

Wine grapes information kit

Reprint – information current in 1997



REPRINT INFORMATION – PLEASE READ!

For updated information please call 13 25 23 or visit the website www.deedi.qld.gov.au

This publication has been reprinted as a digital book without any changes to the content published in 1997. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research:

- Chemical recommendations—check with an agronomist or Infopest www.infopest.qld.gov.au
- Financial information—costs and returns listed in this publication are out of date. Please contact an adviser or industry body to assist with identifying more current figures.
- Varieties—new varieties are likely to be available and some older varieties may no longer be recommended. Check with an agronomist, call the Business Information Centre on 13 25 23, visit our website www.deedi.qld.gov.au or contact the industry body.
- Contacts—many of the contact details may have changed and there could be several new contacts available. The industry organisation may be able to assist you to find the information or services you require.
- Organisation names—most government agencies referred to in this publication have had name changes. Contact the Business Information Centre on 13 25 23 or the industry organisation to find out the current name and contact details for these agencies.
- Additional information—many other sources of information are now available for each crop. Contact an agronomist, Business Information Centre on 13 25 23 or the industry organisation for other suggested reading.

Even with these limitations we believe this information kit provides important and valuable information for intending and existing growers.

This publication was last revised in 1997. The information is not current and the accuracy of the information cannot be guaranteed by the State of Queensland.

This information has been made available to assist users to identify issues involved in wine grape production. This information is not to be used or relied upon by users for any purpose which may expose the user or any other person to loss or damage. Users should conduct their own inquiries and rely on their own independent professional advice.

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained in this publication.



Queensland Government



Common **QUESTIONS**

This section contains the most commonly asked questions about growing wine grapes. The answers are as brief as possible. Where this is difficult and more detail is required, we refer you to other sections of the kit. Symbols on the left of the page will help you make these links.

Contents

The essentials for a vineyard	2
Money	3
Planting and establishment.....	4
Varieties and rootstocks.....	5
Growing wine grapes	5
Things that go wrong.....	7

The essentials for a vineyard

What soil do I need to grow wine grapes?

Vines require a well structured soil 350 to 600 millimetres deep. The soil must be well drained but it also needs adequate waterholding capacity to support root growth and development throughout the growing season. Very deep or fertile soils are not ideal as they may promote too much vigour. Shallow soils are not desirable as vines do not thrive. Soil acidity and fertility should be tested and adjusted during land preparation and before the vines are planted.

Can I grow wine grapes successfully on my farm?

You need these soil and climatic conditions to grow wine grapes successfully.

- Cool and relatively dry weather during ripening (late January to April) Cool weather slows ripening of berries and helps develop flavour in the grapes and therefore the wine.
- Well drained soil 350 to 600 millimetres deep and not excessively fertile.
- A minimum of 3 to 5 million litres of reliable, good quality, water storage per hectare of vines or a bore flow rate of 1500 litres per hour per hectare of vines. Avoid using water with a total salinity greater than 2000 microSiemens per centimetre.
- Protection from prevailing strong winds.
- Crop areas above frost lines or free from spring frosts.
- Good air drainage to allow cold air to move freely down slopes.
- Low risk of hail.
- Access to power, transport, agricultural suppliers and similar facilities.

It is helpful to have a site close to the winery to allow rapid processing of grapes soon after harvest and assist communication between grower and winemaker.

Given these features, potential wine grape growing areas in Queensland tend to be inland regions with adequate water supplies and away from the coast. These areas include the Granite Belt, the South Burnett and the near south-west (Roma/Surat/St George).

What do I need to know about growing wine grapes?

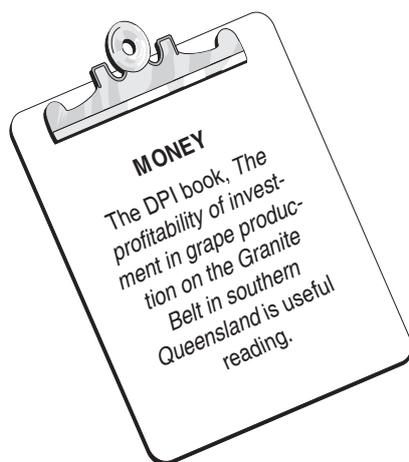
You should also consider the following points.

- Growing wine grapes is a cash hungry, high cost operation.



Climate
Section 1 page 5





Prepare a comprehensive property development and business plan, preferably with professional help from a wine grape consultant. Don't over commit your available funds by planning a development that is too large.

