... | 3,776 | 161,504 | 60,848 | 93,337 |
| Tota | ls, 19 |  | $\ldots$ | $\ldots$ | ... | 240,939 | 1,535,399 | 1,271,806 | 15,877,567 |

[^4]
## Table No. XVII

WOOI.
Refurn for Ten Years showing tae Number of Sheep Shorn and the Wool Produoed For details for the year ended 30th June, 1926, see Table No. XLII.

| Production of Wool. | 1916. | 1917. | 1918. | 1919. | 1920. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number of sheep shorn | 13,798,462 | 11,920,074 | 17,290,116 | 17,210,372 | 15,709,426 |
| Result off Shears only, Ib. netGreasy wool | 67,114,101 | 67,772,382 | 83,997,850 | 88,450,759 | 89,215,429 |
| Scoured wool | 14,717,559 | 7,310,368 | 12,475,776 | 12,476,486 | 10,648,967 |
| Above expressed as "Greasy" | 96,549,219 | 82,393,118 | 108,949,402 | 113,403,731 | 110,513,363 |
| Average weight, lb.Per Greasy bale ... | 365 | 365 | 353 | 356 | 368 |
| Per Scoured bale | 238 | 239 | 235 | 226 | 235 |
| Per Fleece in the Grease | 7.00 | 6.91 | $6 \cdot 30$ | $6 \cdot 59$ | $7 \cdot 03$ |
| Total wool production (Greasy), including quantity fellmongered, exported on skins, and utilised, lb. | 102,220,125 | 87,425,558 | 113,777\%, $27 ?$ | 118,085,461 | 114,809,983 |
| $\dagger$ Estimated value of production | $\pm 6,601,716$ | £6,283,712 | £8,296,2099 | £8,606,752 | £7,175,623 |
| Production of Wool. | 1921. | 1922. | 1923. | 1924-5. | 1925-6. |
| Number of sheep shorn | 16,832,655 | 18,465,471 | 17,754,989 | 18,518,682 | 20,552,992 |
| Result off Shears only, lb, netGreasy wool | 109,440,938 | 106,989,147 | 100,964,197 | 123,078,294 | 129,361,017 |
| Scoured wool | 9,031,961 | 11,030,559 | 8,112,704 | 7,099,421 | 7,156,291 |
| Above expressed as "Greasy" | 127,504,860 | 129,050,265 | 117,189,605 | 137,277,136 | 143,673,599 |
| Average weight, lb.Per Greasy bale ... | 361 | $\times 344$ | 348 | 346 | 341 |
| Per Scoured bale | 243 | 229 | 228 | 238 | 229 |
| Per Fleece in the Grease | 7.57 | 6.99 | $6 \cdot 60$ | $7 \cdot 41$ | 6.99 |
| Total wool production (Greasy), including quantity fellmongered, exported on skins, and utilised, lb. | 132,579,783 | 184,971,150 | 121,913,075 | 140,862,541 | 146,985,689 |
| $\dagger$ Estimated value of production | £7,733,818 | $£ 10,825,811$ | £12,191,308 | $£ 15,553,572$ | \&10,993,305 |

Note-In addition to the above, returns amounting to $36,523,190 \mathrm{lb}$. of greasy wool shorn were received for the first six months of 1924 $\dagger$ Based on Oversea Export value (Financial Year).

Table No. XVIII.
Return for Ten Years showing the Average Export Price of Wool. (Oversea Only.)

| Year ended 30th June. | 1918. | 1919. | 1920. | 1921. | 1922. | 1923. | 1924. | 1925. | 1926. | 1927. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Greasy wool Scoured wool | Perib. $17 \frac{1}{4} \mathrm{~d}$. 27 d . | Per lb. $17 \frac{1}{2} \mathrm{~d}$. 28 d . | Per lb. <br> $17 \frac{1}{2} \mathrm{~d}$. <br> $29 \frac{1}{4} \mathrm{~d}$. | Per lb. 15 d. $28 \frac{1}{2} \mathrm{~d}$. | Per Ib. <br> 14d. <br> $24 \frac{1}{4} \mathrm{~d}$. | Perib. $19 \frac{1}{4} \mathrm{~d}$. $32 \frac{1}{2} \mathrm{~d}$. | Per 1b. 24d. 42 d . | Per lb. $26 \frac{1}{2} \mathrm{~d}$ 46 d . | $\begin{aligned} & \text { Per lb. } \\ & 17.95 \mathrm{~d} . \\ & 30.86 \mathrm{~d} . \end{aligned}$ | Per lb. 18.87 d . $31 \cdot 40 \mathrm{~d}$. |

Table No. XIX.
Return for Ten Years showing the Quantity and Value of Wool Exported Oversea


Table No. XX.
Return for Ten Years showing the Ampunt of Scoured Wool used in Manufagture.

|  | 1917. | 1918. | 1919. | 1920. | 1921. | 1922. | 1923. | 1924-25. | 1925-26. | 1926-27. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quantity of Scoured Wool used in manufacture ... | $\stackrel{\text { Lb. }}{223,695}$ | $\underset{262,393}{\mathrm{Lb} .}$ | $\stackrel{\text { Lb. }}{122,814}$ | $\underset{268,787}{\text { Lb. }}$ | $\stackrel{\text { Lb. }}{875,610}$ | $\stackrel{\text { Lb. }}{659,133}$ | $\stackrel{\text { Lb. }}{629,784}$ | $\stackrel{\text { Lb. }}{544,269}$ | $\stackrel{\text { Lb. }}{454,075}$ | $\stackrel{\text { Lb. }}{514,193}$ |

Table No. XXI.
Return for Two Years showing the Export Oversea of Home Produce.


* Exclusive of urred Skins:-1924-25, £12,754; 1925-26, £24,414.

Table No. XXII.
Return for Two Years showifg the Details of Pastoral Produots Exported Oversea.


* Exclusive of Bacon, Ham, Pork and Poultry, these being treated as products of Agriculture:-1924-25, £65,538; 1925-26, £72,567. $\dagger$ Exclusive of Furred Skins:-1924-25, $£ 12,754 ; 1925-26, £ 24,414$,


## Table No. XXIII.

Return for Ten Years showing the Number of Common Goats in the State and the Numbrer Killed for Food, \&c.

|  |  |  | Number Depsstured. | Number Killed. | Weight: Lb. | Average Weight: Lb. | Number of Skins Obtained. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 |  |  | 129,173 | 27,700 | 731,591 | 26.41 | * |
| 1918 | ... | ... | 124,964 | 26,375 | 719,033 | $27 \cdot 26$ | 13,851 |
| 1919 | $\ldots$ | $\ldots$ | 122,088 | 26,903 | 698,874 | 25.98 | 16,133 |
| 1920 | ... | $\ldots$ | 122,993 | 30,863 | 801,474 | 25.97 | 18,994 |
| 1921 | $\ldots$ | $\ldots$ | 134,177 | 25,080 | 689,587 | 27.49 | 11,630 |
| 1922 |  | $\ldots$ | 127,784 | 24,4.58 | 638,323 | 26.09 | 9,759 |
| 1923 | ... | . | 119,832 | 23,134 | 596,621 | $25 \cdot 79$ | 10,200 |
| 1924 | ... | .. | 131,148 | 21,204 | 571,619 | 26.96 | 8,256 |
| 1925 | ... | $\ldots$ | 126,752 | 25,141 | 717,087 | 2852 | 11,305 |
| 1926 | ... | ... | 86,012 | 14,252 | 395,028 | $27 \cdot 72$ | 9,409 |

