

Vines thrive in land of lakes and snow-capped mountains

THE OKANAGAN VALLEY of Canada is characterised by lakes and snow-capped mountains. It is found in the south of British Columbia (BC) approximately 260 km due east of Vancouver. Vineyards extend from the United States border (just south of Osoyoos) to the north of Kelowna, a distance of 110 km. However, the majority of plantings are located in the southern half of the region, particularly in the vicinity of Oliver and Osoyoos.

The first vines were planted in the 1860s but commercial viticulture did not begin until the 1930s. Growth was slow and by 1952 there were still only 120 hectares, mainly in the vicinity of Kelowna. From the 1960s, expansion has mainly taken place in the south. By 1999, the total area had expanded to 1,600 hectares (95% of the total vineyard area in BC). At current growth rates, 2,200 hectares is predicted by 2004.

Initially, the industry was dominated by winter-hardy *labrusca* varieties such as Concord. During the 1960s, French hybrids such as Vidal Blanc, Seyval Blanc, Foch and De Chaunac were mainly planted.

Although interest in *vinifera* varieties increased from the mid-1970s, they represented just 7% of the total area by 1982. In the last decade, there has been a major shift to *vinifera* varieties and, at the present time, they make up 96% of the planted area.

Today there are almost equal areas of red and white winegrapes. The main white varieties are Chardonnay (27% of total white area), Traminer (12%), Pinot Gris (12%), Pinot Blanc (11%) and Riesling (9%). For reds, Merlot is the major

variety with 31% of the area followed by Pinot Noir (24%), Cabernet Sauvignon (15%), Cabernet Franc (9%) and Gamay (7%). In recent years, the varieties with the largest planted areas have been Merlot, Chardonnay, Pinot Noir, Cabernet Sauvignon and Pinot Gris in order of importance.

The valley lies in the lee of the Coast Mountain range, which has peaks up to 2,450 metres. As a result, the region experiences much lower rainfall, higher sunshine hours and lower relative humidity than the seaward side of the moun-

tains. The growing season is relatively short, characterised by warm to hot days in mid-summer and cool nights. Temperature decreases from south to north: for example, the mean July temperature (MJT) of Osoyoos (elevation 326 metres) and Kelowna are 22.0°C and 18.7°C respectively². The climate is very continental: the mean annual range (MAR) for Osoyoos is 25.4°C. By comparison, Rutherglen (with the same MJT as Osoyoos) has an MAR of 15.4 and is considered to have a continental climate by

Australian standards.

Summers are relatively dry and rain is usually in the form of brief showers. Rainfall during the growing season (April to September) is 148 mm (55% of the annual total). June is the wettest month, with July to September being relatively warm and dry.

Autumn freeze risk is an important factor determining success, more so than spring freeze risk. Sites on the upper slopes with good air drainage have the least risk. For Osoyoos, the average date of the last freeze in Spring is 18 April, and the average date of the first freeze in Autumn is 16 October, a total freeze-free period of 180 days. This period may be shorter for more northerly vineyards.

Winters are very cold with minimum temperatures less than -25°C. Winter freeze damage to vine trunks is a potential problem and this may be countered to some extent by hilling-up of soil above the graft union, approximately 10 cm above the soil surface.

Vineyard land in the south tends to vary from flat to moderate slopes. In the north, more sloping sites are common. The warmest sites with best ripening possibilities are found south of Oliver to the US border, on the mid-slopes near to the lakes, particularly on the eastern side of the valley.

In the northern part of the region, only early varieties such as the Pinots and Chardonnay can be ripened with success on a regular basis. In the south, later ripening red vari-



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Peter Dry

eties such as Cabernet Sauvignon and Merlot can be readily ripened. Soils have developed as a result of both glacial action and post-glacial deposits of flood plains. The best soils for viticulture are well-drained with medium texture, often with gravel in the profile. They are generally very deep with a high potential for excess vigour.

Irrigation is essential due to low growing season rainfall. Supplies of irrigation water from the lakes are unlimited and of excellent quality. Typical phenological dates for Cabernet Sauvignon grown in the warm, southern end of the region are: budburst in third week of April, flowering in first week of June and harvest in second week of October.

New vineyards have row spacing and vine spacing of 2.4 × 1.2 metres and are set up for mechanical harvesting. VSP trellises are most common but other systems such as Scott Henry and Lyre are also used. Both shoot thinning and bunch removal are commonly practised.

Fungal disease pressure is relatively low. Oidium is readily controlled and downy mildew is non-existent. Botrytis may be a problem for late-ripening fruit in some years. Phylloxera is present in the region, but spread is minimal. The main rootstocks are SO₄, 3309, Riparia Gloire and 101-14. Some vineyards, including recent ones, are planted on their own roots.

Wineries suggest that maximum yields of 10 t/ha for reds and 12.5 t/ha for whites are optimal for wine quality—however some vineyards yield at more than double these rates. Typical prices in 1999 were C\$1,800 for reds and C\$1,600 for whites. Sixty percent of the vineyard area is owned by

wineries. For example, Vincor has 275 hectares in the south near Oliver and Osoyoos. The oldest vines are in their third season. Two hundred hectares are planned for next year and the company expects to end up with 600 to 800 hectares. Mission Hill owns 280 hectares in the south as well, including a small area of Shiraz. Bare land suitable for vineyards currently sells for C\$60,000 per hectare.

Even though the southern part of the region can experience relatively hot days in mid-summer, the region as a whole would be classified as 'cool climate' by most criteria. This is reflected in the wines which are definitely 'cool climate' in style³. Canada is the world's largest producer of ice wine: the cold winters of Okanagan facilitate the production of this wine style. Varieties such as Ortega are well-suited to ice wine because the fruit can hang on the vine in good condition until harvest in December.

DR PETER DRY is a senior lecturer in the Department of Horticulture, Viticulture and Oenology, The University of Adelaide.

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REFERENCES

- 1 BC has 20% of the total vineyard area of Canada.
- 2 Climatic data sourced from 'Atlas of Suitable Grapegrowing Locations in the Okanagan and Similkameen Valleys of British Columbia' (Agriculture Canada, 1984).
- 3 For further information on the relationship between climate, variety and wine style in Okanagan, refer to Reynolds, A.G. (1997) What is a cool climate? Practical Vineyard and Winery January/February: 9-21.