Sauvignon Blanc selection in Sancerre

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Like Burgundy, Sancerre is both a place and a wine. Taking its name from the spectacular hilltop town located south of Paris on the South (left) bank of the upper Loire River, Sancerre for many people simply refers to the region's most famous white wine – zesty Sauvignon Blanc. Since the 1970s, the flinty flavours of Sancerre have been an essential offering on every wine list – despite the fact that far more Sauvignon Blanc is actually grown in other appellations of the Loire Valley.

Late last year, Riversun Nursery sent us to France, where we joined up with executive director Geoff Thorpe to visit (among other regions) the rolling vineyards of Sancerre. Our objective, as a grapevine nursery, was to examine how different clones of Sauvignon Blanc behaved in their spiritual home. As a licensee of ENTAV-INRA® (the French national clonal selection agency), Riversun has imported four Sauvignon Blanc clones for use in New Zealand. We wanted to assess their viticultural and winemaking qualities in the region that first made the variety famous – and thus became the gold standard for clonal selection.

We also wanted to explore the concept of mass selection in France. After all, Marlborough Sauvignon Blanc (which in many respects has eclipsed Sancerre as the preferred source) was built on mass selection (MS). So we were curious. Does mass selection exist in France? What does it mean to a viticulturist in Sancerre? What role might it play in the French wine industry? We found answers to these questions – and we were greatly surprised (and impressed) on all counts.

Sancerre – the region

The geography of Sancerre is very hilly with narrow steep valleys formed along geological fault lines. Walking a vineyard will quickly start to take a toll on portly, un-fit wine writers. While the elevation is only between 200 and 400 metres, these vineyards are steep. Our first stop was Maison des Sancerre, the local wine industry centre (you can take a virtual tour on the website at www.maison-des-sancerre.com). Located at the top of the town (a steep walk, no cars up there), this is a must do on any itinerary. The centre offers a range of excellent books and some lovely interactive displays, including a holographic installation which explains the geography, soils, geology and viticulture of the region. Sancerre is home to about 3500 hectares of classified vineyards and more than 700 producers, some of whom have established enviable reputations for producing exemplary wines – Domaine Henri Bourgeois, Domaine Lucien Crochet, Domaine Alphonse Mellot and Domaine Vacheron, to name but a few. The region's size is compact compared to NZ, where there are more than 9000ha planted to Sauvignon Blanc in Marlborough alone. Approximately 85% of all the wines produced in Sancerre are made on Sauvignon Blanc, with the remainder on Pinot Noir and a small amount of Sauvignon Gris.

There are three different basic soil types in the region:

- chalk soils with chert nodules in them, referred to as "silex" – said to produce wines most suitable for ageing
- limestone soils, often with a moderate clay component – considered to make stronger wines
- soils called "terre blanche," which are derived from both chalk and limestone – believed to give rise to lighter and earlier drinking wines.

Genetic diversity

Given our background in NZ working with Sauvignon Blanc MS, we were intrigued to learn that mass selection in Sancerre simply refers to a large amount of unselected non-clonal material that has not yet been formally assessed for any viticultural or oenological properties, but is known to be to be true to type. Hence, mass selected Sauvignon Blanc is used to make selections from – it is not necessarily selected to any criteria itself, except as being Sauvignon Blanc. In France, mass selection is used as a genetic storehouse, and as such, it is carefully looked after. It is the base material from which new clonal selections will be made. Most winegrowers have their own stocks of MS, from which they make their own private selections, which then form a significant part of their producing vineyards.

In our visits to vineyards or experimental sites, we nearly always observed mass selection material as well as individual clones under production. Sometimes the ratio of classified clones to MS material is very small, although at the vineyards we visited in Sancerre, clones were used in various percentages between 50% and 80%, with MS forming the remainder. We were particularly interested to learn that local and national viticultural agencies in France are constantly assessing and trialling selections from MS material to develop new clones.

Mass selection in NZ

In NZ, winegrowers tend to think of Sauvignon Blanc MS as a specific product. It's thought to have been derived from FPMS1 (UCD1), a clone imported by UC-Davis from Chateau d'Yquem in Bordeaux, and then imported into NZ by Frank Berrysmith. The same clone also appears to have been imported into NZ, from UC-Davis via Australia, under the clonal number 2413, but the history is a little murky. Regardless of its origins, the clone's subsequent fortunes in NZ can be regarded as an international success story, and today it is called Sauvignon Blanc MS.

The continuous process we observed in France – whereby stocks of MS material are being assessed and evaluated for new clones and selections – is noticeably absent in NZ. Our industry invests heavily in research into flavour compounds and viticultural methodologies, but development of new selections from our MS stocks is perhaps

Replanting in Sancerre is proceeding at a faster pace than in many winegrowing regions of France – this is due to the ravages of Esca (a grapevine trunk disease), whose effect can be seen in the sparse vineyards in the distance.

an area warranting more resources. Some nurseries, including Riversun, have done some re-selection work, mostly focusing on removing rogue or diseased vines from MS stocks, and selecting better-looking vines: we are not aware of any concerted efforts into positive re-selection to develop new, different or improved clones by winemaking assessment.

Experimental sites

We visited two Sauvignon Blanc clonal selection trials on our tour (one in the hills of Sancerre and one in the flat plains of Touraine), and were most impressed with the scale and time-frame of the work. The Sancerre trial comprised about 1000 selections of MS vines – each planted onto four locally used rootstocks: Fercal (for lime tolerance), 3309, SO4 and 41B. From this trial, 260 selections have been identified for further work. Eventually, two or three new clones may result, plus some selection groups taken from MS material. The guiding principle of such a trial is not simply to develop new and improved clones, but to identify genetic diversity and preserve it.

