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New Krymsk rootstocks with attractive properties

Info

Vigorous rootstocks

Krymsk® 7 / L-2, Krymsk® 9 / Alab-1 or Myracot and Krymsk® 86 / Ap-1 or Kuban 86 are three (very) vigorous rootstocks. These are suitable for extremely dry or extremely wet conditions.

Janssen Brothers Nurseries is known by fruit tree nurseries throughout the world as the supplier of top quality rootstocks for apple and pear trees. However, what is much less well known is that the rootstock specialist from Nederweert in the Netherlands is also active nowadays in the propagation of various new rootstocks for stone fruit.

Janssen Brothers Nurseries has been in existence for almost 90 years. Since 1976, the company has specialised in producing rootstocks for all types of fruit trees. The company exports its products all over the world. With respect to the number of rootstocks sold, Malus M.9 is by far the most important product.

For several years, the current director and owner, Paul Janssen has been actively searching for new rootstocks for apples, pears, plums, cherries as well as other stone fruit species. For instance, the company is one of the few European nurs-

eries who are allowed to grow the CG series of rootstocks from the Cornell-Geneva research and breeding programme for apple. The CG rootstocks are resistant to fire blight and therefore are of interest for those regions where fire blight is a threat to growing apples.

Rootstocks for stone fruit

Recently, Janssen acquired the propagation rights for the rootstocks from the Krymsk series developed by Professor Dr. Gennady Eremin from Russia. This series contains a number of new rootstocks that have attractive properties. Some of the rootstocks from this series are suitable for plums and others for cherries, apricots or peaches. Due to the origin of the rootstocks, the Vavilov Research Institute in Russia, the rootstocks can probably cope well with winter frost.

Krymsk 1, better known by the name VVA-1, is the oldest and in Europe best-known rootstock.

Krymsk® 1 / VVA-1

This cross between *Prunus tomentosa* and *P. ceracifera* is compatible with dessert plums, culinary plums, apricots, peaches and nectarines. In Europe, VVA-1 is mainly used as a rootstock for plums. The trees grow very weakly on VVA-1 and their productivity is very high. When the trees bear an equal number of fruit, the fruit size on this rootstock is better than on St-Julien A or comparable rootstocks. However, the trees can also easily carry too many, and as a result too small, fruits. In dry conditions, trees on VVA-1 often grow too weakly. In most cases, an effective water supply is an absolute necessity for trees on this rootstock. The first trials involving plums on VVA-1 were started in the Netherlands in 1992. Research stations in various other countries in



Paul Janssen has recently extended the range of rootstocks with a number of new ones for stone fruit.

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Europe are now also carrying out trials with trees on VVA-1. The experience gained up to now shows that VVA-1 is very compatible with almost all varieties of dessert and culinary plums.

Krymsk® 2 / VSV-1

In contrast to VVA-1, VSV-1 is suitable for dry conditions. Trees on this cross between *P. incana* and *P. tomentosa* grow weakly, as on VVA-1 (Figure 1), and are very fertile. VSV-1 is said to be a suitable rootstock for dessert and culinary plums, as well as for peaches and nectarines. VSV-1 also has advantages for the nursery. For instance, VSV-1 gives nicely smooth rootstocks and the nursery sees fewer losses than for instance with VVA-1. Due to its suitability for dry soil, the weak vigour and the good production properties, VSV-1 seems to be a very attractive rootstock. However, there is hardly any research data or experience available.

Krymsk® 5 / VSL-2

This rootstock is a cross between *P. fruticosa* and *P. serrulata* var. *Lannesiana* and is suitable for both sweet and sour cherries.

Vigour, productivity and fruit size are comparable to that of Gisela 5. In a trial at PPO-Fruit in Randwijk (the Netherlands) with trial variety Kordia, the trees on VSL-2 developed more root suckers than those on Gisela 5. VSL-2 is more resistant to high water table levels than Gisela 5.

Krymsk® 6 / LC-52

LC-52 is intended as a rootstock for both sweet and sour cherries. This cross between *P. cerasus* and *Cerapadus Michyunin* has a vigour, productivity and fruit size that is comparable to Gisela 5. Moreover, LC-52, like VSL-2, is better suited to heavy and wet soil than Gisela 5. In the same trial in Randwijk, LC-52 developed (just like VSL-2) more root suckers than Gisela 5, but fewer than VSL-2.

Vegetative propagation

The Paul Janssen nursery is one of the few rootstock nurseries that propagates stone fruit rootstocks vegetatively and not in vitro. The majority of rootstocks are grown from summer cuttings. The cuttings are put in trays in the summer and placed in a greenhouse where the air humidity is 100%. The rooting process takes 6 to 8 weeks. The cuttings remain in the greenhouse until the start of April, and by then have grown to a height of approximately 30 cm. The plants are then planted outside in the nursery.



Tray containing VVA-1 plants grown from summer cuttings.

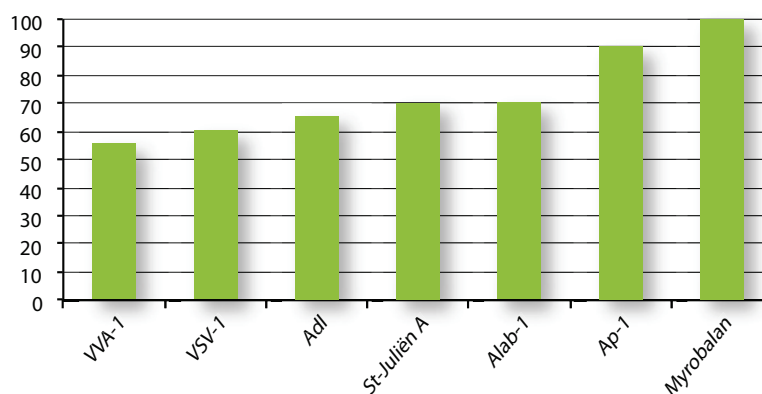
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Until recently, the Dutch Inspection Service for Horticulture did not accept material produced by in-vitro propagation in the certification system. The opinion was that there was too high a risk of non-conformities when in-vitro propagation was used. For instance, there are examples of in-vitro propagated rootstocks encountering more problems in the orchard related to burrknot formation and root suckers than vegetatively propagated rootstocks. The propagation techniques have now been improved to such a degree that Naktuinbouw certifies trees from in-vitro propagated material under certain conditions.

Website

More information about Janssen Brothers Nurseries and its range of rootstocks can be found on the website: www.janssen-rootstocks.nl

Figure 1: Vigour (in %) of several plum rootstocks



Weiroot 720

In recent years, Gisela rootstocks have taken a clearly dominant position as the rootstock for sweet cherries. However, the Weiroot series also contains rootstocks with interesting properties. Janssen Brothers Nurseries considers Weiroot 720 to be a future competitor to Gisela 3. Weiroot 720 (W 720 in short) is an improved selection of Weiroot 72. The latter has already been trialled several times. In the trials, trees on W 72 were very productive and in spite of the high production levels, the fruit size was good in many cases.