

WINTER PRUNING 2023 Report

The Preparation of a new Cycle

After the harvest, minerals and nutrients are passed through the leaves' vascular system towards the roots, trunks and arms. Once temperatures drop and we move into late autumn, the vines transition into a vegetative state, a kind of winter sleep. The production cycle of the past year has then ended.

Imagine it is mid-December at Quinta dos Vales and the vines are standing still just waiting for the temperatures to pick back up, which in turn will awaken them from their dormancy period. Everything seems quiet and calm. Grey skies loiter above the vineyards and the chimney fires can be smelled from kilometers away in the cool air. It's the perfect opportunity to gather around a table covered with local cheeses, sausages, bread and olive oil and to clink glasses with a beautiful glass of Grace Vineyard Red. It is also time for the whole Quinta dos Vales' team to take a short breath of inspiration before the new, challenging year. And what a great one it will be!

Similarly to a bear in hibernation, the vine's metabolism is close to nil during this period, hoarding all the accumulated reserves for spring, where a real symphony will start to be played.

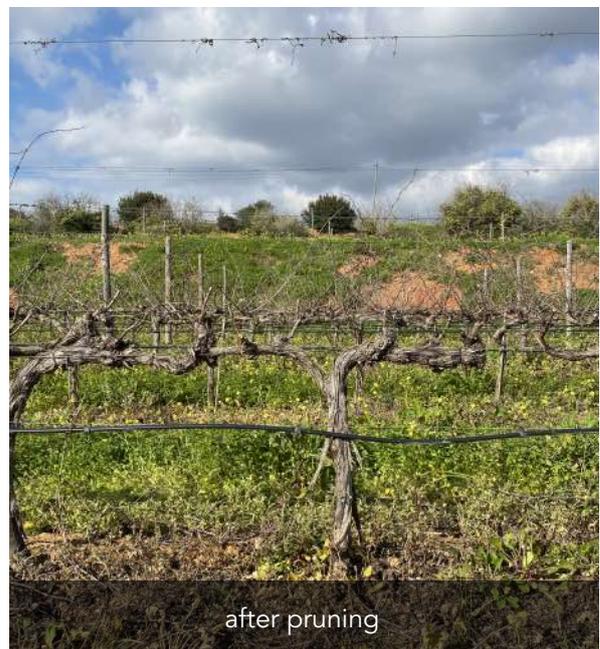
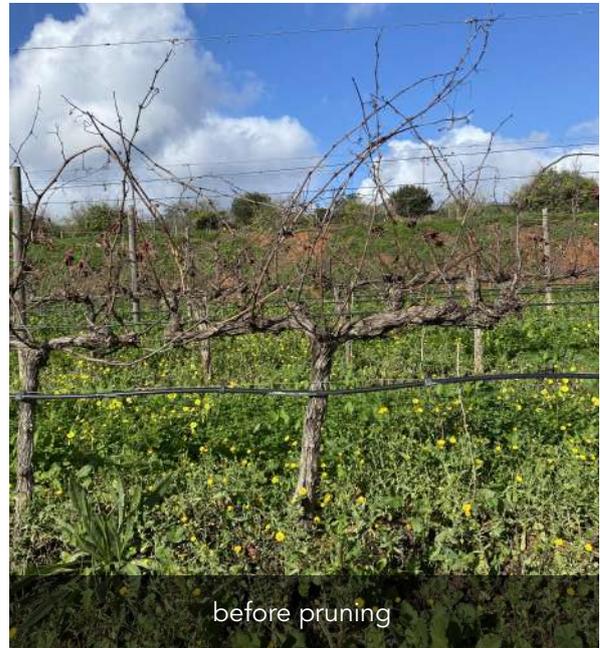
With the vines completely naked and all the carbohydrates concentrated in the lower parts of the vine, this is the perfect opportunity for our winemakers to prune the vines.



It is important to define as exactly as possible this dormant state, as winter pruning should not happen too late nor too early, in order to ensure that the vine is properly prepared for the upcoming growing season. It is a critical decision as the winter pruning is not only crucial for the upcoming season, but also for the next harvest as well.

Pruning impacts quantity, quality and ultimately the long-term health of the vine. If the pruning is done too late, the vine may have already started to grow, and the pruning will damage the new growth causing sap bleed that will weaken the plant. If the pruning is done too early, the vine may not have fully entered its dormant stage and, on top of not being as effective, it will increase the potential for cold injury as it might interfere with the vine's ability to go dormant.