- It is essential in the planning stage that you establish a market for your grapes by contacting local and/or interstate winemakers. They will let you know the varieties they want.
- Hormonal herbicides such as 2,4-D are used in cereal growing regions. Spray or vapour drift from these herbicides will damage grape vines. Do not plant wine grapes within 10 kilometres of where hormonal herbicides are used.
- Vines will require regular sprays for diseases, insect pests and weeds. The proximity of neighbours and their reaction to spraying should be assessed. Communication with neighbours will often overcome problems before they occur.
- Investigate any previous land use and chemical applications associated with it. Contamination of grapes with chemical or other residues may make wine made from your grapes ineligible for export to some countries.

Money

How profitable is growing wine grapes?

Profitability depends on yield, price, market demand and quality of the grapes produced. You can expect an annual net profit (gross income less annual operating costs) of \$3000 to \$6000 per hectare with a positive cash flow by the end of the third growing season. Break even will usually be in seven to 10 years. Return on investment varies according to each vineyard. Return on assets managed after 10 years (excluding cost of land) may range from 15 to 40% before interest and tax, depending on individual circumstances.

What is the future of the Australian wine grape industry?

There are very good market prospects for the Australian and Queensland wine grape industry for at least the next 30 years. It is anticipated that another 40 000 ha will be planted in Australia in that time, bringing total plantings to about 100 000 ha. Production is expected to double within the next 10 years. At present there is a shortage of grapes, and wineries, especially those with young plantings, are looking to buy quality grapes. As these new plantings come into production, this demand may decrease.

The industry is developing export markets in the UK, Europe, USA and Asia. However, only consistent quality wines with appropriate pricing will succeed in these markets. Australian



wine consumption will have to increase to allow the domestic market to expand.

What does it cost to establish a winery?

Establishment costs depend on the volume of grapes crushed and the quality of wine to be made. As a guide a winery that can crush 50 tonnes will cost about \$150 000 to set up. This includes a crusher, pump, press, fermenting tank, holding tanks or barrels, building, cool rooms or refrigeration, and a small laboratory. A 50 tonne crush will provide about 3000 dozen, 750 millilitre bottles of wine.

Planting and establishment

Where can I obtain planting material?

Planting material (cuttings, rootlings or grafted vines) should be obtained from a reputable nursery that uses hygienic practices such as hot water dipping for disease control. The origin and health status of the planting material should be known. It is not advisable to use cuttings taken from other vineyards unless the origin and health status can be verified. Vine propagating material can be obtained from interstate nurseries and vine improvement associations accredited with DPI Queensland.



Contacts
Section 6 pages 5,8

What type of trellis should I use?

A trellis is necessary to manage vine growth and to make vineyard operations more efficient. It permits positioning of foliage and fruit for air movement, spray penetration, limited exposure of grape bunches to sun, prevention of sunburn of bunches and mechanisation of operations.

Vine vigour will determine the specific type of trellis required. In lower vigour areas, a fence-type trellis with a single cordon wire (cordons are the permanent arms of a vine) and some foliage control wires may be adequate. In high vigour areas a larger, more complex trellis may be necessary to handle the larger vine canopy.

Selection and design of the trellis is one of the last activities in establishing a vineyard. The vineyard site, and the wine grape variety and rootstock combination, must be decided before erecting the trellis.



If I plant cuttings this year, when will I have grapes?

If a rooted vine (grafted or own roots) is planted this year a crop should be expected in the third growing season. In more vigorous situations a small crop may be achieved in the second year, but a

crop should not be budgeted until the third year. Cuttings need to be grown in a nursery for one year to develop roots, before planting out in the vineyard.

Varieties and rootstocks

Which variety and/or rootstock should I grow?

The selection of varieties and rootstocks for a particular site is complex as it will influence the future profitability of your vineyard. We strongly recommend you seek advice on this important decision from winemakers and wine grape specialists.

White varieties presently in demand are Chardonnay, Semillon, Verdelho and Sauvignon Blanc while red varieties include Cabernet Sauvignon, Shiraz and Merlot.

Rootstocks preferred for Queensland include 140 Ruggeri, 1103 Paulsen, 5A Teleki, 5C Teleki, 5BB Kober and 110 Richter.



Choosing varieties and rootstocks
Section 4 pages 2, 8



Contacts
Section 6 page 2

Growing wine grapes

Who do I talk to about growing wine grapes?

You can get advice on growing wine grapes from DPI Queensland extension officers at Stanthorpe and Kingaroy; local and interstate wine grape consultants; national and state industry organisations; local grower associations; and wine grape growers and winemakers.

Where do I get grapevine planting material?

It is best to order your vines from reputable nurseries who use hygienic nursery practices and obtain their propagating material from vine improvement organisations. Where your planting material is supplied from interstate, ensure the supplier is accredited with the DPI to export grapevine material to Queensland. You should receive a phylloxera declaration with each consignment of planting material. Phylloxera is an aphid pest that attacks only grapevines. It is not yet present in Queensland. There is no effective control for phylloxera other than use of resistant rootstocks.



