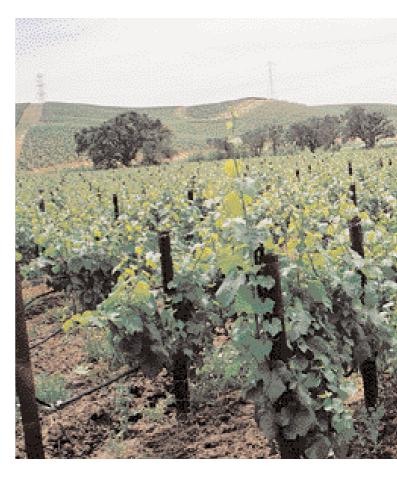
Carneros sparkles

ARNEROS (also known as Los Carneros) is neither renowned for scenic beauty nor balmy climate. As the cool winds whistle across the relatively treeless hills on a typical summer's afternoon, one could be forgiven for questioning the viticultural capability of this location. Indeed, although the first vines were planted here in the 1870s, viticulture proved to be too challenging due to a combination of cool, foggy and windy climate, shallow, infertile soils and low yields. As a result, the first phase of the wine industry did not persist for long. However, it was exactly these characteristics that attracted investors when 'cool climate' winegrowing became trendy in the New World in the 1970s. Consequently the region has been prominent since the 1980s on the basis of a reputation built upon the high quality of its sparkling wines from Chardonnay and Pinot Noir.

The Carneros AVA¹ spans both Sonoma and Napa counties; however, the major part of the vineyard area is located in the former. To the west it is bounded by the Sonoma Mountains, to the north by the southern-most hills of the Mayacamas Mountains, to the east by the Napa River and to the south by San Pablo Bay. Because the latter is joined to San Francisco Bay and thereby to the Pacific Ocean, it exerts a major influence on the climate of Carneros, and indeed the Napa Valley as a whole.

The hot Central Valley of California (to the east of Carneros) acts like a giant heat-pump: as the temperature builds up during the day, hot air rises and cold oceanic air is sucked into San Francisco Bay and San Pablo Bay. As a result of the intrusion of cold air from San Pablo Bay, the southern (Carneros) end of the Napa Valley is much cooler than the northern end. Typically, fogs build up on summer nights, burn off by late morning and bright sunshine persists for the rest of the day. However, the temperature is kept low by the strong westerly winds that start up in the early afternoon. The climate is cool and moderately maritime (MJT = 19.1, CTL = 11.02). Temperatures are similar to Coonawarra, Yarra Valley and Geelong. However, sunshine hours are much higher than those Australian counterparts, being more comparable to Mildura. Like all regions in northern California, Carneros has a higher ratio of sunshine hours to temperature than comparable Australian regions due to the influence of the cold northern Pacific waters. Also, there is the characteristically slow decline of temperature from summer to autumn, resulting in relatively warm autumns³. Annual rainfall (570 mm)—lower than for any other grapegrowing region within either Sonoma or Napa-is very summer





Peter Dry
Vineyards of the World

dominant: only 12% falls during April to September inclusively. Spring frost is not a major risk. Climate across the region is relatively uniform.

Vineyards are located on low, rounded hills at the foot of the Mayacamas Mountains at an average elevation of 40 m. Factors influencing the soils are close proximity to the Bay and impact of Ice Ages. In general, topsoils tend to be shallow (less than 1 m depth), of low to moderate fertility with high clay content overlying an impermeable clay subsoil. The major soil types are the yellow-brown alkaline Haire soils (pH 7-8) and the acidic black Diablo soils. Less common are the neutral, more fertile loams of alluvial origin.

Total area planted to vineyards is 2,480 ha. It has been estimated by the Carneros Quality Alliance⁴ that the potential plantable area is 6,000 ha. The major varieties (by planted area) are: Chardonnay (49%), Pinot Noir (35%), Merlot (9%) and Cabernet Sauvignon (4%). Minor varieties include

¹ American Viticultural Area.

 $^{^{\}rm 2}$ Mean July Temperature MJT and continentality CTL derived from Napa weather station located near to the (warmer) northern boundary of the region.

³ Gladstones, J.S (1992) Viticulture and Environment. Winetitles.

⁴ The Carneros Quality Alliance is the regional promotional body—for more information refer to http://www.carneros.org



Shiraz, Viognier, Pinot Gris and Grenache. Cabernet Sauvignon does best in the warmer northern part of the region. Nearly 20% of total production is used for sparkling wine. Budburst is typically in early March. Pinot Noir is harvested first in late August/early September followed by Chardonnay in mid September, and Cabernet Sauvignon in early October. Yield averages from 4.5 to 11 t/ha, depending on variety, season and intended end-use.

Natural shoot vigour tends to be suppressed by the combination of climate (particularly the influence of wind) and soil type. The main trellis type is a VSP with either fixed or moveable foliage wires. Both cane and spur pruning are used,



San Pablo Bay in the background

mainly by hand. Most vineyards are picked by hand. Row × vine spacing is 2.4 m × 1.2 m. Shoot thinning to achieve 13-15 shoots per m of row is common. The Carneros Quality Alliance is the regional promotional body—for more information, refer to http://www.carneros.org. Because Eutypa is a major problem, a relatively high proportion of summer pruning is preferred by some managers to minimise the number of pruning cuts in winter. Bunch thinning is also common, mainly at early veraison. The main rootstocks (for control of phylloxera) are 110R, 3309 and 101-14. The preference is for nil or minimal use of pre-emergent herbicides. Most vineyards are irrigated: 100 mm per season is typical. The main source is surface storage in dams.

ACKNOWLEDGMENTS

Some of the information in this article was provided by Lee Hudson, Ann Kraemer and Daniel Bosch.

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