Note on rootstock variety datasheets

Note On Rootstock Data Sheets

Catalogue of vines grown in France

INRA - IFV - Montpellier SupAgro

http://plantgrape.plantnet-project.org

Name of variety in France (and usual designation)

The rootstock variety is presented by the abbreviation or name under which it appears in the national catalogue and which is also the most commonly used in French grapevine nurseries and French viticulture. There is no official list of synonyms for rootstock varieties.

Breeder/selector and year of obtention

The name of the breeder and/or selector is indicated, as is the year in which the variety was bred.

Genetic origin

The genetic origin of the variety is also indicated when known thanks to hybridiser data or genetic analysis either published or obtained by the teams at INRAE in Montpellier (UMR AGAP) and at the Vassal-Montpellier Grapevine Biological Resources Centre (CRB-Vigne).

Evolution of mother vine surfaces

The figures indicated are taken from the successive annual reports drawn up with data from: IVCC, ONIVIT, ONIVINS, VINIFLHOR and FAM.

Estimated surface area of French vines grafted with the rootstock, and main regions o

The figures are estimated based on the computerised vineyard register and bibliographical data. The regions are indicated in descending order of size.

Descriptive elements

Only the main ampelographic elements enabling the rootstocks to be characterised and identified are provided. They are described according to the ampelographic descriptor code recognised by the International Organisation of Vine and Wine (OIV), the International Union for the Protection of New Varieties of Plants (UPOV), the Community Plant Variety Office (OCVV) and Bioversity International (for more information, see the "Ampelographic glossary" menu).
The photographs of buds, flowers and adult leaves were taken indoors by the INRAE team at Domaine de Vassal from material sampled from the ampelographic collections of the Vassal-Montpellier Grapevine Biological Resources Centre.

Note: the scale of the photos is not the same for the three organs shown. The photos of buds have been reduced (x 0.5 approx.), as have those of the adult leaves (x 0.25 approx.), while those of the flowers have been enlarged (x 4 approx.).

Genetic profile

The genetic profile of the variety is provided for the 9 microsatellite markers (or SSR markers) selected in the context of the European programme GrapeGen06 (http://www.eu-vitis.de/index.php) and by the OIV. The absolute size values of the alleles may vary slightly from one laboratory to another, but the relative differences between the two alleles of one single microsatellite are stable. The genetic analyses were conducted by the INRAE Montpellier team (UMR AGAP) and the IFV's Plant Material Centre.

Resistance to soil parasites

The degree of tolerance to the root form of phylloxera and resistance to nematodes (*Meloidogyne hapla*, *Meloidogyne incognita* and *Meloidogyne arenaria*), to *Agrobacterium vitis* (the bacterium responsible for burls) and to certain soil fungi is stated on the basis of observations or bibliographical data.

Adaptation to the environment

This paragraph provides information on the behaviour of the rootstock variety in relation to the structure, texture and composition of the soil, its mineral content and the soil's pH. It also states the behaviour of the rootstock when faced with an excess or lack of water during the vegetative period.

Chlorosis

Iron chlorosis is related to problems of iron assimilation due to low iron content and/or high carbonate content in soil. Total calcium carbonate content alone gives only a partial idea of the chlorosis-inducing power of the soil. The active calcium carbonate content corresponds to the percentage of carbonate present in the fine fraction of the soil (clays, fine silts). Depending on the characteristics of the parent rock and its geological origin, this represents a variable percentage of the total calcium carbonate. The chlorotic power index (IPC) is a calculation which takes into account the active calcium carbonate content and the easily extractible iron content of the soil. These three values provide an insight into the risk of chlorosis and allow growers to choose the most suitable rootstock variety accordingly.

Tylosis and apoplexy

These apoplexy phenomena are linked to problems of water circulation through the plant when evapotranspiration is high (dry wind following heavy rainfall in the summer season) and the absorption of water through the roots is limited. In this case, the high pressure in the vessels causes air bubbles (cavitation) and tyloses (invagination of the membrane of neighbouring cells in the vessels) to form, which causes a slowing of sap circulation and water stress in the leaves.

Interaction with grafts and production objectives

The rootstock may interact with the characteristics of the graft in terms of precocity of the vegetative cycle and the growth and development of the branches, as well as yield factors (fertility and berry size). In some cases, the risks of incompatibility or poor affinity of the rootstock variety with a graft variety are specified.

Vegetative propagation aptitudes

The level of wood production by the rootstock strains is stated (source: ENTAV-ONIVINS survey of grapevine nurseries, April 2001). The suitability for cleaning, disbudding, cutting and grafting is also specified. Further details are provided if the rootstock variety requires special precautions during grafting and layering.

Resistance to aerial parasites

Susceptibility to the gall form of phylloxera is also specified, as is the level of resistance to or tolerance of the following diseases: downy mildew (*Plasmopara viticola*), anthracnose (*Elsinoe ampelina*) and bud mite disease (*Colomerus vitis*) on the basis of observation or bibliographical data.

Clonal selection in France

All certified clones are listed, as are the surface areas of the mother vine of clones that are propagated. For the moment, clonal selection of rootstock is conducted solely for sanitary purposes.