



*L'innovazione in viticoltura*

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## WHAT IS CLONAL SELECTION AND HOW IT IS CARRIED OUT

### **What is a clone?**

A clone is the vegetative offspring of a single vine plant.

### **How does a clone come about?**

A clone develops predominantly from spontaneous natural mutations randomly occurring in a vine plant.

### **What is the purpose of clonal selection?**

Clonal selection exploits and enhances the intra-varietal genetic variability of the species by stabilizing mutations via vegetative propagation. The purpose is to identify individual plants whose phenological, productive, qualitative and disease susceptibility/tolerance characters got modified in a positive and desirable way with respect to the goals of the selection.

### **How does clonal selection take place?**

The probability of observing intra-varietal variability increases with the age of the vineyards and tends to be greater for those varieties that have been cultivated for a long time, that are widely spread and occupy a considerable portion of the vineyard areas.

In any case, once the genotypes of interest have been identified in old vineyards, the selection must be supported with phytosanitary tests (ELISA, PCR, biological indexing), which are specifically designed to obtain clones free from transmissible harmful organisms. At the same time, the consistency of the clone with the varietal type must be assessed after thorough ampelographic and/or genetic investigations.

Morphological and agronomic surveys must follow for at least three years and in two distinct environments with different pedo-climatic characteristics.

Finally, evaluations will focus on quality parameters, including vinifications, which must be made for at least two consequent vintages.

Once the above conditions are met, it becomes possible to collect the results of the clonal selection process and apply to the Ministry of Agriculture for approval and registration.

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