I nuovi portinnesti della serie Gisela e Pi-Ku (Germania)

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Introduction to the ‘GiSelA®’ rootstocks
For sweet cherry growing in temperate conditions, the ‘GiSelA®’ clones are the first economically important
dwarfing rootstocks. They originate from a breeding program at the university of Giessen (Germany), with the
aim to produce a series of rootstocks with graduated size-control from dwarfing to medium-strong.
Rights for the GiSelA® rootstocks are assigned to CDB® Consortium Deutscher Baumschulen. The CDB® also
markets the ‘PIKU®’ cherry rootstocks, ‘Pyrodwarf®’ pear rootstock and ‘Wavit®’ plum rootstock and has licen-
sees worldwide (see www.cdb-rootstocks.com).
Propagation of the ‘GiSelA®’ rootstocks is mainly in-vitro, which produces homogenous plant material of high
quality with initial strong growth, which is reduced to the clone-specific level with the beginning of cropping.
• The ‘GiSelA®’ clones show a different level of size-reduction compared to conventional rootstocks like
Prunus avium seedling (Mazzard)
• According to soil, cultivar and cultivation intensity, the best fitting clone can be selected.
• A definite advantage of the ‘GiSelA®’s is the early beginning of cropping (precocity). First yields from the
second leaf on and full crop from the 4th year on guarantee a quick return of the invested capital.
• All clones have a high yielding potential.
• Further beneficial traits of all ‘GiSelA®’-clones include: Good compatibility with Prunus avium scions
(healthy, certified budwood provided), flat branching and broad growing habit, no suckering tendency, excel-
lent winter hardness and tolerance to pollen born viruses.
Cultural management methods have to be adapted to the needs of the ‘GiSelA®’ stocks. Early starting and regular
pruning have to assure, that each year sufficient shoot growth and leaf area are built up for fruit nutrition.
Intensive fertigation is essential. With such adapted methods, the high productivity is maintained over many
years and fruit size is not negatively influenced.

‘GiSelA 12®(S)’
This rootstock is of increasing importance in recent years. With vigor in the range of ‘GiSelA®6(S)’, it shows bet-
erer adaptation to windy sites and high natural precipitation and less susceptibility to Pseudomonas (bacterial
canker). ‘GiSelA®12(S)’ has been classified as tolerant to viruses PDV and PNRSV.
Origin
‘GiSelA®12(S)’ is an offspring of the crossing Prunus canescens x Prunus cerasus ‘Leitzkauer’. It originated in
the breeding program for size controlling cherry rootstocks at Giessen University (Germany). ‘GiSelA®12(S)’ is
plant patented and marketed by the CDB (Consortium of German Nurseries).
Compatibility
The grafting compatibility is very good. In later years strong overgrowth at the union may occur, but the grafting
union remains solid.
Vigor and vegetative characteristics
Anchorage is good, as ‘GiSelA®12(S)’ roots deeper than ‘GiSelA®6(S)’. The crown structure is open and in later
years even broader than on ‘GiSelA®5(S)’. Suckers are not produced. After pruning, new shoots are easily for-
med.
Yielding potential
‘GiSelA®12(S)’ induces precocity. Less fruitfulness compared to ‘GiSelA®5(S)’ or ‘GiSelA®6(S)’ is assessed as
positive, as even in combination with self-fertile cultivars no overcropping results and good fruit sizes can be
achieved without thinning measures.
Favorable growing conditions
Besides good winter hardness, ‘GiSelA®12(S)’ also has an adaptation to hotter climates. Good soil conditions
are recommended.
‘GiSelA®13(S)’
With a similar size-control, this new rootstock is regarded as an alternative to ‘GiSelA®6(S)’, as it performs well under less favorable environmental conditions and is suited for self-fertile cultivars.

Origin
‘GiSelA®13(S)’ is a hybrid of the same crossing as ‘GiSelA®3(S)’, ‘GiSelA®5(S)’ and ‘GiSelA®6(S)’: Prunus cerasus ‘Schattenmorelle’ x Prunus canescens. It originated in 1971 in Giessen, Germany, in a program for breeding size-controlling rootstocks for sweet cherries.

Compatibility
Grafting problems have not been reported. There is only little overgrowth at the union.

Vigor and vegetative characteristics
Size-control of ‘GiSelA®13(S)’ is comparable to ‘GiSelA®6(S)’. It induces stronger growth than ‘GiSelA®5(S)’. Anchorage is good. Suckers are not built.

Yielding potential
‘GiSelA®13(S)’ induces an early begin of cropping. Even under less favorable growing conditions and in combination with self-fertile cultivars, high yields and good fruit qualities are achieved.

Favorable growing conditions
This clone has performed very well under conditions suboptimal for ‘GiSelA®5(S)’ and on replant soils.

‘GiSelA®17(S)’
‘GiSelA®17(S)’ is the most vigorous of all ‘GiSelA®’ clones and induces a tree size 70-80% of Prunus avium ‘F12/1’. It is very robust and healthy, and can cope with inferior environmental conditions and extensive cultural management. It is the rootstock of choice for “beginners”, for growers, who used conventional rootstocks before, are not yet familiar with high-density cultivation, prefer greater plant distances, and for sites with only medium quality or no irrigation possibility. ‘GiSelA®17(S)’ facilitates the transition from vigorous to size-reducing rootstocks.

Origin
‘GiSelA®17(S)’ originates from the crossing Prunus canescens x Prunus avium ‘Mazzard’, conducted in the breeding program for size-controlling cherry rootstocks in Giessen, Germany. Due to Prunus avium being one of the parental species, ‘GiSelA®17(S)’ has a genetic basis for stronger vigour than ‘GiSelA®5(S)’. Rights are assigned to the Consortium of German Nurseries (CDB).

Compatibility
Compatibility is very good and the grafting union is smooth.

Vigor and vegetative characteristics
Trees on ‘GiSelA®17(S)’ will reach 70-80% the size of trees on ‘F12/1’. The anchorage is good, no support is needed. ‘GiSelA®17(S)’ does not build suckers. No Negative characteristics or tree losses have been reported.

Yielding Potential
Despite of the relatively strong growth, this clone induces early cropping. Noticeable good fruit sizes were achieved on ‘GiSelA®17(S)’. As there is little danger of over-cropping, it is possible to combine this rootstock with self-fertile cultivars.

Favourable growing conditions
‘GiSelA®17(S)’ is less demanding in terms of soil and climatic conditions and intensity of cultural management than ‘GiSelA®5(S)’. This rootstock is very robust and adapted to replant conditions.