[^5]Table No. XXIV.
Return for Ten Years showing the Number of Angora Goats in the State and the Number Killed for Food, Mohair Obǐained, \&c.

| Year. |  |  |  | Number of Animals. | Mohair Obtained. | Number Killed for Meat. | Average Weight: Lb. | Skins Obtained. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1917 |  |  |  | 3,774 | $\stackrel{\text { Lb }}{\text { Lb }}$ | 526 | * | 441 |
| 1918 | $\ldots$ | $\ldots$ | ... | 3,569 | 2,188 | 501 | * | 411 |
| 1919 |  | $\ldots$ | $\ldots$ | 3,682 | 2,181 | 528 | * | 477 |
| 1920 |  | $\ldots$ | $\ldots$ | 3,210 | 1,858 | 406 | * | 314 |
| 1921 | $\ldots$ | $\ldots$ | ... | 4,248 | 2,895 | 625 | * | 517 |
| 1922 | $\ldots$ | $\ldots$ | $\ldots$ | 3,503 | 1,596 | 565 | * | 617 |
| 1923 | ... | $\ldots$ | ... | 3,931 | 2,204 | 860 | 31•49 | 625 |
| 1924 | ... | ... | .. | 3,511 | 1,782 | 729 | 28.97 | 519 |
| 1925 |  |  | ... | 3,923 | 1,604 | 554 | 28.52 | 520 |
| 1926 | ... |  | ... | 3,343 | 1,032 | 590 | 28.82 | 487 |

* Not available

Table No. XXV
Return for Ten Years showing the Number of Camer.s, Os'riches, anp Mules in the State, together with the Increase or Degrease


- Decrease.

Table No. XXVI
Return for Nine Years showing the Number of Calves Returned as Branded and the Increase or Decrease. For details of 1926 see Table XXVIII.

|  | Year. |  | Male. |  | Increase or Decrease. | Female. |  | I crease or Decrease. | Total. |  | Increase or Deerease. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1918 | ... | $\ldots$ | *592,720 |  |  | *605,403 |  |  | *1,198,123 |  |  |
| 1919 | ... | ... | 58×,008 | - | $0 \cdot 79$ | 598,524 | - | $1 \cdot 14$ | 1,186,532 |  | 0.97 |
| 1920 | ... | $\ldots$ | 674,523 |  | 14.71 | 690,876 |  | 1543 | 1,365,399 |  | $15 \cdot 07$ |
| 1921 | ... | $\ldots$ | 742,511 |  | $10 \cdot 12$ | 777,013 |  | $12 \cdot 47$ | 1,519,824 |  | 1131 |
| 1922 | ... | $\ldots$ | 586,171 | - | 21.09 | 631,170 | - | 18.77 | 1,217,341 | - | 19.90 |
| 1923 | ... | $\ldots$ | 497,112 | - | $15 \cdot 19$ | 539,883 | - | 14.46 | 1,136,995 | - | $14 \cdot 51$ |
| 1924 | . | .. | 508,342 |  | 2.26 | 554,145 |  | $2 \cdot 64$ | 1,062,487 |  | $2 \cdot 46$ |
| 1925 |  |  | 612,6016 |  | 20.51 | 660,784 |  | 19.24 | 1,273,3!0 |  | $19 \cdot 85$ |
| 1926 | ... |  | 409,702 | - | $33 \cdot 12$ | 450,373 | - | $31 \cdot 84$ | 860,075 | - | 32.46 |

[^6]* First Year collected.

Table No. XXVII.
Return of the Number of Horses, Cattle, Sheep, and Swine in the various Petty Sessions Districts of the State, together with the Increase or Decrease of Cattle and Sheep on the 31st December, 1926.


Table No, XXVII-continued.
Return of the Number of Horses, Cattle, Sheep, and Swine in the various Petty Sessions Districts of the State, together with the Increase or Degrease of Cattle and Sheep on the 31st December, 1926.


Notk--Totals of Bundaberg, Eidsvold, Gladstone, and Mount Morgan are comparable only as a whole, owing to an alteration in the internal boundaries
districts. these districts.

Table No. XXVIII.
Return showing Number of Calves Returned as Branded in the several Petty Sessions Districts of the State during the Years 1925 and 1926, the Increase or Decrease, also the Number of Cattle and Sheep Ktlled for Farm or Station use during the latter Year.

