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Walnuts silvoarable systems: better to use tree genotypes with late bud break and strong apical dominance

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Walnuts (*Juglans* spp.) silvo-arable systems have strong environmental value, for the mitigation of climate changes and for the reduction of soil erosion. The Rural Development Plans can finance this new type of cultural system.

The walnut trees are very suitable for the production of saw logs, but above all of veneer logs, a category with very high market value. The most suitable species are the common walnut, *Juglans regia* L. and the interspecific hybrids.

Several traditional varieties/populations are available for common walnut, widespread in different areas of Europe, and obtained by the selection carried out over the past centuries by the rural populations for the double production of fruits and timber.

In Italy, we mention the Sorrento (southern Italy- It), the Feltrina (centre It), the Bleggiana (northern It), and in France, the Lozeronne (Alps). For the technical and economic success of the walnut agroforestry plantation for timber production, the appropriate choice of plant material is fundamental, selecting late bud break genotypes and with marked apical dominance. Late bud breaking is the main adaptive strategy to avoid damage from late frosts in spring, to which common walnut is highly sensitive.

Furthermore, late budbreak reduces the shading of adult trees on associated crops. Differences of about 1 month are possible between the early genotypes, from southern latitudes, and the late ones, from northern latitudes, along with the two French hybrids MJ209xRA and NG23xRA. The late genotypes are also those with greater apical dominance, facilitating the pruning and the formation of cylindrical trunks without branches, best suitable for veneering.

References

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