Grapevine nurseries
Section 6 page 5

Do I need to spray the vines very much?

Queensland's hot climate and summer rainfall is ideal for promoting many fungal diseases and insect pests. Control of these is essential for young vine growth, yield, quality and, ultimately, profitability of the vineyard. There are no alternatives to spraying for fungal diseases, though the number and frequency of



References
Section 6 page 22

sprays can be reduced with careful monitoring of vines and the weather. Natural predators can control some insects, but others may need spraying.

What chemicals can I use on wine grapes?

Lists of chemicals registered for use in wine grapes are available in various publications, through DPI Queensland extension officers, and the Peskem data base from the University of Queensland at Gatton College.

Use only chemical products that are registered for use on the specified disease, pest or weed in wine grapes. It is illegal to use non-registered chemicals in contravention of the label. Incorrect chemical use may lead to undesirable residues on berries, impede the fermentation process, or prohibit export of the wine.

Follow label directions for mixing rates, method of application and withholding periods. The Australian Wine Research Institute has published a list of requirements of overseas markets for maximum residue limits of chemicals in wine. Discuss the use of chemicals with your winemaker before spraying starts. By using these information sources you are unlikely to exceed the chemical residue limits for domestic and export markets. Worker safety will also be maintained.

How much should I irrigate and when?

Irrigation is essential. Young vines require watering on a regular basis (at least 20 litres per vine per week in two to three applications). Maintain a weed-free environment around young vines to avoid water stress and promote continuous growth. Mature vines will require 100 to 300 L per vine each week in one to three applications.

The amount of water required changes during the season with growth stage. It is important to maintain soil moisture during critical growth stages of budburst, flowering, fruit set and berry ripening. Consider using soil moisture monitoring devices such as tensiometers. They will help you apply the correct amount of water when it is needed.

Do I need to fertilise my vines?

Yes. Each year nutrients are lost from the vineyard when fruit is harvested. As a bare minimum, these nutrients must be replaced to sustain adequate vine growth, economic yields and good fruit quality. Soil analyses and plant tissue (petiole) analyses can be used to help determine how much fertiliser is required.

Are birds a problem?

Yes. Birds cause crop loss and lead to a greater incidence of bunch rots. The level of damage is greater in small vineyards,



References
Tensiometers
Section 6 page 22



Leaf analysis
Section 3 pages 42



Fertilising
Section 3 pages 39–42



Birds
Section 3 page 38

more info



 Contacts
 Section 6 page 9

in vineyards next to bushland, and in dry years when natural food supplies are low. Starlings, parrots, silvereyes, currawongs, crows, leatherheads and honeyeaters can all damage fruit. Control measures include netting and scaring devices.

Who can I sell my grapes to?

Before planting you **must** establish a market for your grapes. Approach all wineries in your growing area as well as wineries in other Queensland regions and in the southern states of Australia. The wineries will let you know the varieties and quality of grapes they want, the tonnage, and the wine style they produce. Their winemakers are also good sources of information about growing grapes.

Things that go wrong

more info



 Problem solver Sec-
 tion 5

Why are my grapes going rotten?

The actual cause needs to be identified before taking action because rotting grapes may be caused by the weather, disease or pest damage. In particular you must decide if the grapes are only shrivelled or are split and leaking juice. A fungal disease such as *Botrytis* may be present but it may be a secondary problem. Berry splitting or bird damage could be the main cause. Refer to the *Problem solver* section of this kit and/or consult a wine grape specialist to determine the real cause.

Why are my leaves changing colour?

Leaves change colour for many reasons—natural (as vines approach winter dormancy), viral and fungal diseases, insect pests, nutrition, drought (including blocked irrigation emitters), strangling of shoots or waterlogging. It is important to determine the exact cause and seek specialist advice. Detection of disease is a priority because of substantial crop losses if diseases are not treated quickly.

more info



 Problem solver Sec-
 tion 5

What are the spots on my leaves?

Leaf spots can be caused by fungal disease, insect pests or spray damage. Immediate identification is needed to determine the cause and the cure. Use the *Problem solver* section of this kit or consult a wine grape specialist. Take immediate action for fungal diseases to avoid major crop losses. It is less critical to treat insect damage quickly but control is still important. For herbicide spray damage pay particular attention to the type of chemicals or mixtures used and their time of application. Read and heed chemical label guidelines.

What causes canes to die back?

Cane dieback can be caused by fungal disease, root damage, waterlogging, wind damage, lightning, incorrectly applied chemical sprays, or something as simple as the training string choking the vine. The training string is used to support the growth of new vines until they are established onto the trellis. It is important to determine the cause so that correct action can be taken.