| Petty Sessions District. |  | Male. |  |  | Female. |  |  | $\frac{\text { Cattle Killed. }}{1926 .}$ | Sheep Killed <br> 1926. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1925. | 1926. | Per cent. | 1925. | 1926. | Per cent |  |  |
| Adavale |  | 1,730 | 285 | - 83.53 | 1,746 | 294 | - $83 \cdot 16$ | 274 | 2,560 |
| Allora |  | 769 | 482 | - 37.32 | 935 | 543 | - 41.93 | 36 | 80 |
| Alpha |  | 8,168 | 3,866 | - 52.67 | 8,332 | 3,778 | - 54.66 | 476 | 585 |
| Aramac |  | 1,116 | 209 | - 81.27 | 1,164 | 247 | - 78.78 | 127 | 2,237 |
| Atherton |  | 868 | 847 | $2 \cdot 42$ | 2,768 | 2,818 | 1.81 | 87 | 5 |
| Augathella |  | 3,805 | 3,199 | - 15.93 | 3,904 | 3,142 | - 19.52 | 453 | 3,521 |
| Ayr . | . | 3,479 | 3,076 | - 11.58 | 3,406 | 2,984 | - 12.39 | 108 |  |
| Banana | . | 7,205 | 6,165 | - 14.43 | 7,396 | 6,188 | - 16.33 | 334 |  |
| Barcaldine. . |  | 635 | 77 | - 87.87 | 612 | 50 | - 91.83 | 140 | 5,100 |
| Beaudesert |  | 3,168 | 2,512 | - 20.71 | 4,942 | 4,259 | - 13.82 | 120 | 194 |
| Biggenden |  | 2,145 | 1,997 | - 6.90 | 3,779 | 3,355 | - 11.22 | 93 | 6 |
| Blackall |  | 1,643 | 362 | - 77.97 | 1,633 | 342 | - 79.06 | 376 | 11,469 |
| Bollon | oul | 2,768 | 2,690 | - 2.82 | 2,724 | 2,526 | - 7.27 | 678 | 7,584 |
| Boulia | Boulia | 10,060 |  |  | 8,858 |  |  | 653 |  |
|  | Burke |  | 11,228 |  |  | 11,242 |  | 546 |  |
| Burke |  | 20,463 |  |  | 20,280 |  |  |  |  |
| Cloncurry | Cloncurry | 30,711 | 14,182 | $44 \cdot 0$ | 31,023 | 14,565 | $43 \cdot 55$ | 2,417 | 19,973 |
| Norman | Julia Creek |  | 5,790 |  |  | 5,490 |  | 385 |  |
| Norman | Norman | 37 | 24,156 |  | 1,350 | 24,119 |  | 1,090 |  |
| Richmond |  | 9,294 |  |  | 9,366 |  |  |  |  |
| Sowon | Richmond |  | 2,466 |  |  | 2,674 |  | 827 |  |
| Bowen |  | 2,449 | 2,293 | - 637 | 2,365 | 2,365 |  | 136 |  |
| Brisbane |  | 114 | - 77 | - 32.46 | 1,074 | 871 | - 18.90 | 24 | 5 |
| Bundaberg | . . . | 1,028 | 2,212 | 115-18 | 1,625 | 3,068 | 88.80 | 546 |  |
| Caboolture |  | 175 | 165 | - 5.71 | 653 | 584 | - 10.57 | 20 | 3 |
| Cairns |  | 312 | 239 | - 23.40 | 378 | 276 | - 26.98 | 47 |  |
| Camooweal |  | 12,223 | 4,681 | - 61.70 | 12,356 | 4,998 | - 59.55 | 504 | 50 |
| Cape River |  | 11,451 | 6,245 | - $45 \cdot 46$ | 11,458 | 6,172 | - $46 \cdot 13$ | 383 |  |
| Cardwell | . . | 474 | 564 | 18.99 | 478 | 592 | 23.85 | 21 |  |
| Charleville | -. | 5,046 | 2,685 | - 46.79 | 5,100 | 2,690 | - $47 \cdot 25$ | 761 | 7,731 |
| Charters Towers |  | 20,627 | 12,992 | - 37.01 | 20,573 | 12,901 | - 37.29 | 726 |  |
| Childers |  | 899 | 705 | - 21.58 | 964 | 797 | - 17.32 | 20 |  |
| Chillagoe | . | 3,649 | 2,938 | - 19.48 | 3,606 | 3,021 | - 16.22 | 172 |  |
| Clermont |  | 20,370 | 8,535 | - 58.10 | 20,411 | 8,580 | - 57.96 | 941 | 3,886 |
| Cleveland |  | 8 | 10 | 25.00 | 64 | 75 | 17-19 | 3 |  |
| Clifton | $\cdots$ | 798 | 443 | - 44.49 | 1,295 | 844 | - 34.83 | 102 | 481 |
| Coen | - | 3,888 | 3,357 | - 13.66 | 3,979 | 3,232 | - 18.77 | 227 |  |
| Collinsville |  | 16,714 | 11,965 | - 28.41 | 16,293 | 11,900 | - 26.96 | 730 |  |
| Condamine |  | 5,085 | 4,389 | - 13.69 | 5,146 | 4,447 | - 13.58 | 351 | 78 |
| Cook |  | 4,024 | 3,200 | - 20.48 | 3,732 | 2,991 | - 19.86 | 207 |  |
| Cooyar . | - | 939 | 716 | - 23.75 | 1,115 | 890 | - 20.18 | 93 | 65 |
| Crow's Nest |  | 1,236 | 973 | - 21.28 | 1,938 | 1,498 | - 22.70 | 128 | 6 |
| Croydon . |  | 3,514 | 3,052 | - 13.15 | 3,434 | 3,113 | - 9.35 | 203 |  |
| Cunnamulla | - | 2,070 | 2,421 | 16.96 | 2,237 | 2,484 | 11.04 | 436 | 10,185 |
|  | Chinchilla | 12,500 | 1,965 |  | < 14,398 | 2,196) | 20.98 | 82 |  |
|  | Dalby | 12,500 | 8,042 | $19 \cdot 94$ |  | 9,181 $\}$ | 20.98 | 642 $\}$ | 4,022 |
| Diamantina |  | 8,604 | 7,773 | - 9.66 | 8,614 | 7,952 | - 769 | 662 |  |
| Douglas | . | 107 | 119 | 11-21 | 125 | 157 | $25 \cdot 60$ | 13 |  |
| Dugandan | .. . | 1,737 | 1,395 | - 19.69 | 2,483 | 2,283 | 8.05 | 33 | 14 |
| Eidsvold |  | 7,414 | 4,459 | - 39.86 | 7,561 | 4,708 | - 37.73 | 256 | 20 |
| Emerald |  | 4,614 | 1,412 | - 69.40 | 4,650 | 1,319 | - 71.63 | 98 | 481 |
| Esk | $\cdots$ | 3,133 | 2,616 | - 16.50 | 4,223 | 3,558 | - 15.75 | 310 | 131 |
| Etheridge | . | 20,131 | 15,928 | - 20.88 | 19,897 | 15,600 | - 21.60 | 828 |  |
| Eulo | .. . . | 1,492 | 1,196 | - 19.84 | 1,481 | 1,033 | - 30.25 | 130 | 529 |
| Gatton | $\ldots$ | 1,324 | 927 | - 29.98 | 1,859 | 1,317 | - 29.16 | 37 | 90 |
| Gayndah | . . | 9,542 | 7,044 | - 26.18 | 11,251 | 9,167 | - 18.52 | 410 | 22 |
| Gin Gin | . | 4,335 | 3,609 | - 16.75 | 4,446 | 3,975 | - 10.59 | 280 | 52 |
| Gladstone | . | 13,299 | 8,722 | - 34.42 | 15,509 | 10,591 | - 31.71 | 835 | 60 |
| Goodna . . | .. . | 119 | 84 | - 29.41 | 198 | 156 | - 21.21 | 8 |  |
| Goombungee | .. . | 280 | 195 | - $30 \cdot 36$ | 659 | 557 | - 15.48 | 29 |  |
| Goondiwindi | $\cdots$ | 5,810 | 4,337 | - 25.35 | 5,841 | 4,231 | - 27.56 | 411 | 5,329 |
| Gympie . . | . . . | 2,157 | 1,903 | - 11.78 | 6,982 | 5,804 | - 16.87 | 213 | 76 |
| Harrisville | .. . | 1,239 ${ }^{\text {* }}$ | 623 | - $49 \cdot 72$ | 2,011 | 951 | - 52.71 | 24 | 4 |
| Helidon |  | 729 | 490 | - 32.78 | 1,129 | 939 | - 16.83 | 16 |  |
| Herberton | $\cdots$ | -6,179 | 5,597 | - 9.42 | 6,240 | 5,775 | - 7.45 | 221 | 17 |
| Highfields . | . | 416 | -279 | - 32.93 | 917 | 695 | - $24 \cdot 21$ | 10 |  |
| Hughenden | . $\quad$. | 9,651 | 1,290 | - 86.63 | 9,626 | 1,293 | - 86.57 | 733 | 4,128 |
| Hugerford | .. $\quad$. | 965 | 1,226 | 27-05 | 1,025 | 1,237 | $20 \cdot 68$ | 110 | 1,110 |
| Ingham . |  | 2,900 | 2,180 | $-24.83$ | 2,861 | 2,213 | - 22.65 | 173 |  |
| Inglewood | . | 2,515 | 1,905 | - 24.25 | 2,444 | 1,993 | - 18.45 | 224 | 1,944 |
| Innisfail | . $\quad$. | 277 | 211 | 1- 23.83 | 240 | 219 | - 8.75 | 10 | , |

Table No, XXVIII.-continued.
Return showing Number of Calves Returned as Branded in the several Petry Sessions Districts of the State during the Years $!925$ and 1926, the Inorease or Decrease, also the Number of Cattle and Sheep Killed for Farm or Station use during the latter Year. .


