Fercal

Genetic origin

Based on genetic analyses carried out in Montpellier, this variety results from the crossbreeding of Berlandieri Colombard number 1 B (from a crossbreeding between *Vitis berlandieri* and *Vitis vinifera* cv. Ugni blanc) and 31 Richter (from the crossbreeding between *Vitis berlandieri* cv. Rességuier number 2 and *Vitis longii* cv. Novo-mexicana).

Breeder\/breeder and year obtained

INRA, 1959.

Estimated surface area of the French vineyard grafted with this rootstock and main regions of use

30 000 ha . Champagne, Aquitaine, Charentes, Alsace, Midi-Pyrénées, Val de Loire, Provence-Alpes-Côte d'Azur, Languedoc-Roussillon, Rhône-Alpes.

Elements of ampelographic description

The identification is based on:
- the tip of the young shoot that is half open, with a piping anthocyanin coloration and a very high density of prostrate hairs,
- the young leaves with a very high density of prostrate hairs,
- the shoots with a ribbed surface, a circular section or slightly elliptic and a high density of erect and prostrate hairs,
- the wedge- or kidney-shaped, entire adult leaves, with an involute leaf blade, an open U-shaped petiole sinus, short teeth compared to their width,
- the female flowers,
- the small, round-shaped berries, with a blue black skin,
- the woody shoots with a medium density of erect hairs.

Evolution of mother vine surfaces

Year	1975	1985	1995	2005	2015
ha	18	40	67	192	240

Genetic profile

Microsatellite	**VVS2**	**VVMD5**	**VVMD7**	**VVMD27**	**VRZAG62**	**VRZAG79**	**VVMD25**	**VVMD28**	**VVMD32**
Allele 1	141	234	231	236	184	246	236	218	243
Allele 2	141	261	251	254	220	258	254	243	243

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Resistance to soil pests

Fercal is very highly tolerant to the root form of phylloxera. It is also fairly tolerant to *Meloidogyne arenaria* and *Meloidogyne incognita* nematodes, but is only moderately resistant to *Meloidogyne hapla* nematodes.

Aptitudes for vegetative multiplication

The length and diameter of the internodes are medium and the growth of lateral shoot buds is significant. Fercal wood production is moderate (30 000 to 60 000 m/ha) and the canes must be conserved under very good conditions to avoid any dehydration. Fercal has a very good cutting capacity and a moderate grafting aptitude, with a substantial wood pith in the canes. Fercal canes need to be well rehydrated before use. Hormoning is not necessary and must be moderate if performed. The stratification time necessary for this rootstock is relatively short.

Clonal selection in France

In France, the only certified Fercal clone carries the number 242 and it is multiplied on 244 ha 16 ares of mother vines producing certified material, in 2017.

Datas are extracted from: Les chiffres de la pépinière viticole, 2017, Datas and assesment of FranceAgriMer, may 2018.

Adaptation to the environment

The main feature of Fercal is its very high resistance to chlorosis and its adaptation to limestone soils. It resists up to 60% of "total" limestone, 40% of "active" limestone and to an ICP of 120. This rootstock tolerates fairly well humid spring conditions and its resistance to drought is moderate to good if the roots are sufficiently deep. Fercal has some difficulties to absorb magnesium in the soil, particularly with an excessive potassium fertilization. The varieties grafted can show some magnesium deficiency symptoms with this rootstock.

Interaction with the graft and production objectives

Fercal shows a good affinity with graft varieties. The growth and fruit set speed given by Fercal is good. The vigor confered by rootstock is moderate to high. Its influence on the vegetative cycle is moderate. In terms of fertility and yields, Fercal is balanced and the grafts produce good quality products. It is particularly well suited to Syrah.

Bibliographic references

- Catalogue des variétés et clones de vigne cultivés en France. Collectif, 2007, Ed. IFV, Le Grau-du-Roi, France.
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- Cépages et vignobles de France, tome 1. P. Galet, 1988, Ed. Dehan, Montpellier, France.