



## 101-14 Millardet et de Grasset



### Name of vine variety in France (and common name)

101-14 Millardet et de Grasset (101-14 MGt)

### Breeder and year of obtention

Alexis Millardet and Charles de Grasset, 1882

### Genetic origin

This variety was derived from a crossbreeding between *Vitis riparia* and *Vitis rupestris*.

### Evolution of areas under rootstock nurseries

	1945	1955	1965	1975	1985	1995	2005	2015
ha	35	54	50	70	53	82	104	97

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

28 000 ha. Aquitaine, Midi-Pyrénées, Bourgogne Franche-Comté, Rhône-Alpes, Val de Loire

### Ampelographic description

Identification signs include:

- the tips of the young shoot are completely closed; moderate coat of upright hairs and an absence of flat-lying hairs,
- the young leaves are bronze colored with the presence of well developed stipules at the base of the petioles,
- the shoot has a semi upright to horizontal growth, a ribbed surface with a circular contour; absence of flat-lying hairs and a sparse coat of upright hairs on the nodes,
- adult leaves are moderate to large size, wedge to kidney shaped, whole with a largely open U-shaped petiolar sinus, slightly wavy smooth leaf blade between the veins, long teeth compared to width with straight sides or with a slightly convex and slightly concave sides (the 3 terminal teeth of the central principle vein and the 2 adjacent lateral veins are longer and more developed) and the underside with an absence of flat-lying hairs and a moderate coat of upright hairs and more particularly at the bifurcation of the veins,
- female flowers,
- the berries are very small, round-shaped and the skin is bluish-black,
- the vine shoots are long and brownish-yellow or beige in color.

## Genetic profile

Microsatellite	VVS2	VVMD5	VVMD7	VVMD27	VRZAG62	VRZAG79	VVMD25	VVMD28	VVMD32
Allel 1	131	253	243	236	173	256	236	241	259
Allel 2	141	263	251	238	190	258	238	249	259

## Resistance to soil parasites

101-14 MGt displays a good degree of tolerance to radicolae phylloxera and to the nematodes *Meloidogyne incognita* and *Meloidogyne arenaria*.

## Adapt to environment

101-14 MGt has a low degree of tolerance to chlorosis. It resists up to 20% of total limestone, 9% of active limestone and with a CPI of 10. 101-14 MGt is in addition fairly sensitive to soil acidity along with copper toxicity and bore deficiency. It is a rootstock which is sensitive to drought but fairly well adapted to humidity. It displays a ramified root system compared to Riparia Gloire de Montpellier. 101-14 MGt absorbs magnesium well and is adapted to clay soils which are just slightly or not at all limestone, fairly deep with sufficient water supply.

## Interaction with grafts and production objectives

101-14 MGt generally displays very good affinity with the grafts. The plants have an initial fast growth but the vigor is nevertheless limited. This root stock thus contributes to managing the plant growth of the vine trunks and influences the early plant cycle. Yields obtained are moderate with an oftentimes lower average weight than yields obtained from other rootstocks. 101-14 MGt produces balanced products with good maturity and well appreciated blends made using Cabernet franc N, Cabernet-Sauvignon N, Chardonnay B, Chenin B, Colombard B, Gamay N, Grenache N, Petit Verdot N, Sauvignon B, Semillon B and Syrah N.

## Aptitudes for plant propagation

101-14 MGt has long internodes of moderate diameter. The growth of quick buds is likewise moderate and debudding is a bit difficult. Wood production for 101-14 MGt can be variable depending on conditions (30 000 to 80 000 m/ha). The wood keeps well and this root stock has a good capacity for budding and good capacity for grafting.

## Resistance to aerial parasites

The degree of tolerance of 101-14 MGt to gallicolae phylloxera is moderate. It is likewise fairly sensitive to anthracosis but displays good resistance to downy mildew.

## Clonal selection in France

The 4 approved 101-14 MGt clones carry the numbers: 3, 759, 1034 and 1043.



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