The vine's growth is based on one year old branches or shoots. Therefore, a good treatment of the vines during the last year is conditional for the new production cycle. Each shoot originates from a bud, this bud sprouts in spring and then grows into a new shoot. This new shoot will develop flowers, which later turn into grape bunches. At the end of the growing season, the green shoot turns brown. At this point it is considered one year old wood, thus closing the vine's growth cycle.



Our winemakers' priority is to optimize the quality of the grapes, which is why pruning is one of the most important vineyard management practices of the production cycle as it directly affects the balance and development of the vine, and therefore future harvests.

Survival and growth are the main priority of any being. Would we leave this to the vines, they would strive to develop a dense mass of branches, and consequently with each passing year there would be less and

less proportion of younger shoots. In addition this dense vegetation would reduce airflow and increase the risk of disease, due to congestion.

Here we see a clear example of where the vine's biologic priority is in direct conflict with those of the winemaker. We prune the vine because we want to shape and maintain a certain structure, in order to preserve the vigor of the vines and, in this way, preserve its longevity. All with the aim of yielding a regular grape-production, with maximum quality, for the greatest number of years.

Pruning is conducted during winter time and consists in the removal of growths produced by the plant during the previous season. The goal in our vineyards is to reduce the number of grapes in each plant, thereby increasing the quality of the fruits and, more generally, facilitating the harmonious development of the grapevine. If a lighter pruning would be executed, more branches would remain and consequently a higher production of grapes would be achieved. The latter might however jeopardise the quality of said grapes.

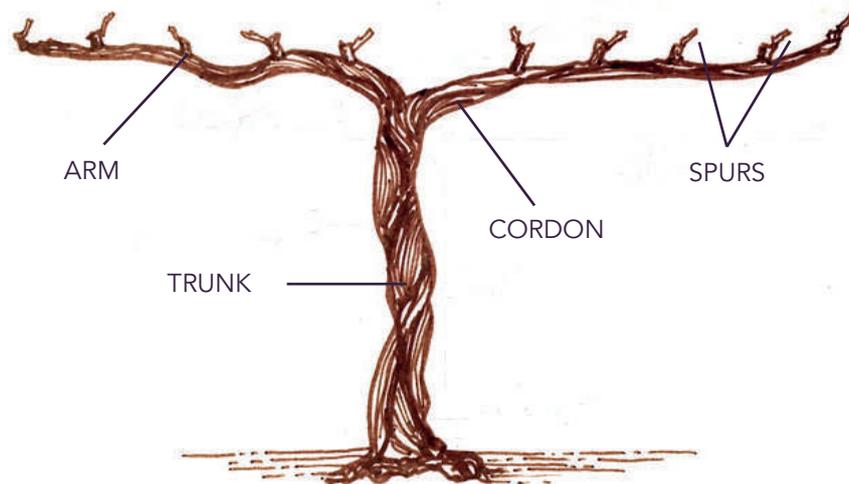
Pruning can be done either mechanically or by hand. Mechanical pruning involves using pruning machines or tools to quickly and efficiently trim the vines. This method is often used in large vineyards where speed and efficiency are important. Hand pruning - as in our case - involves carefully cutting and trimming of the vines by hand, using pruning shears or other tools. This method is far more labour-intensive, but allows for more precise and detailed pruning.

We start by pruning late-maturing varieties such as Cabernet Sauvignon and finish with early maturing varieties to delay the start of the growth cycle of the earliest varieties and advance the later ones.

A good pruner is an invaluable resource, often relying on skills that have been built over decades. Pruning not only takes great skill, it requires great concentration, resilience and commitment. The amount of time it takes to prune one hectare of vines varies, but on average, it can take us around 100 hours to prune one hectare of vines by hand.

Our vines at Quinta dos Vales are structured following one of the most established approaches worldwide, the bi-lateral cordon pruning technique. The vines are conducted in extensions of the trunk in a "T" shape, with two permanent horizontal branches each supported by a wire, extending in opposite directions and from which fruiting spurs originate.

As a general rule, younger vines will require more buds and branches to ensure healthy growth and fruit production, while older vines may require fewer buds and branches to maintain their vigor and quality. In our case we leave only 3 to 4 spurs on each cordon and 3 buds per spur. In order to decide which spurs to



keep we look for 1) the healthiest and most vertical ones, and 2) that the spurs are evenly spaced throughout the cordon. We want to avoid the growing shoots of each spur from interfering or competing with one another later on when the vine is at its crucial phase.

When this work is done, our role is done, and Mother Nature takes over the rest. Soon temperatures will rise and our winemakers will frequently visit the vineyards, checking for the first indications of the vines awakening from their winter sleep. The buds left on the plant will begin to swell, which is a good omen as the plant has then begun to circulate nutrients and water. A new production cycle has started and the bud break will then be only 5 to 6 weeks way.