



110 Richter



Name of vine variety in France (and common name)

110 Richter (110 R)

Breeder and year of obtention

Franz Richter, 1902

Genetic origin

This variety was made from the crossbreeding between *Vitis berlandieri* cv. Ressaiguier n°2 and *Vitis rupestris* cv. Martin.

Evolution of areas under rootstock nurseries

	1945	1955	1965	1975	1985	1995	2005	2015
ha	16	108	254	526	376	352	522	357

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

130 000 ha. Languedoc-Roussillon, Midi-Pyrénées, Provence-Alpes-Côte d'Azur, Rhône-Alpes, Corsica

Ampelographic description

Identification signs include:

- the tips of the young shoot are half-opened and slightly covered with flat lying hairs,
- young leaves are reddish and shiny,
- the shoots grow upright and are bushy with a ribbed contour and a circular or slightly elliptical section; striated surface with a moderate to heavy anthocyanin pigmentation and an absence of flat lying and upright hairs,
- adult leaves are small to medium sized, kidney shaped, whole, folded groove towards the upper surface with a very open U-shaped petiole sinus; heavy anthocyanin pigmentation of veins; moderate teeth with straight sides, slightly bubbled leaf blade, shiny, and the underside with an absence of or just slight cover of flat lying or upright hairs.
- male flowers,
- the vine shoots are brownish gray to brownish red with an absence of flat lying or upright hairs.

Genetic profile

Microsatellite	VVS2	VVMD5	VVMD7	VVMD27	VRZAG62	VRZAG79	VVMD25	VVMD28	VVMD32
Allel 1	135	232	231	236	196	244	236	218	253

Microsatellite	VVS2	VVMD5	VVMD7	VVMD27	VRZAG62	VRZAG79	VVMD25	VVMD28	VVMD32
Allel 2	141	265	257	262	214	260	262	233	253

Resistance to soil parasites

110 R displays good resistance to radicolae phylloxera but its resistance to the nematodes *Meloidogyne incognita* and *Meloidogyne arenaria* is just average. It also shows some resistance to *Phytophthora cinnamomi*.

Adapt to environment

110 R is moderately adapted to limestone and its resistance to ferric chlorosis is variable depending on grafts used. It is considered to be able to resist up to 17% active limestone and to an IPC of 30. However the threshold is really 5 to 7% when there is blending with Syrah N (and to a lesser extent with Viognier B). 110 R is very well adapted to drought but is very sensitive to excess humidity. It is particularly adapted to dry, lean, stony, not or just a little limestone soils, for example schist soils or ancient terraces.

Interaction with grafts and production objectives

110 R displays strong vigor. This root stock tends to induce good fertility and delay the plant cycle and maturation. It can sometimes favor the onset of coulure, particularly with Ugni blanc B. The blends containing Cabernet-Sauvignon N, Caladoc N, Carignan N, Grenache N, Marselan N, Mourvèdre N, Muscat à petits grains blancs B, Muscat d'Alexandrie B, Tempranillo N and Vermentino B give very good results. On the other hand, given the risk of chlorosis, when the limestone content surpasses 5% for Syrah N, it should absolutely be avoided since the risk of declining is accentuated with the blend of 110R and Syrah N. Cases of incomptability have also been noted with Pinot noir N.

Aptitudes for plant propagation

110 R has internodes of moderate length and with a fairly large diameter. The growth of quick buds is fairly substantial and wood production is low to moderate (30 000 to 60 000 m/ha) with occasionally a proportion of dry wood. Care needs to be taken for the proper lignifying of the vine shoots followed by the wood being conserved under proper conditions. As stock nursery, 110 R is sensitive to excess humidity in the soil; The propagation by cuttings capacity of 110 R is low to moderate and grafting moderate. This root stock sometimes requires a longer stratification period and possibly more consistent hormoning.

Resistance to aerial parasites

110 R is very sensitive to gallicolae phylloxera but has high resistance to downy mildew and is not very affected by anthracnose.

Clonal selection in France

The 15 approved 110 R clones carry the numbers 6, 7, 100, 118, 119, 139, 140, 151, 152, 163, 164, 180, 206, 237 and 756.



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