

OBSERVATIONS ON TIME OF CALVING AND GROWTH TO WEANING OF BEEF CALVES IN COASTAL NORTHERN QUEENSLAND

The performance of the calf from birth to weaning is one of the factors to be considered in deciding optimum breeding time of beef cows. Data on this aspect of management on a property in the coastal wet belt of northern Queensland are presented.

Present practice in the region is to allow season and environment to be the principal regulators of time of calving. Most calvings occur in the December-March period and any regulation of breeding that is practised is directed to further concentrating calvings into this period.

No local literature relating time of calving to weaner performance of beef cattle is available.

In the subject herd, comprising purebred Brahman and Brahman crossbreds, birth weights were obtained on all calves born in the years 1956 to 1961. Live-weights at weaning time were also obtained and were adjusted for age and sex. The age adjustment was made to 200 days from birth and is referred to as the adjusted weaning weight.

Results

The seasonal effect on growth from birth to weaning of calves born throughout the observation period (1956-1961) is apparent from a study of Tables 1, 2 and 3. In this growth phase, it is apparent that such effects were minimal for the purebred Brahman group whereas highly significant variations occurred in the crossbred calves.

TABLE 1
GROWTH TO WEANING OF CALVES BORN IN EACH QUARTER OF THE YEAR
Purebred Brahmans

Quarter	Year	No. of Calves	Daily Gain (Adjusted for Sex Difference) (lb per day)
3rd (July-Sept.) ..	1957	2	1.64
4th Oct.-Dec.) ..	1957	4	1.47
1st (Jan.-Mar.) ..	1958	5	1.32
2nd (Apr.-June) ..	1958	9	1.46
3rd (July-Sept.) ..	1958	15	1.56
4th (Oct.-Dec.) ..	1958	1	1.42
1st (Jan.-Mar.) ..	1959	6	1.59

Weighted mean male daily gain 1.59 ± 0.05 lb

Weighted mean female daily gain 1.42 ± 0.05 lb

TABLE 2
GROWTH TO WEANING OF CALVES BORN IN EACH QUARTER OF THE YEAR
Crossbred Brahmans

Quarter				Year	No. of Calves	Mean Daily Gain (Sex Adjusted) lb per day
3rd	..	..	..	1956	3	1.32
4th	..	..	..	1956	6	0.96
1st	..	..	..	1957	28	0.95
2nd	..	..	..	1957	28	1.46
3rd	..	..	..	1957	2	1.67
4th	..	..	..	1957	36	1.98
1st	..	..	..	1958	10	1.08
2nd	..	..	..	1958	32	1.17
3rd	..	..	..	1958	27	1.95
4th	..	..	..	1958	32	0.87
1st	..	..	..	1959	39	1.40
2nd	..	..	..	1959	34	1.34
3rd	..	..	..	1959	43	1.69
4th	..	..	..	1959	59	1.12
1st	..	..	..	1960	13	0.95
2nd	..	..	..	1960	51	1.76
3rd	..	..	..	1960	38	1.44
4th	..	..	..	1960	101	1.81
1st	..	..	..	1961	38	1.22
2nd	..	..	..	1961	23	1.59

Weighted mean male daily gain 1.50 ± 0.14 lb

Weighted mean female gain 1.37 ± 0.14 lb

TABLE 3
ADJUSTED WEANING WEIGHTS OF CALVES BORN IN EACH MONTH
(Yearly Data Bulked for Months)

Rank	Month	Mean Adjusted Weaning Weight (lb)	Significance Exceeds	
			5% Level	1% Level
1	July	382	6-12	6-12
2	June	371	7-12	10-12
3	August	369	10-12	10-12
4	October	365	10-12	10-12
5	September	359	10-12	11-12
6	November	358	10-12	10-12
7	December	352	10-12	12
8	January	349	11-12	12
9	May	345	12	12
10	April	325	12	—
11	March	320	—	—
12	February	294	—	—

It is also apparent that calves born in the dry season grew faster than calves born in the wet season (Figure 1). The absolute difference in weaning weight (adjusted to 200 days of age) of calves born in each month of the year is also presented (Table 3). In this tabulation all breeds are bulked for the 5-year period (1956-1961) after adjustment to weaning weight. A weight difference of 88 lb between calves born in February and those born in July has been calculated.

