

LATE WINTER PRUNING to prevent spring frost damage and maintain the freshness of the grapes/delay ripening.

Challenge

Late frost events are taking place, with up to 100% damages. The harvest date is anticipated to maintain the freshness thus having a potential negative effect on overall wine quality/typicity.

Solution

Late winter pruning is proposed as an economical technique to postpone budding and, in some cases, grape ripening.

It is essential to remove the correct leaf area surface in order to obtain good results without decreasing yield.

Benefits

The practice helps to prevent losses due to spring frost therefore the farmers do not have to switch to varieties with a later budbreak.

Practical recommendation

The practice helps to prevent losses due to spring frost therefore the farmers do not have to switch to varieties with a later budbreak. It also can lead to a delay in ripening which helps to maintain the freshness and other organoleptical proprieties/typicity. It is an adaptation of normal winter pruning which is based on the grape acrotony. The farmer shall wait after bud break (2 leaves unfolded) has occurred in the apical portion of the shoots to perform winter pruning. The acrotony is the natural behaviour of the vine to favour the buds located in the apical position therefore causing budbreak in the apical positions while inhibiting it in the basal positions. Thereby the buds located in the basal position are protected in case of spring frosts.

The following steps shall be applied:

- Perform a pre-pruning operation in order to optimize the pruning step organization (reduce the needed time during pruning) – the two shoots that are kept must be long and kept up-right – Be careful: this operation will help to skip the spring frost stage however it might not have any impact on the ripening delay at harvest time.
- Perform the pruning step in order to reach the correct leaf area removal which is not more than 2 unfolded leaves on the apical shoots. If the operation is performed afterwards, it will cause a yield loss.

Applicability box

Theme

climate change mitigation
natural resources conservation

Context

This technique can be applied in all the vineyards.

Application time

At late Winter pruning stage

Required implementation time

the same time as standard winter pruning is required for the pruning operation.

Period of impact

The impact will be seen in spring (avoid spring frosts) and in the harvest season (delay ripening)

Equipment

no specific equipment is required

Pictures and visual information:

