

CITRUS IMPROVEMENT SCHEME - TREE SIZE STANDARDS

To conform to certification standards, batches of trees delivered to growers and presented for certification should be a uniform selection of trees according to the following categories, which must be described as such to the grower by CIS nurserymen.

Standard CIS nursery tree:

Whip tree This is the general tree standard that should be supplied to growers, unless a deviation from the whip tree standard has been agreed between grower and nursery. The whip tree does not have any scaffold-branches, and the stem must be hardened off, preferably with round wood, at the intended topping height. Trees may be topped at 50-80 cm height, or as specified by the grower. A whip tree should not need a stake to support it, although it is good practice to stake all trees after planting, especially in windy areas.

Deviations from tree standard (specific agreement between grower and nursery required)

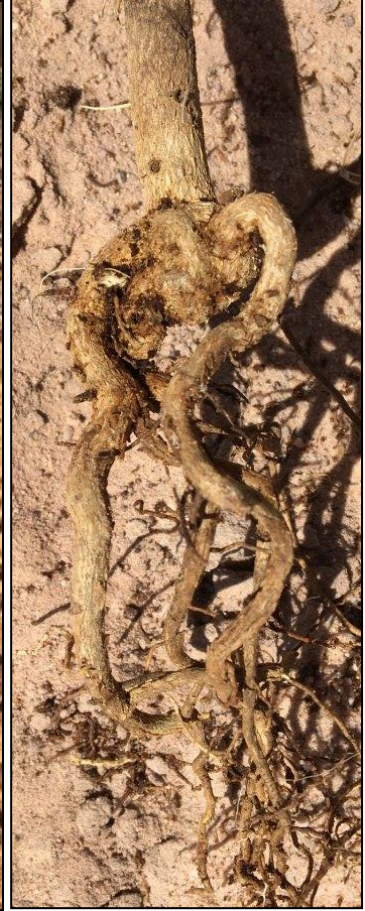
Scaffold tree A tree that has formed scaffold branches at a height required by the grower, with a stem thick enough (not requiring additional support) to support the scaffold.

Mini-tree A tree with hardened-off scion growth of at least 15 cm. A mini-tree typically needs a stake to support it. *A mini-tree may only be delivered to a grower and presented for certification based on a written agreement between the grower and nursery stating that the grower will accept a uniform batch of mini-trees.*

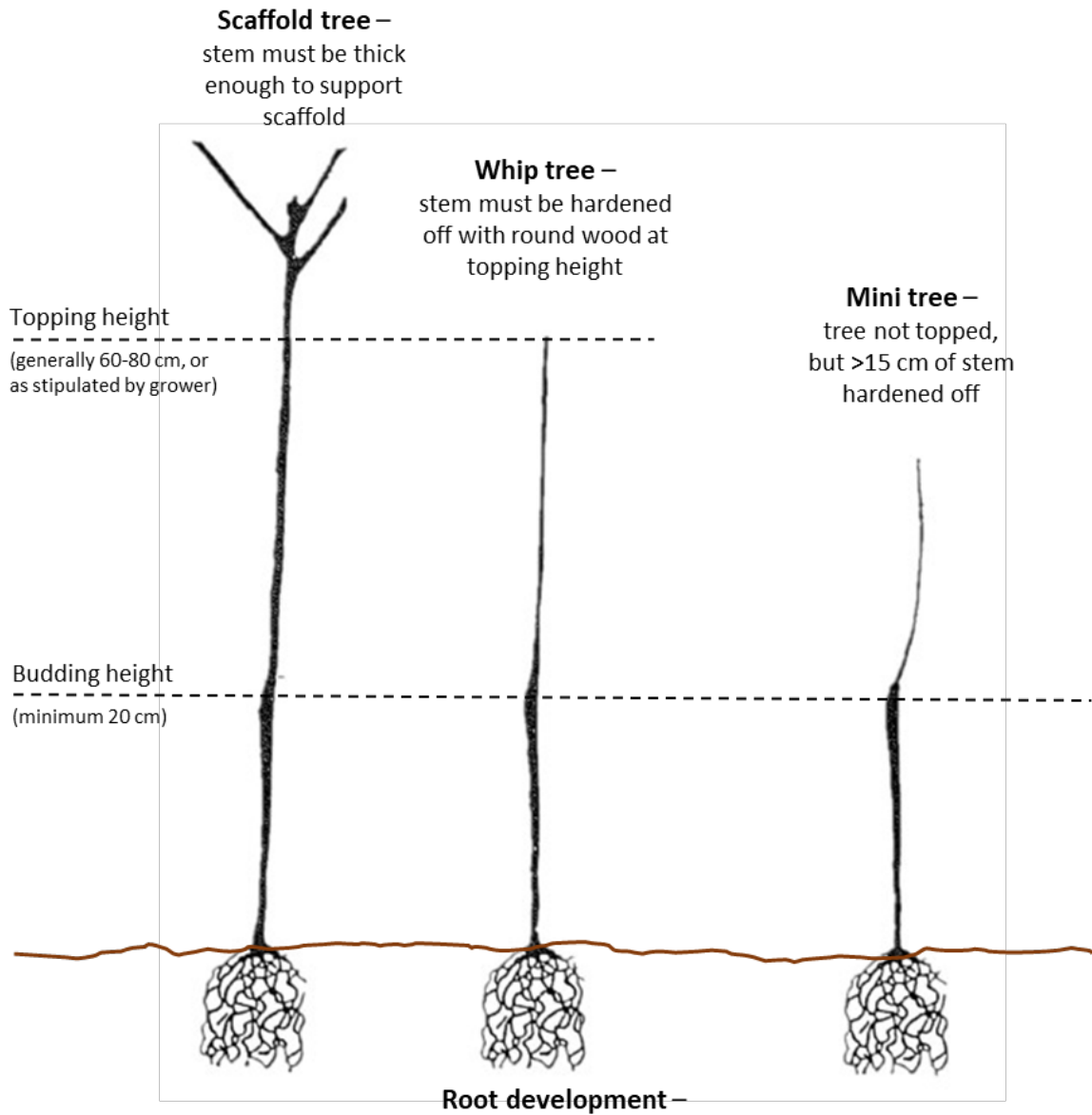
Root development. The root system of trees must be well developed and should fill the complete profile of the container (photo on right). Roots must be without any symptoms of root rot.



Bench rooting (or 'Kromwortel'). Severe goose-neck or bench-rooting of the main tap root and major lateral roots is not acceptable when the goose-neck or bench occurs within 10 cm from the collar of the tree, or when no major lateral roots (that are not benched) were formed above the goose-neck or bench. Severe goose-neck or bench-rooting is defined as major roots that are bended/folded at a tight angle; roots that bend upwards; or roots that form a complete curl/loop. Below are examples of acceptable (photo on left; straight to non-severe bends) and unacceptable (photo on right) bench or goose-neck root development in young seedlings, and unacceptable bench-rooting in older trees (photos below).



Schematic description of the CIS nursery tree standards



Well-developed root system that fills complete profile of container; no root rot symptoms; no severe goose-neck or bench-root within 10 cm of collar, or without major lateral roots above goose-neck or bench