

Improving quality through grafting and top-grafting

Marc Birebent

Worldwide Vineyards
BP 16
83660 Carnoules, France

After a bullish cycle marked by intensive vine plantings, worldwide wine-growing has been in a recession for several years now. While awaiting a return to an economic upswing, the industry, facing slowed investment, is leaning towards a new form of quality reorganisation. Growers are no longer content to think in terms of grape varieties, clones or aggressive marketing. Other research themes are now being explored, sometimes with the help of bud grafting and top-grafting techniques (T-bud and Chip-bud).

The first clonal selections distributed in two or three generations have often yielded excellent quality results. However by the very success of their propagation, over-use of some clones with strong organoleptic qualities has led to a reduction in diversity in terms of plantings, winemaking and macroeconomics of the varietal wine market. Even more generally, this evolution has led to a narrowing in the number of varieties planted and distributed, whereas thousands are known.

In France in particular wine-growers have reacted against this sluggishness, especially in the Grands Crus of the Bordeaux and Burgundy vineyards. Plot selection has again returned to the forefront. This consists of observing and noting over a period of several vintages the stock of very old vineyards whose visual and organoleptic characteristics are satisfactory. The most encouraging among them provide plant materials that are propagated by means of top-grafting on disappointing and low-producing plots. "The vines keep their advantageous rooting," says the director of a famous Saint-Emilion chateau, "and yield full production the first year following the top-grafting. Going from a generic Saint-Emilion to a Grand Cru, the plot's profitability is doubled in one year. Which is to say that the top-grafting quickly pays for itself.

France's Worldwide Vineyards, which began bud top-grafting in Europe (its innovations received a Palme d'Or at SITEVI 1987 and a Citation in 2001) continues its international development each year. In 2007, it was involved on every continent, both as services provider and with training or shipping of goods. For the wine-growers in these new markets, grafted vine plantings are out of the question because of their expense. Since self-rooted planted vines have a very limited life expectancy, they have enthusiastically discovered the Chip-bud and T-bud grafting methods.

Global solution

Dinkar Patel of Denka Wine Consultants, a consulting and services company established in India's central wine-growing region, is adamant: "We plant American roots which we graft in place directly in the field the same year. In our tropical climate, we get two harvests a year. With this method, we expect the first harvest eighteen months after planting." This motivation is confirmed by the owner of Indian Creek Vineyards in Napa Valley, California: "Rooting is far more generous than with a nursery seedling. Production is one year earlier, and we think that the life expectancy for a vineyard could also be more attractive, especially with regard to problems of withering of young vines" (Syrah disease and Syrah disorder).

In Georgia, Benoît Fil of Georgian Wines & Spirits, a subsidiary of the Pernod-Ricard Group, top-grafted for other reasons: "Local

nursery seedlings are not reliable. We have nearly 30% of various varieties in the middle of our Saperavi vines. We equipped ourselves with top-grafting tools, organised a training day for our staff, and began standardising our vineyard successfully in 2003."

The same thing happened at the vineyard of Guy Brichet in France, a grapegrower in Cairanne in the Côtes du Rhône, he is also an international consultant and former director of the largest cooperative cellars in the Côtes de Provence: "Legally and qualitatively, we have to standardise the wines on our old plots. Top-grafting is the best way to do that."

But this work requires that the grafts be cared for. Claude-Antoine Bourgeois, a professional grafter with Worldwide Vineyards, warns against complacency: "You can't expect the grafter to do everything. The wine-grower has to maintain his grafting site throughout the summer period, especially thinning the stock, watering and propping the grafts.

João Lourinho, director of a vineyard supplies firm based in Evora, Portugal, participates in developing one-eye top-grafting techniques: "Their reliability is their strong point. Old-time Portuguese wine-growers practiced every technique: full cleft graft, English graft, Cadillac system, omega system. Only the T-bud and Chip-bud grafts can be more than 90% guaranteed. But people are always afraid of anything new. You have to be patient. First there are the guinea pigs, with the neighbours coming to see, sniggering a bit at first. then word-of-mouth goes to work. I'm certain of the eventual success of the techniques and tools, especially since they apply equally to the grafting of many other fruit species."

