



420 A Millardet et de Grasset



Name of vine variety in France (and common name)

420 A Millardet et de Grasset (420 A MGt)

Breeder and year of obtention

Alexis Millardet and Charles de Grasset, 1887

Genetic origin

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

Evolution of areas under rootstock nurseries

	1945	1955	1965	1975	1985	1995	2005	2015
ha	68	100	107	71	39	25	49	25

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

13 000 ha. Aquitaine, Rhône-Alpes, Languedoc-Roussillon, Midi-Pyrénées, Bourgogne Franche-Comté, Provence-Alpes-Côte d'Azur

Ampelographic description

Identification signs include:

- the tips of the young shoot which are half-opened to closed have a moderate coat of flat-lying hairs,
- the young leaves are slightly bronze colored,
- elongated shoot with an elliptical section with a ribbed contour; the internodes and the red nodes on the dorsal side and the underside with green inter-nodes and red nodes up to the tips with an absence of upright hairs,
- adult leaves are dark green, shiny, wedge shaped, whole and sometimes 3 or 5 lobes forleaves at the base with an open U-shaped petiolar sinus, moderate anthocyanin pigmentation of veins and the underside with a sparse coat of upright hairs,
- male flowers, yellow to reddish brown vine shoots

Genetic profile

Microsatellite	VVS2	VVMD5	VVMD7	VVMD27	VRZAG62	VRZAG79	VVMD25	VVMD28	VVMD32
Allel 1	124	236	231	238	191	256	238	243	263

Microsatellite	VVS2	VVMD5	VVMD7	VVMD27	VRZAG62	VRZAG79	VVMD25	VVMD28	VVMD32
Allel 2	135	261	262	270	196	256	270	245	263

Resistance to soil parasites

420 A MGt displays a high tolerance level to radicolae phylloxera. Its resistance to the nematodes *Meloidogyne incognita* and *Meloidogyne arenaria* is also good.

Adapt to environment

420 A MGt resists up to 35% total limestone, 20% active limestone and a CPI of 40. Its resistance to ferric chlorosis is considered as moderate to good. It appears well adapted to fertile conditions in addition to fairly deep clay limestone soils with sufficient water supply. It is on the other hand not well adapted to compact soils and excessive spring humidity. This root stock has difficulty in absorbing potassium in the soil. The grafted varieties, particularly the most sensitive, can frequently show signs of potassium deficiency with this root stock.

Interaction with grafts and production objectives

The graft vigor of this root stock is low and vine trunk development is limited. It does however tend to delay maturity. 420 A MGt encourages floral initiation. Given its vigor, yields should be limited, particularly during the beginning production years to avoid unbalanced vine trunks. 420 A MGt produces good results with Cabernet franc N, Merlot N and Tannat N.

Aptitudes for plant propagation

Wood production is moderate (30 000 to 60 000 m³/ha) with vine shoots which lignify easily but the diameter of the internodes is sometimes thin. There is substantial growth of quick buds. The cutting aptitude of 420 A MGt is low and its grafting capacity is moderate. In order to improve the recovery percentage from cutting, more substantial hormoning may be applied.

Resistance to aerial parasites

The degree of tolerance of 420 A MGt to gallicolae phylloxera is moderate and it displays good resistance to downy mildew.

Clonal selection in France

Les 5 clones agréés de 420 A MGt portent les numéros 10, 11, 169, 241 et 758.



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