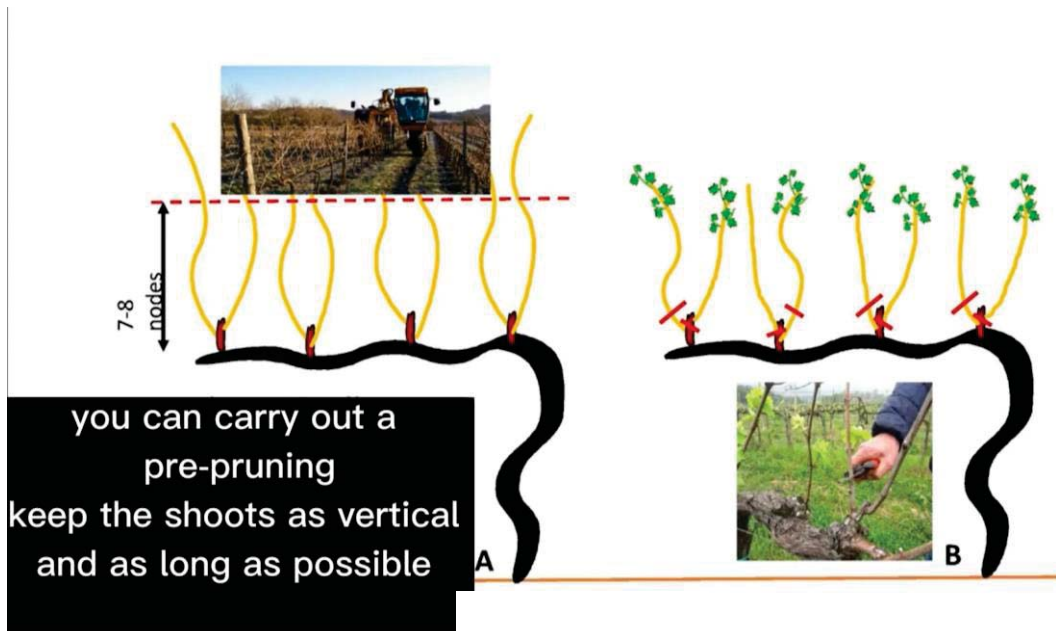


Fig 1 late winter pruning in two steps: pre-pruning and pruning

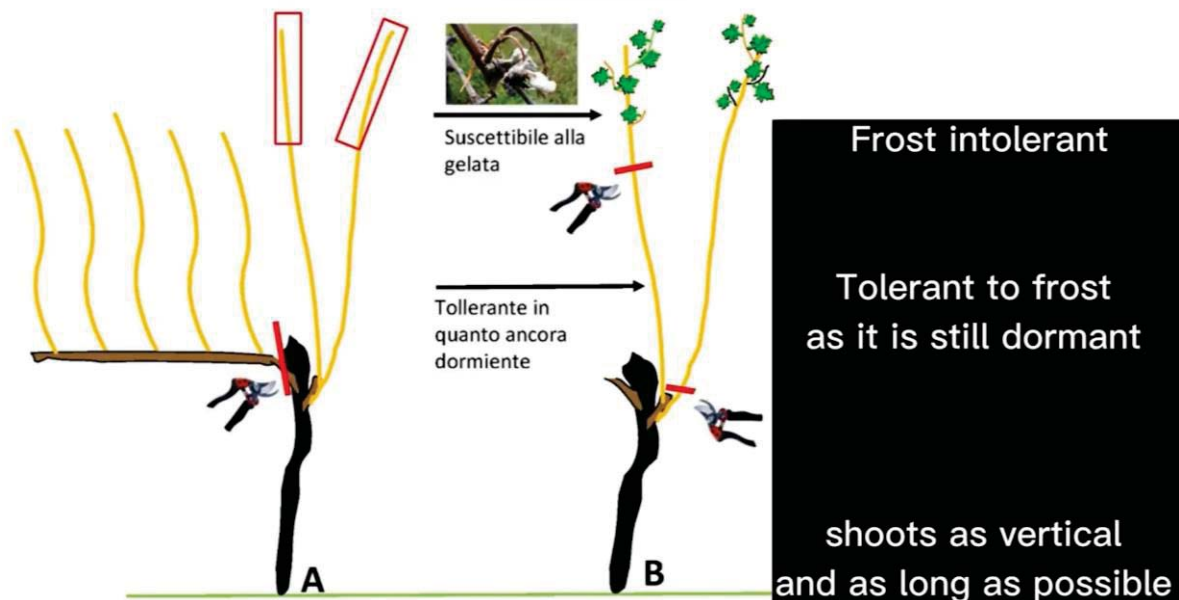


Fig. 2. buds frost tolerance versus buds position on the shoots

YES

NO



Fig.3. pruning has to be performed when the leaf area removal is not more than 2 unfolded leaves on the apical bud.

Further information

Videos

In English: <https://youtu.be/3DBISJ5o-jo>

In Italian:

Short version https://youtu.be/AXao_SlrIs

Detailed explanation: <https://youtu.be/9Yt4kt153wE>

Web links

In English:

https://www.infowine.com/en/technical_articles/late_winter_pruning_as_a_frost_damage_prevention_and_ripening_control_sc_21184

In Italian:

https://www.infowine.com/it/articoli_tecnici/potatura_ritardata_come_tecnica_di_prevenzione_dei_danni_da_gelate_e_di_controllo_della_maturazione_sc_21797.htm

Contact information

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www.inforwine.com

Author (s): factsheets made by Céline Caffot, Vinidea for based on the work coordinated by Professor Stefano Poni from the Catholic University of Piacenza (Italy) - Initiative carried out under the VIRECLI Operational Group, co-financed by FEASR Operation 16.1.01 "PEI Operational Groups" of the Rural Development Program 2014 - 2020 of the Lombardy Region (Italy).

Contact: celine.caffot@vinidea.it – stefano.poni@unicatt.it

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