In the case of purebred and crossbred calves, males grow significantly faster than females (Tables 1 and 2).

Discussion

The results are in conflict with present practice and current view on breeding time. An examination of Figure 1 suggests a relationship between high rainfall and low growth performance. Wet season humidity and pests do cause marked distress, particularly to cattle of the British breeds. Pastures are, at times, waterlogged at this period. It is not unreasonable to infer that these factors contribute to the absence of significant variation in the growth of the purebred Brahmans.

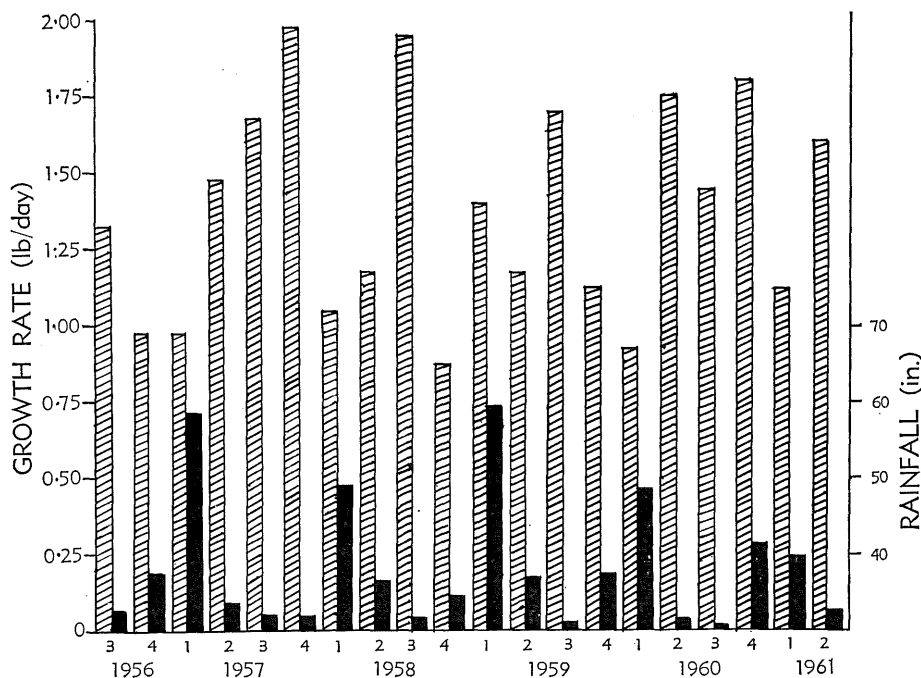


Fig. 1.—Quarterly rainfall and growth rate from birth to weaning of Brahman crossbreeds grouped on the basis of quarter of birth. (Rainfall solid block; growth rates shaded).

The other aspect that is thought to influence the seasonal variation relates to the changing nutritional needs of the calf from birth to weaning.

The February calf is born at a time when pasture conditions are best, when the dam's milk supply, as a consequence, is at a maximum, and when the calf's own immediate needs are minimal. Autumn and winter are critical periods for the calf, with rapidly declining milk yield in the dam to be expected and with progressive decline in pasture quality for both dam and offspring. Arbuckle (1959) has demonstrated the poor lactation performance in beef cows at a similar period of the year in Central Queensland.

The July calf, on the other hand, has the advantage of a probably longer lactation with improved nutritional planes at a relatively later stage of lactation and at a time when the calf's foraging ability is improving rapidly with age.

REFERENCE

ARBUCKLE, J. (1959).—How much milk do beef calves give? *Qd Agric. J.* 85:173-8.

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