

Malia® D2212^(S)

apple proliferation resistant rootstocks

Malia® D2212 ^(S)	
Parentage	<i>M. x domestica</i> cv „Laxton's Superb“ x <i>M. sieboldii</i>
Selection	Moeller and Petruschke in a trial at LVWO Weinsberg/Germany, October 2005
Variety denomination	D2212 ^(S)
Variety right holder	Julius Kuehn Institute
Exclusive licensee worldwide	Consortium Deutscher Baumschulen GmbH

The D2212^(S) variety originated in the 1960s/70s from a breeding program for apple rootstocks at the former Federal Research Institute in Ahrensburg. The aim was to breed homogeneous, disease-tolerant rootstocks that could be propagated as generatively as possible by crossing the original species/varieties. The parent species/varieties came from the original home of the apple. Hanna Schmidt, later one of the breeders of the Giessen breeding program, from which the cherry rootstock GiSela® originates, was involved in the breeding.

D2212^(S) is currently the only commercial rootstock with resistance to apple proliferation (*Candidatus Phytoplasma mali*). Apple proliferation is transmitted by *Psylla* and occurs worldwide. Infected trees on non-resistant rootstocks can no longer recover.

Malia® D2212^(S) is indispensable as a rootstock for mothergardens, variety preservation and breeding quarters as well as for replantings.



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Special characteristics

Growth rate induction	mediumstrong, growth vigor like rootstock „M 7“
Anchorage / Root system	very stable / predominantly stronger roots, few fine roots
Suckering tendency	none
Grafting compatibility	very good, tested with over 300 varieties
Grafting unit	very smooth fusion, no air root formation, no knot formation

Yield

Yielding potential	induces high yield, good fruit size and fruit color
Precocity and yield generation	compared to seedling precocity, early yield generation
Fruitsize	good fruitsize
Combination with very fertile / self-fertile varieties	leads to lower growth vigor

Site - Climate

Soil quality requirements	low/normal, suitable for all soil types
Geographical region	Central Europe
Climate requirements	adapted to central European temperate and continent climates
Winterhardiness	very good, frost hardy to at least -25° C

Production management

Demands on production management	easy/good to prune as a half-stem, flatter branch angles compared to seedlings
Varietal suitability	suitable for all varieties, particularly suitable for all columnar varieties due to its stability and resistance to apple proliferation
Suitability / Cultivation intensity	special recommendation for mothergardens, half-stems, cider fruit cultivation and columnar varieties
Planting density	400 to 8000 (columnar varieties) trees/ha
Irrigation demand (in relation to temperate Central European climate 600-700mm annual precipitation)	in normal soils only the first few years, later without need
Fertilization / Fertigation	fertilization required for high plant densities, especially magnesium
Covered cultivation	less intensive fruit color, less suitable due to vigor
Replanting	less vegetative growth in replantings

Disease response / Tolerances

Apfeltriebsucht (<i>Candidatus Phytoplasma mali</i>)	resistent
<i>Athelia rolfsii</i>	resistent
Black bark blight (<i>Diplodia spp.</i>)	currently under investigation
Monillia	no data available
<i>Phytophthora</i>	no data available
<i>Pseudomonas</i>	not suscepable
Agrobacterium	due to In-Vitro propagation all CDB-rootstocks are EU-certified and disease free; Agrobacterium infection comes from contaminated soils / sites