Note. -Totals of Bundaberg, Eidsvold, Gladstone, and Mount Morgan are comparable only as a whole, owing to an
ion in the internal boundaries of these districts. alteration in the internal boundaries of these districts.

## Table No. XXIX.

Return for Two Years showing the Number of Cattle and Sheep Killed in the State for Farm or Station use, also the Centesimal Increase or Decrease. For details of 1926, see Table XXVIII.

| Year. |  | Cattle. | Increase or Decrease. | Sheep. | Increase or Decrease. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1925 | . | *44,721 |  | 186,133 | $3 \cdot 24$ |
| 1926 | . | 38,617 | $-13 \cdot 65$ | 193,542 | $3 \cdot 98$ |

Table No．XXX．
Return for Níne Years showing the Number of Calves returned as Branded in the several Pastoral Distriots of the State．

| 寺 | 彥 |  <br>  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 䍖 |  <br>  |  |  |  |
| 湆 | 菦 |  <br>  |  | 号 |  <br>  |
|  | － |  |  | \％ |  |
|  | $\begin{aligned} & \text { 号 } \\ & \text { 感 } \end{aligned}$ |  <br>  |  | 道 |  |
|  | 䍞 |  <br>  |  | 边 |  |
|  | $\begin{aligned} & \text { 晟 } \end{aligned}$ |  <br>  |  |  |  |
|  | 远 |  <br>  |  | 边 |  |
|  |  |  <br>  |  |  |  |
|  | \％ |  |  | 号 |  <br>  |
| 告 | 这 |  |  |  |  <br>  |
|  | 追 |  |  | 这 |  |
| $\begin{aligned} & \text { 音 } \\ & \text { 吕 } \end{aligned}$ | $\begin{aligned} & \text { \| } \\ & 0 \\ & 0 \end{aligned}$ |  <br>  | 品 |  |  <br>  |
|  | 近 |  |  | 号 |  |
| 䓃 |  |  |  |  |  |
|  | む゙ |  <br>  |  | 近 |  |
| 㟥 |  | : : : : : |  |  |  |
|  |  | ：：：： |  |  | ：：：：：：： |
|  |  |  | 既 |  | ：：：：： |
|  |  |  |  |  |  |
|  |  | ：：： |  |  | ：：：：： |
|  |  |  |  |  |  |

table No. XxXI.

| Year. | burke. |  | Burnett. |  | Coor. |  | Darina Downs. |  | Greaory North. |  | Greaory Souti. |  | Litichiardt. |  | maranoa. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. |
| 1917 | 778,515 | 2,139,014 | 402,081 | 9,496 | 431,844 | 216 | ${ }_{413,241}$ | 1,339,242 | 253,649 | 1,881,498 | 135,815 | 384,488 | 511,588 | 719,774 | 218,544 | 1,688,908 |
| 1918 | 808,748 | 2,029,690 | 427,688 | 8,799 | 446,989 | 229 | 465,461 | 1,236,064 | 293,123 | 1,816,528 | 143,612 | 395,915 | 554,300 | 853,725 | 270,214 | 2,033,422 |
| 1919 | 815,621 | 1,886,578 | 432,514 | 6,166 | 424,497 | 123 | 501,450 | 1,120,888 | 323,019 | 1,602,069 | 146,113 | 341,919 | 563,080 | 835,817 | 308,207 | 2,210,000 |
| 1920 | 830,771 | 2,226,075 | 484,293 | 5,784 | 431,926 | 76 | 550,372 | 1,134,721 | 350,132 | 1,818,733 | 158,616 | 345,454 | 661,124 | 880,171 | 339,378 | 1,957,707 |
| 1921 | 883,705 | 2,479,894 | 525,058 | 23 | 465,654 | 399 | 597,643 | 1,117,956 | 382,828 | 2,061,699 | 168,565 | 319,702 | 759,999 | 917,444 | 373,699 | 2,023,562 |
| 1922 | 894,325 | 2,606,955 | 508,140 | 10,774 | 507,010 | 177 | 571,610 | 1,229,783 | 343,719 | 1,776,378 | 167,395 | 286,419 | 730,726 | 843,496 | 374,653 | 2,075,934 |
| 1923 | 811,024 | 2,385,859 | 469,649 | 4,219 | 518,685 | 210 | 421,869 | 1,066,076 | 322,762 | 1,689,221 | 188,440 | 253,166 | 738,237 | 1,117,746 | 300,785 | 2,075,053 |
| 1924 | 844,987 | 2,654,350 | 467,061 | 5,296 | 502,716 | 695 | 430,626 | 1,478,163 | 330,000 | 1,885,035 | 201,684 | 292,280 | 761,349 | 917,043 | 311,141 | 2,416,934 |
| 1925 | 825,822 | 2,928,780 | 467,036 | 5,263 | 527,624 | 270 | 468,389 | 1,862,217 | 297,335 | 1,964,021 | 176,275 | 286,189 | 761,676 | 979,070 | 273,224 | 2,785,128 |
| 1926 | 685,267 | 1,978,074 | 440,562 | 7,487 | 520,708 | 12,580 | 414,433 | 2,045,745 | 212,735 | 1,086,545 | 135,915 | 344,859 | 568,449 | 840,487 | 235,658 | 2,366,810 |



Table No, XXXII.
Return of the Number of Horses, Cattle, Sheep, and Swine in the various Pastoral Distriots of the State for the Years 1925 and 1926, togrther with the Numerical and Oentesimal Inorease or Deorease in the Latter Year.

