

ESTABLISHING AVOCADO TREES ON CLONAL DUSA™ ROOTSTOCK



What is a clonal rootstock?

A clonal rootstock is a rooted cutting and is the only way to produce genetically identical rootstocks. A small

shoot of a rootstock cultivar is forced to produce roots in the nursery by a complicated procedure using plant hormones, grafting to a nurse seedling and etiolation.

Why is it different to a seedling rootstock?

The roots of a rooted cutting come from tissue in the stem. These are known as adventitious roots while the roots on a seedling tree come directly from the seed. The root system from a seed is usually more robust and can regenerate more easily than from a rooted cutting. However, because there is very wide genetic variation in avocado seedlings (400%), this gives rise to trees that grow very unevenly.

What are the problems with establishing a clonal rootstock tree?

Most problems with establishment are due to five main factors:

- Overwatering
- Lack of shelter
- Planting too deep
- Competition from weeds
- Mulch against the trunk

A well established tree



Key planting steps

Consult a professional for site specific requirements.

1. Prepare the site
Depending on the site, drainage, ripping, soil amendments, fertiliser, shelter trees, mounds or ridges may all be needed.
2. Erect posts for shelters
Hammer or dig in four posts for a shelter 1.2m square and 1.8m high. This height will allow for growth in the first eighteen months.
3. Dig holes
Ensure there is a low mound of soil (about 200-300mm high) to plant the tree into. Dig a hole not much larger than the nursery bag, taking care not to compact the surrounding soil. The hole should leave the top of the potting mix about 20-30mm above the soil level. Apply Ridomil® granules into the hole. Soak the hole and allow to drain.
4. Prepare the tree for planting
Thoroughly soak the root ball with a water dip and allow to drain for 10 minutes before planting. Handle the tree carefully, never pick up a clonal tree by the trunk.
5. Place the tree in the ground
Cut off and remove the bottom of the bag before placing the tree in the hole. Then cut a slit halfway up the bag. Place some soil around the exposed rootball when the tree is in the hole, slit the remainder of the bag and pull off. Fill in the hole carefully, firming the soil around the plant by hand as you fill the hole. Mound the soil up to the level of the potting mix. Do not cover the potting mix with soil. Thoroughly soak the tree immediately after planting to ensure good contact between the soil and rootball.
6. Stake or support the tree
Place a trunk guard around the stem of the tree from ground level up to about 300mm and ensure there is a minimum 50mm air space around the trunk. Stake or tie the tree to the shelter supports so that movement in the wind is minimal. Put the irrigation sprinklers in place.
7. Shelter the tree
Fix shade cloth around the shelter posts and put a shade cloth cap on top of the shelter. In frost prone sites a frost cloth cap may be needed.
8. After tree care
Water as needed but err on the dry side. Do not let the tree dry out though. Be patient, too much management in the first year can kill or cause the tree to "sulk".

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DO

Keep the trunk dry and protected – stem guards used on grapevines have been used with great success, these keep mulch and irrigation from wetting the trunk otherwise the trees could go into sudden decline from collar rot.

Plant in spring (September-November) – at the time when shoot and root growth would normally occur.

Shelter well – trees exposed to wind either die or sit and "sulk" for a long time.

Shade the new tree with a shade cloth cap on the shelter.

Whitewash the trunk – especially if the trees will not be put into shelters. Use diluted white waterbased paint.

Fertilise lightly only once the tree is growing until well established.

Remove flowers in the first year.

Keep the tree free from weeds – apply light mulch or hand weed.

Support the trees by stakes or other means.

Be patient – the trees don't establish in the same way as seedling rootstocks.



Ideal set up without shelter



Shelter should be as tall as the trees

DON'T

Over water – many poorly performing trees have been kept too wet. Under watering appears to be the best option but *this does not mean no watering*

Plant too deep – the best establishment occurs where trees are planted slightly proud of the soil surface, this helps to avoid overwatering.



Plant in wet sites – "wet feet" will kill trees even where there is no Phytophthora.

Mulch too close the trunk – hay around the trunk is not recommended. Keep 50mm around the trunk free from mulch.



Spray the trees with phosphorous acid.

Allow weeds to take over.



Poor establishment some trees dead



"Sulking" trees

