



161-49 Couderc



Name of vine variety in France (and common name)

161-49 Couderc (161-49 C)

Breeder and year of obtention

Georges Couderc, 1888

Genetic origin

This variety is derived from the crossbreeding of *Vitis riparia* and *Vitis berlandieri*.

Evolution of areas under rootstock nurseries

	1945	1955	1965	1975	1985	1995	2005	2015
ha	143	392	381	251	68	68	111	62

Estimated surface area of French vineyards grafted with this rootstock and the

22 000 ha. Bourgogne Franche-Comté, Champagne, Alsace, Charentes, Languedoc-Roussillon, Rhône-Alpes, Aquitaine, Provence-Alpes-Côte d'Azur, Val de Loire, Midi-Pyrénées

Ampelographic description

Identification signs include:

- the tip of the young shoot is half open with a moderate coat of flat-lying hairs and anthocyanin coloration on the edges,
- the young leaves are slightly bronze in color,
- an elongated elliptical section shoot with ribbed edges; red internodes and nodes on the upper side and the underside with green internodes and red nodes with a very slight coat of upright hairs on the internodes and a slight to moderate coat of upright hairs on the nodes,
- adult leaves are dark green, wedge shaped with a wavy leaf blade between the veins, an open U-shaped petiolar sinus with a bottom oftentimes limited by a vein at least on one side near the petiolar point; slight to moderate anthocyanin coloration of veins, teeth with straight sides (the last tooth of the center vein is the longest with one concave side and one convex) and the underside and the petiole with a moderate to heavy coat of upright hairs,
- female flowers,
- very small berries, round-shaped with a bluish black skin,
- light to dark brown vine shoots.

Genetic profile

Microsatellite	VVS2	VVMD5	VVMD7	VVMD27	VRZAG62	VRZAG79	VVMD25	VVMD28	VVMD32
Allel 1	135	225	231	236	192	256	236	214	265
Allel 2	139	263	251	269	196	260	269	241	265

Resistance to soil parasites

161-49 C demonstrates a high tolerance against radicolae phylloxera but with moderate resistance to Meloidogyne incognita nematodes. It is susceptible to Meloidogyne arenaria.

Adapt to environment

161-49 C resists up to 40% total limestone, 25% of active limestone and a CPI of 50.

161-49 C drought resistance is moderate to good. This rootstock is very susceptible to thyllosis, particularly when the plants are young, which may give rise to cases of harmful dry out. This rootstock is likewise susceptible to temporary excess humidity in the spring. 161-49 C is well adapted to limestone and clay limestone soils, not very compact, light and fairly deep. Soil which is too compact should be avoided. Over the last couple years, cases of dieback of grafted plants on 161-49 C have been reported. Southern regions would appear to be the most concerned, but plots presenting problems have likewise been reported in other regions. Initial symptoms (substantial decrease in vigor) most often occur from the third year after being planted. Cambium failure is generally observed on plants affected by an abnormal trunk and root thickening. Research is being conducted to better understand this phenomenon, which has appeared under certain soil and climate conditions of this rootstock. Until the real causes of this syndrome are understood, great care is recommended when selecting this rootstock.

Interaction with grafts and production objectives

The 161-49 C growth and fruiting speed is somewhat slow. In addition, the limited yields in the first years enable reducing the risks of thyllosis. This rootstock has moderate vigor with balanced vegetative growth. Quality products are produced from this rootstock and blends made with Chardonnay B, Colombard B, Merlot N, Pinot noir N and Ugni blanc B are particularly appreciated. It likewise produces good results with interspecific producer hybrids. However, some blending problems have sometimes been reported with Carignan N, Gamay N and Servant B.

Aptitudes for plant propagation

161-49 C is a moderate wood producer (30 000 to 60 000 m/ha) with sometimes a certain proportion of damaged wood. Propagation by cuttings is difficult due to substantial presence of tendrils. The cutting and grafting capacity of 161-49 C is just moderate. Wood must be maintained under good conditions. Special attention needs to be paid with this root stock during the stratification phase (duration, hormoning) up until planting in the nursery.

Resistance to aerial parasites

161-49 C is moderately susceptible to gallicolae phylloxera and demonstrates a high resistance to downy mildew.

Clonal selection in France

The 10 approved 161-49 C clones carry the numbers 170, 171, 176, 177, 190, 197, 198, 199, 225 and 239.



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