| Pastoral Distriet. | Year. | Horses. | Cattie. | Sheep. | Swioe. | Numerical Increase or Decrease - |  |  |  | Centesimal Increase or Decrease - |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Horses. | Cattle. | Sheep. | Swine. | Horses. | Oattle. | Sheep. | Swine. |
| Burke | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 53,690 \\ & 42,738 \end{aligned}$ | $\begin{aligned} & 825,822 \\ & 685,267 \end{aligned}$ | $\begin{aligned} & \frac{2}{1,928,780} \\ & 1,978,074 \end{aligned}$ | $\begin{aligned} & 516 \\ & 414 \end{aligned}$ | $-10,952$ | $-140,555$ | - 950,706 | - 102 | $-20 \cdot 40$ | $-17.02$ | $-32 \cdot 46$ | -19.77 |
| Burnett | $\begin{aligned} & 1325 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 39,283 \\ & 38,185 \end{aligned}$ | $\begin{aligned} & 467,036 \\ & 440,562 \end{aligned}$ | $\begin{aligned} & 5,263 \\ & 7,487 \end{aligned}$ | $\begin{aligned} & 32,933 \\ & 30,808 \end{aligned}$ | -- 1,098 | $-26,474$ | 2,224 | $-2,125$ | $-2.80$ | -5.67 | 12.26 | $6 \cdot 45$ |
| Cook | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 49,072 \\ & 44,252 \end{aligned}$ | $\begin{aligned} & 527,624 \\ & 520,708 \end{aligned}$ | $\begin{array}{r} 270 \\ 12,580 \end{array}$ | $\begin{aligned} & 7,673 \\ & 8,323 \end{aligned}$ | $-4,820$ | - 6,916 | 12,310 | 650 | $-9 \cdot 82$ | $-1.31$ | 4559.26 | 844 |
| Darling Duwns | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 72,569 \\ & 69,158 \end{aligned}$ | $\begin{aligned} & 468,389 \\ & 414,433 \end{aligned}$ | $\begin{aligned} & 1,862,217 \\ & 2,045,745 \end{aligned}$ | $\begin{aligned} & 42,180 \\ & 35,664 \end{aligned}$ | $-3,411$ | - 53,956 | 183,528 | -6,516 | $-470$ | $-11 \cdot 52$ | $9 \cdot 86$ | -15'45 |
| Gregory North | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 24,711 \\ & 19, \therefore 19 \end{aligned}$ | $\begin{aligned} & 297,335 \\ & 212,735 \end{aligned}$ | $\begin{aligned} & 1,964,021 \\ & 1,086,545 \end{aligned}$ | $\begin{aligned} & 35 \\ & 35 \end{aligned}$ | - 5,592 | -84,600 | - 877,476 | 1 | $-22 \cdot 63$ | $-28 \cdot 45$ | $-44 \cdot 68$ | $2 \cdot 78$ |
| Gregory South | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 10,215 \\ & 10,429 \end{aligned}$ | $\begin{aligned} & 176,275 \\ & 135,915 \end{aligned}$ | $\begin{aligned} & 286,189 \\ & 344,859 \end{aligned}$ | 1 | 214 | - 40,360 | 58,670 |  | 2.09 | $-22: 90$ | $20 \cdot 50$ |  |
| Leichhardt | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 48,058 \\ & 40,384 \end{aligned}$ | $\begin{aligned} & 761,676 \\ & 568,449 \end{aligned}$ | $\begin{aligned} & 979,070 \\ & 840,487 \end{aligned}$ | $\begin{aligned} & 1,915 \\ & 1,513 \end{aligned}$ | $-7,674$ | -193,227 | - 138,583 | -402 | $-15 \cdot 97$ | $-25.37$ | $-14 \cdot 15$ | $-20 \cdot 99$ |
| Maranoa | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 29,254 \\ & 28,607 \end{aligned}$ | $\begin{aligned} & 273,224 \\ & 235,658 \end{aligned}$ | $\begin{aligned} & 2,785,128 \\ & 3,366,810 \end{aligned}$ | $\begin{aligned} & 1,553 \\ & 1,485 \end{aligned}$ | - 647 | $-37,566$ | 5\%1,682 | 68 | $-2.21$ | $-13.75$ | $20 \cdot 89$ | - 4.38 |
| Mitchell | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 41,258 \\ & 33,318 \end{aligned}$ | $\begin{aligned} & 196,115 \\ & 114,015 \end{aligned}$ | $\begin{aligned} & 6,696,458 \\ & 4,135,681 \end{aligned}$ | $\begin{aligned} & 498 \\ & 460 \end{aligned}$ | -- 7,940 | -82,100 | $-2,560,777$ | - 38 | $-19 \cdot 24$ | -41.86 | $-38 \cdot 24$ | -7.63 |
| Moreton | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 65,461 \\ & 62,730 \end{aligned}$ | $\begin{aligned} & 502,658 \\ & 476,828 \end{aligned}$ | $\begin{aligned} & 25,257 \\ & 22,022 \end{aligned}$ | $\begin{aligned} & 75,731 \\ & 69,895 \end{aligned}$ | $-2,731$ | -2i, 230 | 3,235 | $-5,836$ | -4.17 | $-5.14$ | $-12 \cdot 81$ | -7771 |
| North Kennedy | $\begin{aligned} & 1925 \\ & { }_{1926} \end{aligned}$ | $\begin{aligned} & 70,456 \\ & 62,899 \end{aligned}$ | $\begin{aligned} & 503,296 \\ & 454,412 \end{aligned}$ | $\begin{array}{r} 4,528 \\ 22,214 \end{array}$ | $\begin{aligned} & 5,673 \\ & 5,160 \end{aligned}$ | -7,557 | $-48,884$ | 17,686 | - 513 | $-1073$ | $-9 \cdot 71$ | $390 \cdot 59$ | - 9.04 |
| Port Curtis ... | $\begin{aligned} & 1935 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 39.093 \\ & 33,486 \end{aligned}$ | $\begin{aligned} & 449,203 \\ & 383,711 \end{aligned}$ | $\begin{aligned} & 27,462 \\ & 28,040 \end{aligned}$ | $\begin{aligned} & 8,523 \\ & 7,877 \end{aligned}$ | -5,607 | - 60.492 | 578 | - 646 | $-14 \cdot 34$ | $-14 \% 5$ | $2 \cdot 10$ | - $7 \cdot 58$ |
| South Kennedy | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 37,9855 \\ & 33,879 \end{aligned}$ | $\begin{aligned} & 432,297 \\ & 328,545 \end{aligned}$ | $\begin{aligned} & 154,642 \\ & 165,182 \end{aligned}$ | $\begin{aligned} & 1,281 \\ & 1,709 \end{aligned}$ | $-4,106$ | $-103,752$ | 10,540 | 428 | $-10.81$ | $-24 \cdot 00$ | 6.82 | $33 \cdot 41$ |
| Warrego ${ }^{\circ}$ | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 24,255 \\ & 21,684 \end{aligned}$ | $\begin{aligned} & 236,587 \\ & 191,168 \end{aligned}$ | $\begin{aligned} & 2,938,281 \\ & 2,799,535 \end{aligned}$ | $\begin{aligned} & 600 \\ & 510 \end{aligned}$ | $-2,571$ | - 40.419 | - 138,716 | -- 90 | $-10 \cdot 60$ | $-19 \cdot 20$ | $-472$ | $-15.00$ |
| Wide Bay | $\begin{aligned} & 1925 \\ & 1926 \end{aligned}$ | $\begin{aligned} & 33,012 \\ & 30,754 \end{aligned}$ | $\begin{aligned} & 319,108 \\ & 302,439 \end{aligned}$ | $\begin{aligned} & 5,757 \\ & 5,511 \end{aligned}$ | $\begin{aligned} & 20,485 \\ & 19,808 \end{aligned}$ | $-2,258$ | -16,669 | - 245 | - 677 | $-6.84$ | $-5.22$ | $-427$ | $-3 \cdot 30$ |

## Pastoral and Petty Sessions Districts


GRAPH SHOWING LIVE STOCK IN QUEENSLAND from 1860 to 1926.


