



PRUNING

Pruning is a normal activity performed in winter or spring. The main goals of pruning are the elimination of excessive cane growth from the previous season, to shape the plant and establish an equilibrium between grape production and vegetative growth.

The biggest advantages of balanced pruning are:

1. Keeps the shape and balance of the plant
2. Avoids excessive growth
3. Avoids over aging of the wood
4. Diminishes the amount of thinning labour required through the growing season
5. Helps achieve balanced crop production and good fruit quality

RAVAZ INDEX

There are many factors to consider before starting the pruning process. A good parameter which is relatively easy to obtain is the Ravaz index; it helps to improve our decisions before pruning and to improve vineyard management through the vineyards lifetime.

1. Ravaz Index: the calculation of this index is easy, but it is necessary to have harvest yield data and pruning weights. The ideal, is to keep track of this information for more than a couple of seasons, so that each year our pruning labour can be more accurate. Optimally, it would be best to track this information every year through the vineyards lifetime.

It is possible to obtain the Ravaz Index value with the yield of the whole vineyard, if it is all one variety and homogeneous (the same or similar soil type, same trellis system, similar vigor condition, similar production, etc). If this is not the case, taking a minimum of 5 plants in each area would be recommended, but it can be more depending on the distribution of the vineyard.

Yield of grapes harvested (Kg)

Weight of pruning (Kg)

The results can be interpreted in this way:

Less than 4
an excess of vigor exists (low production)

Between 4 and 7
production is balanced

More than 7
an excess of production exists (too much production)

For example, in one variety the yield per plant was 3.46 kg and the weight of pruning was 0.4 kg, the Ravaz index will be 8.65. This value means the plant has been over-producing which will negatively impact the life of the plant (could have an imbalance of nutrients or could age prematurely).

This index is very useful to define the pruning process over time, which requires tracking yield production of different varieties in the vineyard and the weight of pruned wood. The objective is to enhance the production every year with more balanced plants and better grapes.

SOME PRUNING RECOMMENDATIONS

- The pruning process can be started 2 to 3 weeks after leaves fall and could continue until 2 weeks before budburst depending on the climate in your area.
- Avoid pruning on rainy days to avoid high humidity conditions.
- Avoid very cold days as canes are brittle and the remaining canes can be cracked or broken while removing pruned wood.
- In areas with a probability of late frost in spring, it is recommended to prune later to avoid early budburst and potential damage.
- Keep pruners well sharpened to make clean cuts and lubricate the springs and blades.
- Daily, clean the pruners, saws or any equipment used to prune with 70% alcohol and dry with paper to avoid oxidation.
- The cut has to be at an angle to allow the drop of sap (bleeding) to fall to the soil, to avoid accumulation of sap next to the bud. In the image below you can see in the last example how the sap would drip toward the bud. Distance of the cut from the bud, and the angle are also important.



(Centro de Extensión Vitivinícola del Sur, 2018).

- In each cut, leave some space between the cut and the bud, to avoid the entrance of fungi into the tissue.
- Leave the pruned canes in the middle of alternate rows; if they are in good sanitary condition (without fungal diseases or crown gall) these can be incorporated into the soil. However, if they have a fungal disease or crown gall, it is recommended to remove them from the vineyard. They can be burned.
- Remember to use personal protective equipment such as gloves, glasses, boots, and a case for pruners and saws.

DEFINITIONS

- **Balanced pruning:** correct number of buds on a grapevine to produce quality fruit without compromising the plant's health.
- **Bleeding:** running of sap once the climatic conditions are getting favourable for budburst or close to the end of the dormant season. It is not harmful for the plant.
- **Bull cane:** an excessively vigorous shoot. These shoots are poorly fruitful, less cold-hardy and are found on vigorous vines.
- **Cane:** mature shoot developed through the growing season. Properly matured ones have darker color, with good lignification.



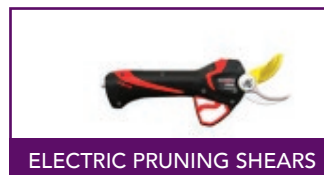
LONG PRUNING SHEARS



PRUNING SAW



HAND PRUNERS



ELECTRIC PRUNING SHEARS



PRE PRUNER MACHINE IN A TRACTOR

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