

## Central Otago

### Our Growing Environment

- **A narrow range of heat summation**

GDD's (Growing Degree Days), 850 – 1100 in the growing season seems to be the sweet spot for Pinot Noir. In latitude, that generally means being at about 45-47° North or 44-45° South

- **Large diurnal shifts**

A significant variation between maximum and minimum temperatures each day. Hot days, (but not too far above 30°C), and cool nights, develop flavour complexity. Central Otago ranges from the early 30's down to low single figures during any period of the growing season. Central Otago is the only true inland growing region in New Zealand that has a continental rather than a maritime climate.

- **Long, cool, dry autumn**

Central Otago's autumn is its most settled period of weather during the year. A microclimate that gets the fruit nearly ripe, then cools off and lets it hang for a while adds depth and complexity to the resulting wine.

- **Low Rainfall and Humidity**

Rainfall ranges from 250mm to 600mm p.a. humidity 30-40% ave.

Pinot Noir is a thin skinned variety very susceptible to disease – Botrytis and Mildews amongst others– Central Otago's low humidity and low rainfall autumn translates into low disease pressure.

- **Free draining soils**

Central Otago's soils are all glacial derived with schist being the parent rock. As a rule we have light to deep Loess soils interspersed with gravels. The soils are typically heavy in texture, have good minerality, there are scattered deposits of calcium carbonate, and they are generally low in organic matter. Due to the parent rock and gravels they are free draining. On most sites the soils result in low vigour.

## Our Climate and Soils

Central Otago's climate is positively weird! Locked in deep valleys, surrounded by snow covered mountains, the region sits just 100 km West from Milford Sound, the second wettest place on Earth with around 10 metres of rain annually. However with the Southern Alps protecting the region, almost all water is deposited in the mountains as either rain or snow. By the time one travels through Central Otago's vineyards to the east you will have reached the outskirts of New Zealand's driest farm with only around 250 mm of annual rainfall. A straight line distance of around 150 kms.

This proximity to very heavy rainfall means that we have large amounts of water available, but not a lot of it comes from the sky. The very low humidity (30-40%, typically) means that Botrytis rarely causes problems and disease pressure is generally low. Long days and very little cloud add to the heat summation.

Peak temperatures are often around 31-32° in the summer, but the nights are cool - one day last year we measured 33°C maximum and 3°C minimum in one 24 hour period!

Our soils are moderately old (often windblown Loess), formed over successive ice ages as the glaciers ground Schist rocks to a fine flour. Layers of Loess of various depths are interspersed with river gravels. Add to these sandier soils, formed by water erosion and the viticulturist has a spread of challenges and opportunities.

Loess is highly prized in every winegrowing region where it is found: it seems to bring out complexity in many varieties, but there is no question that Pinot Noir and its relatives thrive on it. While it is very fine and heavy, the Schist particles from which it is made are glass like, and do not readily form clays.

The soils are therefore free draining, even when they are heavy in texture. The low rainfall has kept leaching effects low, so there is a good level of mineral compounds present, but the low rainfall has kept plant growth sparse, which means the organic content of the soils tends to be low. The result is a soil low in vigour, but high in mineral richness

**Wine Expression:** With its high content of Silica, Quartz and Mica, Central Otago's schist based soils produce, as the texture of the rock itself would suggest, wines which are luminous, layered and complex; lift rather than weight, precision rather than opulence, finesse rather than fullness.

## **Our Sub-Regions**

Ringed by mountains interlaced with lakes and deep river gorges Central Otago is New Zealand's most spectacular setting for vineyards. Central Otago is really a series of sub regions: each a pocket of possibility in a rugged mountain landscape. Many are quite different and the wines they produce already have distinctive characteristics, though individuals may differ in their definitions!

There are 4 main sub regions – Wanaka, Gibbston, Alexandra and Cromwell

### **Gibbston**

The first location to be planted in Pinot Noir, Gibbston is a north facing valley slope of The Kawarau Gorge, as it falls from Queenstown to Cromwell. 5 km's long by 2km wide, it is around 350 M above sea level and receives around 600mm rainfall.

The coolest and highest of the sub regions harvest usually begins at the end of April.

Heavy loess deposits over schist rock and river gravels.

Wine Typicity; red fruit and dried herb aromatics with backbones of acidity

### **Wanaka**

The most northerly and one of the most beautiful sub regions. Wanaka is cooler than some, but often has a good frost record because of the influence of the stunning lake. At 290 to 320 metres above sea level, with an average rainfall of around 600mm, the vineyards have a similar but slightly warmer climate than those in Gibbston. Harvest begins typically around the middle to end of April. Soils are thin layers of loess over schist rock

Wine Typicity; red fruit aromas, savoury tones, complexity and minerality.

### **Alexandra**

The most southerly sub region, Alexandra would be in the middle of the heat range of Central Otago microclimates. Spreading from gentle hills to wild rocky escarpments, it is probably the most varied as well. This was one of the earlier sub regions to be explored and planted. Spectacular schist outcrops dominate the arid landscape and it has the widest of diurnal shifts which help moderate the higher temperatures seen here. The vineyards are around 175 metres above sea level and receive around 260 mm annual rainfall; harvest typically is towards the end of April.

Soils are typically fine sands and river gravels low in loess topsoil

Wine Typicity; Spice notes with overt fruit, rich in aromatics however lighter in fruit tannin structure.

### **Cromwell**

Cromwell is a large basin surrounded on three sides by mountains – it is effectively in the middle, located between the other 3 sub regions.

It is around 250M above sea level and receives around 400mm rain annually.

It is the warmest on average of all the sub regions with the harvest beginning typically the week after Easter regardless of when this is and extending to the end of April.

The largest of all sub regions, it contains around 70% of all plantings and has already started to be further divided into smaller areas – these being;

- **Lowburn**

This area stretches from the township of Lowburn up the Greater Cromwell valley, the Pisa area and Parkburn, for some 25 kilometres. It has the largest areas of potential grape land, but very few northerly slopes for such a large area. As it is one of the warmer regions, Pinot Noir seems to ripen here without the need of slopes.

Soils – Thin loess layers over river gravels, with the odd schist fan

Wine Typicity; Upfront aromatics, high tones with red to darker fruits, ripe fruit tannins however delicate rather than structural wines.

- **Bendigo**

Bendigo is possibly the warmest sub region, though only recently planted. Bendigo consists of a North/West facing ridge at the junction of the Cromwell and Lindis valleys, with more gentle slopes below it. An area of high light and sun exposure due to aspect.

Soils; a mixture of glacial fans – so clays and loess over schist rocks on the high ridge and thin loess layers over river gravels on the lower slopes.

Wine Typicity; Darker fruits with structural tension from fruit tannins.

- **Bannockburn**

The oldest and currently the most intensively planted of the microclimates in Cromwell, Bannockburn is a North facing crescent bordering the Kawarau River as it flows across the base of the Cromwell valley to its meeting with the Clutha River. A very warm and dry area, it has two distinct areas within it of Cairnmuir and Felton Rd.

Soils; Cairnmuir having lighter soils of sand and gravels with very little loess, Felton Rd having layers of loess in varying deeps, and fans of clay and silt all over schist rock and gravel.

Wine Typicity; Spice, darker fruits and complexity, with well defined but fine tannin structure.