Table No. XXXIII.
Return for Ten Years showing the Density of Live Stook in the State.
(In Converting Horses and Cattle to terms of Sheep, Ten Head of Sheep are taken as Equal to One Horse
or Head of Cattle )

| Year. | Horses. |  |  | Cattir. |  |  | Sheer. |  |  | Ail Kinds in terms of Sheer. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Acres per Head. | $\begin{aligned} & \text { Number } \\ & \text { per } \\ & \text { Square } \\ & \text { Mile. } \end{aligned}$ | Number per Capita Popula- tion. | $\begin{aligned} & \text { Acres } \\ & \text { per } \\ & \text { Head. } \end{aligned}$ | $\begin{aligned} & \text { Number } \\ & \text { per } \\ & \text { Square } \\ & \text { Mile. } \end{aligned}$ | Number per Capita Popula. tion. | $\begin{aligned} & \text { Acres per } \\ & \text { Head. } \end{aligned}$ | $\begin{aligned} & \text { Number } \\ & \text { per } \\ & \text { square } \\ & \text { Mile. } \end{aligned}$ | Number per Capita Popula- tion. Hon | Acres per | $\begin{aligned} & \text { Number } \\ & \text { per } \\ & \text { square } \\ & \text { Mile. } \end{aligned}$ | $\begin{aligned} & \text { Number } \\ & \text { per Capita } \\ & \text { Popula- } \\ & \text { tion. } \end{aligned}$ |
| 1917. | 585 | 1.09 | $1 \cdot 06$ | 81 | $7 \cdot 92$ | 7.72 | 25 | $25 \cdot 66$ | 24.99 | 5.52 | 115.88 | 112.85 |
| 1918... | 565 | $1 \cdot 13$ | $1 \cdot 09$ | 74 | $8 \cdot 63$ | 8:33 | 24 | $27 \cdot 17$ | 2624 | $5 \cdot 13$ | 124.81 | 120.51 |
| 1919... | 586 | 1.09 | 1.01 | 72 | $8 \cdot 86$ | 820 | 25 | 25.92 | 23.96 | $5 \cdot 10$ | 125.43 | 115.97 |
| 1920... | 578 | $1 \cdot 11$ | 1.01 | 66 | $9 \cdot 63$ | 8.74 | 25 | $25 \cdot 96$ | 23.57 | $4 \cdot 80$ | $138 \cdot 30$ | 121.04 |
| 1921... | 574 | $1 \cdot 11$ | $0 \cdot 97$ | 61 | 10 ¢5 | $9 \cdot 15$ | 23 | $27 \cdot 45$ | $23 \% 0$ | $4 \cdot 45$ | 14370 | $125 \cdot 13$ |
| 1922... | 601 | 1.06 | $0 \cdot 90$ | 62 | $10 \% 37$ | 880 | 24 | $26 \cdot 31$ | 22.32 | 4.55 | $140 \cdot 70$ | 119:38 |
| 1923... | 649 | $0 \cdot 99$ | $0 \div 2$ | 67 | 9.54 | $7 \cdot 89$ | 26 | 24.99 | $20 \cdot 66$ | 4.91 | $130 \cdot 26$ | $107 \cdot 67$ |
| 1924... | 650 | 0.98 | 0.79 | 66 | $9 \cdot 63$ | 773 | 23 | $28 \cdot 38$ | 22.79 | 4.76 | 134:49 | 108.01 |
| 1925... | 672 | 0.95 | $0 \cdot 74$ | 67 | $9 \cdot 60$ | $7 \cdot 47$ | 21 | $30 \cdot 82$ | 23.99 | 4.69 | 136.34 | $106 \cdot 15$ |
| 1926 .. | 751 | $0 \cdot 85$ | 0.65 | 79 | $8 \cdot 15$ | $6 \cdot 19$ | 25 | $25 \cdot 15$ | $19 \cdot 11$ | 5.56 | $115 \cdot 18$ | 87.54 |

Table No. XXXIV
Return showing the Number of Owners and the Sizes of Herds of Cattle under various Groupings in the several Pastoral Districts of the State during the Year 1926.

| Pastoral Districts. | 1 to 100. |  | 101 to 300. |  | 301 to 500. |  | 501 to 1,000. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. |
| Burke | 385 | 10,322 | 87 | 17,631 | 41 | 17,284 | 36 | 26,040 |
| Burnett | 4,050 | 143,396 | 509 | 81,501 | 104 | 39,842 | 76 | 54,273 |
| Cook | 1,681 | 41,996 | 139 | 22,286 | 23 | 8,512 | 21 | 17,217 |
| Darling Downs | 7,332 | 200,182 | 551 | 90,612 | 73 | 28,401 | 69 | 46,62\% |
| Gregory North | 167 | 3,295 | 24 | 5,199 | 20 | 8,467 | 11 | 7,722 |
| Gregory South | 56 | 2,276 | 28 | 5,498 | 15 | 5,835 | 12 | 8,197 |
| Leichhardt . | 1,301 | 32,890 | 296 | 55,948 | 106 | 42,031 | 95 | 68,294 |
| Maranoa | 1,329 | 37,399 | 217 | 36,692 | 66 | 25,719 | 36 | 25,705 |
| Mitchell | 616 | 14,389 | 74 | 14,673 | 34 | 13,371 | 31 | 22,167 |
| Moreton | 10,229 | 279,937 | 717 | 114,096 | 77 | 30,398 | 43 | 31,166 |
| North Kennedy | 2,151 | 40,804 | 156 | 28,253 | 56 | 22,020 | 47 | 31,650 |
| Port Curtis . | 2,651 | 69,290 | 336 | 57,481 | 63 | 25,124 | 78 | 55,347 |
| South Kennedy | 1,439 | 26,414 | 120 | 21,290 | 37 | 14,120 | 32 | 22,243 |
| Warrego . | 477 | 13,768 | 85 | 15,319 | 38 | 15,586 | 35 | 25,719 |
| Wide Bay | 5,058 | 132,606 | 442 | 69,256 | 66 | 25,096 | 35 | 25,073 |
| Totals . . | 38,922 | 1,048,964 | 3,781 | 635,735 | 819 | 321,806 | 657 | 467,437 |
| Pastoral Districts. | 1,001 to 5,000. |  | 5,001 to 10,000. |  | 10,001 and upwards. |  | Totals. |  |
|  | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattie. | Owners. | Cattie. |
| Burke . | 55 | 133,005 | 20 | 146,760 | 19 | 334,225 | 643 | 685,267 |
| Burnett | 46 | 90,620 | 4 | 30,930 |  |  | 4,789 | 440,562 |
| Cook .. . | 33 | 86,322 | 7 | 46,599 | 13 | 297,776 | 1,917 | 520,708 |
| Darling Downs | 25 | 40.084 | 1 | 8,530 |  |  | 8,051 | 414,433 |
| Gregory North | 20 | 40,852 | 10 | 74,700 | 5 | 72,500 | 257 | 212,735 |
| Gregory South | 20 | 48,119 | 7 | 48,067 | 1 | 17,923 | 139 | 135,915 |
| Leichhardt | 111 | 220,139 | 21 | 149,147 | . | . | 1,930 | 568449 |
| Maranoa | 41 | 80,366 | 5 | 29,777 | . |  | 1,694 | 235,658 |
| Mitchell ${ }_{\text {Moreton }}$. | 16 | 32,217 21 | 3 | 17,198 |  |  | 11,674 11,079 | 476,828 |
| North Kennedy | 71 | 152,130 | 13 | 78,967 | 5 | 100,588 | 2,499 | 454,412 |
| Port Curtis . | 58 | 112.369 | 9 | 53,142 |  | 10,958 | 3,196 | 383,711 |
| South Kennedy | 52 | 122,153 | 11 | 78,257 | 3 | 44,068 | 1,694 | 328,545 |
| Warrego . | 31 | 73,053 | 2 | 14,250 | 2 | 33,473 | 670 | 191.168 302,439 |
| Wide Bay .. | 25 | 50,408 | .. | .. | $\ldots$ | . . | 5,626 | 302,439 |
| Totals | 617 | 1,303,068 | 113 | 776,324 | 49 | 911,511 | 44,958 | 5,464,845 |