The winegrowers of France believe that the genetic diversity contained in blocks of MS material is their heritage, and they are convinced that the future of their industry depends on it. Clones will come and go as trends and tastes change and evolve, but mass selection is the baseline that will enable them to keep their industry vital and responsive.

Development of a new clone in France is not just a matter of making an improved or better clone, although this is certainly part of the work. Indeed, vignerons are often more interested in the difference between clones. Whether a clone is 'better' is not always a concept applied to selection work. Rather, they are seeking a stable genetic variation that is expressed in the fruit characteristics and that will carry through to the wine flavours. The term 'better' is probably more often used to describe the viticultural properties rather than the fruit characteristics.

In Sancerre, it is generally considered that Sauvignon Blanc has a fairly narrow range of variation (compared to other grapevine cultivars), and as such, clonal selection work is somewhat difficult. The fruit characteristics of individual clones of Sauvignon Blanc may be less differentiated than those seen between clones of Pinot Noir or Syrah, for instance.

Viticultural aspects are as essential to clonal selection as the wine quality characteristics. Some clones may have more open bunch architecture and be more rot-resistant on a wet site. Some may be less vigorous and easier to control, while others may be better performers on certain soil types or rootstocks. Other clones may have slightly earlier or later ripening, and if they are all harvested at the same time the winemaker gains a complex flavour palette, ranging from grassy and herbaceous to tropical. One clone may have a particular fruit flavour, perhaps a hint of Muscat, and will be judiciously used in small amounts. Some clones will have more acid accumulation and be very sharp, while others may be sweeter – even a bit flabby with lower acids.

Polyclonal symphony

In most cases, the best wines are considered to come from polyclonal vineyards with a healthy proportion of MS material included. A good knowledge of the clonal properties allows the vigneron to get the best from the fruit through judicious blending. A polyclonal vineyard will give rise to more complex wines. What's more, such an approach provides greater insurance against the vagaries of weather, since different clones with different ripening

Table 1. Field notes

ENTAV-INRA® clone	Field observations
242	• Aromatic • Compact bunch • Appears to be early
376	• Very compact bunch • Good flavours (not green) • Well-liked by Michel Badier and others in the region
530	• Used throughout Sancerre • Mainly grafted onto Fercal and 41B • Compact bunches, but not tight
905	• This is a Bordeaux clone and was not observed at the trial site

profiles, vine architecture and bunch structure respond differently to weather events. The analogy that comes to mind is music. The different clones may be seen as different musical instruments in an orchestra. Each instrument has special properties and sounds, and while there may be some stunningly good soloists (who will have their moments of fame), an orchestra's strength is more than the sum of its parts. Not only are gifted performers required, it takes an excellent conductor to produce a full music of great beauty.

In our visits, we were frequently amazed by the sheer range of wines and wine styles available – all made from Sancerre Sauvignon Blanc. Most wines are made in steel vats; some of them are reminiscent of our NZ style, but some are strikingly different. Some wines are fermented in the barrel, and they may also be aged for varying lengths of time in different types and ages of oak. There are wines that are fined and filtered and those that are not. There are wines kept on the lees, there are reserve wines, there are wines specifically designed for ageing, and there are premium and even ultra-premium wines. Some of the reserve and oak-treated wines show great complexity in flavours and structure, while others are simple and refreshingly sharp, and there is everything in between.

Very close attention is paid during the winemaking to the different fruit properties from the different vineyards. Single vineyard wines are the norm, reflecting the unique balance of clones and mass selection. One producer offers 15 different Sauvignon Blanc wines, with prices ranging from around $9 to $40 (NZ$).

Sancerre's vignerons certainly have their favoured combinations of clones, but these combinations vary, depending upon the site and the desired outcome. Most winemakers use a range of clones, although, if pushed, they may admit to a particular fondness for one or two. Producers impressed us with their knowledge of how specific clones or combinations performed in the individual vineyards under their control – and they were able to explain their different approaches to winemaking for each lot.

Having said this, it's probably worth mentioning that not everyone in France believes in the use or the value of clones. Indeed, there are some very passionately held and opposing points of view on this topic. Some vignerons are of the opinion that clones mask or minimise the effects of terroir: of course, this is an issue that strikes at the very heart of French winemaking. Can clones and terroir be used together – both contributing positively to the character and quality of the wine? Some say 'oui', some say 'non'.

The clonal selection trials we visited will run for at least 10 years and will involve a huge amount of work in recording (first) the viticultural properties and (then) the winemaking from the selected material. Many students and professional vignerons and agronomists plus a multitude of government agencies, departments and ministries will contribute to this trial. Some doctoral thesis will be written, winemakers and viticulturists will be trained, and careers will be launched. We were told that this sort of work is continually being carried out on most major winegrape varieties in their respective regions of France. The sheer scale of such a national program is humbling, yet at the same time inspiring. While NZ will never be in a position to match the clonal selection work under way in France, there's no reason why we can't make a start – especially in our own vineyards.

Field notes on Sauvignon Blanc from the Touraine trial

We had the pleasure of visiting a trial site for Sauvignon Blanc clonal selection in the Loire Valley, organised by the Chambre d'Agriculture du Loir-et-Cher. Our host and guide Michel Badier provided us with details for 17 clones of Sauvignon Blanc. Since Riversun has imported four clones from ENTAV-INRA®, we were curious to observe their performance in the field, and made notes that are recorded in Table 1.

For more information on these clones, visit www.riversun.co.nz where you can browse our searchable grape vine database. Clonal information sheets detailing viticultural, winemaking and clonal information as collected by ENTAV-INRA®, are also available by contacting our Marketing Manager, Amanda Kidd, on 0800 11 37 47 or by emailing; info@riversun.co.nz. ■