At Sion in Switzerland's Valais district, Pierre Balet, both wine-grower and farm supervisor for a large wine production and retail firm, has been convinced for years that the vest reorganisation involves top-grafting: "You've seen the vines on our hillsides," he says, pointing with a sweep of his arm towards the mountain held in place with low rock walls. "It's not easy to work them. We will never be able to compete with the New World's Merlot and Cabernet Sauvignon wines in terms of quality-price ratio. Now we need to push varieties that set us apart, and characterise our terroir, like the red Humagne, the Petite Arvine and the Gamaret. And doing this while preserving the roots and fencing in place is the best budget solution."

Encouraging results

In the hills of northern Italy, Stefano Lendaro, a consultant for some well-known estates, is a fervent advocate of top-grafting: "Of course, you have to take the time to support the grafts, at a time when other vineyard work is necessary, but the results are encouraging. Most of the country's great estates have adopted top-grafting as a wine-growing task in its own right. You have to be realistic, while there are often multiple varieties authorised in each appellation, only some of them make it possible to achieve wines of great quality. Now, the economic cost of the lack of harvests created by replantings in reputable appellations is all the more considerable given that you need to wait for the tenth or twelfth leaf before you begin to produce a Grand Cru. So, almost painlessly, we top-graft in small segments each year."



A chip-bud graft

Philippe Ricoux, a wine-growing consultant in Austria, notes: "There are few wine-growers who really let the soil rest for several years before replanting a vineyard. The young vines will undoubtedly not have the same longevity as the older vineyards. So, it's not always right to consider top-grafting a short-term solution compared to a replanting."

Thierry Petitfils who top-grafted for Worldwide Vineyards in some of the world's most famous vineyards, explains: "Of course, we work a lot in the varietal wines category, but even more so in the major AOC.s. Losses of harvests following vine removal reach high levels when you're dealing with the most famous wines. In fact, if you take away profitability equivalent to A\$100,000 for a year, or for 7 to 10 years, the loss is exponential."

In Spain, Worldwide Vineyards' services increased by 400% last year (in regions including Ribera del Duero, Rioja, La Mancha, Penedes and Toro), often for readapting better-quality and more aromatic varieties. Marcelo Desvalls owner of Finca Viladellops in Olerdola, in Penedes, grappled with the problem first-hand. More than 7 hectares of productive, lower-quality whites were top-grafted in one year, in favour of varieties suited to yielding outstanding reds.

But other motivations are sometimes suppressed: "We bought grafted vines at a low price from Italian and Spanish nurserymen," explains the owner of a large Toro vineyard. "Between one-third and half the seedlings, depending on the plot, turned out to produce wood and leaves, but no grapes. Obviously, nobody is responsible. Since it was out of the question for us to pull up a 12-year-old vine, we top-grafted these seedlings with scions taken from our best vines. The results obtained were faster and better-performing than if we had pulled up and replanted this unproductive stock."

These issues recall the clonal selection of Tempranillo, which was entrusted to a famous foreign university. This led to the propagation of a clone that proved to be infertile, which was ironically nicknamed "double zero."

The motivations of vine grafters and top-grafters are much more important than the idea of immediate adaptation to the market of an in-vogue variety. The considerations of the industry's players refer more to medium- and long-term quality objectives and augur even more fertile growth for these techniques.

Worldwide Vineyards can be contacted on telephone +33 (0)4 94 00 62 00, fax +33 (0)4 94 57 37 74 ■



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Worldwide Vineyards

Viticultural Services and Consultancy

BP 16 - 83660 Carnoules - France

Phone : +33 494 006 200

Fax : +33 494 573 774

Email : www@wanadoo.fr

Website : www.worldwide-vineyards.com