Table No. XXXV.

| Division. | 1-100. |  | 101-300. |  | 301-500. |  | 501-1,000. |  | 1,001-5,000. |  | 5,001-10,000. |  | 10,001 and Upwards. |  | Totals. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Catte. | Owners. | Cattle. | Owners. | Catte. | Owners. | Catte. |
| Southern Division | 28,856 | 820,717 | 2,660 | 433,920 | 467 | 181,470 | 327 | 231,568 | 223 | 446,525 | 23 | 161,957 | 3 | 51,396 | 32,559 | 2,327,553 |
| Central Division | 4,550 | 111,956 | 654 | 119,053 | 210 | 83,992 | 212 | 151,090 | 210 | 429,931 | 44 | 300,386 | 7 | 96,018 | 5,887 | 1,292,426 |
| Northern Division | 5,516 | 116,291 | 467 | 82.762 | 142 | 56,344 | 118 | 84,779 | 184 | 426,612 | 46 | 313,981 | 39 | 764,097 | 6,512 | 1,844,866 |
| Total | 38,922 | 1,048,964 | 3,781 | 635,735 | 819 | 321,806 | 657 | 467,437 | 617 | 1,303,068 | 113 | 776,324 | 49 | 911,511 | 44,958 | 5,464,845 |

## Table No. XXXVI.


Table No. XXXVII.


| Division. | 1-500. |  | 501-1,000. |  | 1,001-2,000. |  | 2,001-5,000. |  | 5.001-10,000. |  | 10,001-20,000. |  | 20,001-50,000. |  | 50,001-100,000. |  | 100,001 and Upwards. |  | totais. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Owners. | Sheep. | O wners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | O wners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. |
| Southern | 1,471 | 192,045 | 339 | 250,989 | 395 | 585,843 | 561 | 1,830,751 | 242 | 1,694,517 | 113 | 1,547,242 | 58 | 1,734,340 | 11 | 651,149 | 1 | 133,945 | 3,191 | 8,620,821 |
| Central | 331 | 47,398 | 109 | 85,028 | 152 | 231,801 | 325 | 1,075,064 | 148 | 1,051,236 | 86 | 1,174,496 | 49 | 1,599,837 | 11 | 703,367 | 2 | 219,108 | 1,213 | 6,187,335 |
| Northern | 115 | 14,908 | 26 | 21,704 | 57 | 91,253 | 141 | 483,735 | 67 | 461,626 | 36 | 518,460 | 13 | 391,846 | 1 | 69,084 | .. | . | 456 | 2,052,616 |
| Total | 1,917 | 254,351 | 474 | 357,721 | 604 | 908,897 | 1,027 | 3,389,550 | 457 | 3,207,379 | 235 | 3,240,198 | 120 | 3,726,023 | 23 | 1,423,600 | 3 | 353,053 | 4,860 | 16,860,772 |

TIIIXXX ${ }^{\circ} \mathrm{N}$ ข ${ }^{\text {IqBL }}$
Return for Tre Yeabs showing the Estimatrd Number of Cattif, Sherf, Etc., Slaughtered for Consumption as Food in the Statr, togbther with the average Dead Whieht of each Animaland the Estimated Quantity Consumed pre Capita (exclusive of Meatworks engagd in Staughtering for Preservation).

|  | Yeers |  |  |  |  | $\begin{aligned} & \text { Mean } \\ & \text { Population } \\ & \text { for the Year. } \end{aligned}$ | Nutark Slavahtrred. |  |  |  |  | Avkrage Dressed Weioht. |  |  |  |  | Consuartion pria captia. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Cattle. | Sheep. | Oalves. | Lambs. | Swine. | Cattle. | Sheep. | Calves. | Lambs. | Swine. | Beef. | Mutton. | Veal. | Lamb. | Pork. | Total. |
| 1917 |  |  |  |  |  | 680,313 | 153,206 |  |  |  |  | 1 lb . |  | ${ }^{\text {lb }}$. | ${ }^{\text {lb }}$. | 1 lb . | lb. | 1 lb . | 1 l . | 1 lb . | 1 l . | 1 l . |
| 1918 |  |  | $\ldots$ |  | ... | 688,547 | 159,066 | 359,688 | 5,659 | ${ }_{13,665}^{18,40}$ | ${ }^{39,588}$ | ${ }_{5}^{591}$ | ${ }_{43}^{43}$ | 50 47 | 29 |  | $133 \cdot 00$ | 25.97 | ${ }^{6.62}$ | 0.73 |  | 163.98 |
| 1919 | ... |  | ... | $\ldots$ | ... | 719,928 | 204,977 | 431,503 | 10,773 | 16;219 | 33,986 | 586 | 39 | 50 | 30 | 86 | ${ }_{166} 180$ | ${ }_{23} 231$ | 0.75 | ${ }_{0}^{0.68}$ | ${ }_{4}^{4.65}$ | ${ }_{1}^{161 \cdot 21}$ |
| ${ }_{1921} 920$ | ... | ... |  |  | ... | 734,379 | 229,839 | 417,423 | 18,144 | 22,184 | 25,635 | 471 | 43 | 56 | 34 | 91 | $147 \cdot 56$ | 2449 | 1.39 | 1.03 | ${ }_{3} \cdot 19$ | ${ }_{177} 196$ |
| 1922 | ... |  | ... |  | ... | 764,665 | 214,547 | 624,758 | 33,342 | 23,944 | 27,273 | 583 | 41 | 49 | 30 | 86 | $163 \cdot 64$ | $33 \cdot 79$ | $2 \cdot 12$ | $0 \cdot 93$ | 3.06 | 203•54 |
| 1923 |  |  |  |  | ... | 782,890 802748 | ${ }_{281.760}^{251.562}$ | ${ }_{\substack{668,673 \\ 538.770}}$ | 36,404 38.916 | 25,471 | 54.620 | 567 | 41 | 51 | 30 | 86 | 182.21 | $3+93$ | $2 \cdot 38$ | 0.97 | 6.00 | $226 \cdot 49$ |
| 1924. |  | $\ldots$ |  |  | $\ldots$ | 825,151 | ${ }_{282,516}^{281,760}$ | ${ }^{538,770} 421,874$ | 38,916 42,330 | 24,298 23843 | 63,019 57,402 | 525 547 | ${ }_{43}^{40}$ | ${ }_{51}$ | 30 | 85 | $184 \cdot 13$ | ${ }^{26} \cdot 89$ | 3.73 | 0.91 | $6 \cdot 66$ | 222:32 |
| 1925** |  |  |  |  | ... | 851,419 | 333,095 | 580,566 | 49,691 | 19,969 | 66,398 | 543 | 42 | 50 | 30 30 | 88 | $187 \cdot 19$ <br> 212.28 <br> 2 | 22.18 28.98 | ${ }^{2 \cdot 62}$ | $0 \cdot 87$ | 6.10 | $218 \cdot 96$ |
| 1926*. |  |  | ... |  | ... | 875,187 | 321,795 | 656,458 | 51,170 | 19,866 | 72,145 | 550 | 44 | 79 | 31 | 83 | ${ }_{2020}^{2128}$ | 28.98 3306 | 2.90 4.59 | ${ }_{0.71}^{0.69}$ | ${ }_{6}^{6.84}$ | ${ }_{24}^{251.30}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table No. Xxxix.



Table No. XLI.


Table No. XLL.-continued.
Return showing the Breeds of Cattle as Returned in the Several Petty Sessions Districts of the State for the Year ended 31st December, 1926 - continued.

Table No. XLII.



## Table No. XLIII.

Return showing the Total Number of Sheep Shorn and the Result of the Clip in each of the three Divisions of the State for the Twelve Months ended 30th June, 1926.

| Division. | Total Number of Sheep Shorn. | Result of the chip. |  |  |  | Total Clip Expressed as Greasy Wool. <br> Lb. | Average weight per Fleece in the Grease. <br> Lb. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Greasy. |  | Scoured. |  |  |  |
|  |  | Bales. | Lb. | Bales. | Lb. |  |  |
| Southern | 7,757,922 | 162,084 | 54,081,930 | 4,942 | 1,117,820 | 56,317,570 | $7 \cdot 26$ |
| Central | 9,878,403 | 176,101 | 61,022,015 | 16,203 | 3,767,976 | 68,557,967 | 6.94 |
| Northern | 2,916,667 | 41,388 | 14,257,072 | 10,051 | 2,270,495 | 18,798,062 | 6.45 |
| Totals | 20,552,992 | 379,573 | 129,361,017 | 31,196 | 7,156,291 | 143,673,599 | 6.99 |

Table No. XLIV.
Return showing the Breeds of Sheep in Queensland on 31st December, 1926 ; atso the Number of Sheep under one Year, and One Year and over, on that D $/$ tie.

$a$ Corriedale, 2 ; $b$ Border Leicester 9, Corried *Including butchers' and ration sheop.
Marsh 21. $d$ Romney Marsh 2; e Corriedale 10. f C Romney Marsh $1 ; ~ c$ Border Leicester 19, Corriedale 1,078 Dorset Horn 34, Lincoln 26, Romney $j$ Leicester $500 ; k$ Romney Marsh 1.

Table No. XLV.
Return showing the Results of Lambing, Losses, Sheep Killed for Food on Holdings, etc., in the several Pastoral districts of

| Pastoral | $\begin{aligned} & \text { Total Sheep } \\ & \text { as per Stock } \\ & \text { Returns on } \\ & \text { 1st Jan., } \\ & \text { 1926. } \end{aligned}$ | $\begin{aligned} & \text { Ewes } \\ & \text { Mated with } \\ & \text { Rams. } \end{aligned}$ | Lambs Marked. |  | Purchases. | Sales. | Total Losses. * | Killed for <br> Food on <br> Holding | Total Sheep as per Stock Returns on 31st Dee., 1926. | Skins Obtained. $\dagger$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Burke <br> Burnett <br> Cook <br> Darling Downs <br> Gregory North <br> Gregory South <br> Leicthardt. <br> Maranoa <br> Moreton <br> North Kennedy <br> Port Curtis <br> South Kennedy <br> Warrego . . |  |  | $\begin{array}{r} 148,156 \\ 1,357 \\ 139 \\ 325,694 \\ 57,069 \\ 25,850 \\ 52,200 \\ 760,200 \\ 373,223 \\ 2,220 \\ 2,620 \\ 1,167 \\ 4,844 \\ 490,483 \\ 49,658 \\ 588 \end{array}$ | $16 \cdot 63$ 52.70 7.54 56.72 11.39 25.06 22.95 61.70 21.50 56.81 95.42 32.04 24.73 30.07 $64 \cdot 70$ | 436,936 3,316 13,044 728,274 72,568 94,389 37,288 $1,002,241$ 621,269 9,603 21,409 27,650 77,245 471,770 2,987 |  |  | 19,703 89 5 20,085 16,407 2,067 5,888 32,516 61,783 705 17 446 486 33,001 174 |  | 24,028 233 9 21,00 19,713 2,422 6,559 25,79 68,568 682 109 539 1,029 30,220 169 |
| Totals | 20,663,323 | 6,557,034 | 2,245,998 | $34 \cdot 25$ | 3,889,789 | 4,:09,589 | 5,385,207 | 193,542 | 16,860,772 | 201,169 |

[^7]

[^8]a. Bloat, bogging, bush fire, domestic dogs, eagle hawks, killed for baits, killed for skins, missing,
b. Poisoned, scrub tick, unknown, worms.
d. Tiilkh
d. Blight, bush fire, crows, dipping, domestic


Brisbane, 10th October, 1927.
Price, 48, 6d.]



[^0]:    * Acreage figures, and amounts of seed cotton received were kindly supplied by the Secretary of the Cotton Pool Board.

[^1]:    * Of this area 2,455 acres was returned as ratooned for 1926.
    $\dagger$ Of this area 3,444 acres was returned as ratooned for 1927.

[^2]:    - Estimated 31st December, 1926.

[^3]:    N.B.--This Table does not include Interstate Traffic by Sea in live animals; this is unascertainable, but insignincant in number

[^4]:    N.B.-Returns received trom Inspectors of slaughter-houses for 1926 account for 63,916 swine killed, producing $5,303,303 \mathrm{lb}$. of fresh pork $i_{n}$ addition to the above. In a few instances at a possible that some of these have been also included in the returns from which this table is compiled, but to what extent it is impossible to determine.

    Including South Brisbane.

[^5]:    - Not available.

[^6]:    - Decraase.

[^7]:    $\dagger$ Year ended 30th June, 1926.

[^8]:    Causes included in "Other"- *Losses of unmarked lambs are not taken into consideration.

