

## **TRIAL N ERROR ON MIAPPLE FARM – by Peter Cooke**

### **GRAFTING AND SCIONS.**

#### Apple Scions

Are usually cut when the apple tree is dormant about mid-June each year.

The last of the scions to cut usually in July is Pink Lady which keeps its leaves much later than most other varieties.

Ideally a scion is about as thick as a pencil so that it can be grafted onto a mid-sized rootstock of equal thickness.

A thin scion can be grafted onto a thicker rootstock – but a thick scion cannot be grafted onto a thin rootstock.

#### Before cutting scions.

I circulate around my complete orchard, ensure all trees are properly named and I cut out any water shoots growing from the rootstocks to ensure there is no wood that could be wrongly taken as a scion of the variety being harvested.

Next I collect all the plastic scion labels from the previous year, wash them thoroughly in a metholated spirit solution and sort them into orchard row order making sure the names and numbers all match the current orchard map.

#### Cutting scions.

I wash and disinfect my hands before cutting and handling scions.

Scions are cut using sharp secateurs that are regularly sprayed with a 25% ti-tree oil and water solution to keep the secateurs disinfected particularly between trees.

Cut scions are placed in disinfected zip top sandwich bags in bundles held together with new clean rubber bands together with the respective plastic label for each tree/variety.

#### Scion storage.

I wash and disinfect my hands before handling and scions for storage.

The cut scion bundles are sprayed with Potassium Metabisulphide solution (winemakers sulphur) and the sealed bags containing the scions are then placed in the refrigerator which has been set to run at zero degrees centigrade.

The Potassium Metabisulphide solution (about one teaspoon to 10 litres) is not poisonous but the smell of the powder will sting your nose as you open the container if you are not careful.

This method of storage should keep the scions moist free of and fungal growth for about 4 months up to the end of September when you are likely to graft the last scions for the season.

Risk of fungal infection of the stored scions increases each time the packages are opened for grafting operations or for sale to other collectors. Clean hands and covering the work table with cleanly opened newspapers is advisable. The uppermost page of a newspaper should be avoided as it is more likely to be covered with dust and spores while laid out in the room.

My neighbour cuts wine grape scions in June each year and stores them in much the same way but with double plastic wrapping to be used for grafting 8 months later in February.

#### Rootstocks

May not be dormant until mid-July when they are harvested from their stoolbeds.

Bought in rootstocks are usually available about the first week in August.

The vegie garden at Miapple Farm is usually half empty until the last frosts have

finished in November so there is always a bed available for heeling in the rootstocks. Keeping them carefully labelled, rootstocks are taken from the vegie beds progressively in August and September as they are consumed in the grafting and potting process.

Tools got ready for grafting include.

- Straight bladed grafting knives
- Japanese water stones for sharpening.
- OR the latest fine grit ceramic sharpening stones (don't need water)
- Sharp clean pair of secateurs
- My wooden cutting board and holding jig.
- Water spray bottles.
- Several clean water buckets

Materials got ready for grafting include.

- Stretchy grafting tape (not the film rubbish sold at hardware stores)
- Grafting mastic
- Weatherproof tyvek labels.
- Artline Garden Marker pens.
- Metholated Spirits, Potassium Metabisulphide

Materials got ready for potting.

- Numbers of square 4 litre black plastic planting pots.
- Bulk potting mix (trailer load)
- bag of 6 month slow release fertiliser – if not included in potting mix
- 100mm square sheets of newspaper.
- Rolls of black builders plastic 1metre wide

Grafting Procedures – Apples

Set up a work bench, place the cutting board, jigs, tools and grafting materials on the bench and disinfect all the tools and bench with a 50% metho solution  
Take a selection of mixed size rootstocks from those heeled in at the vegie beds, wash the dirt off them and place them in a labelled bucket of water – a separate bucket for each variety to be placed alongside the work bench. I find it best to have the rootsocks in water overnight before I commence grafting.

Prepare clean bucket of water to receive grafted rootstocks as the work progresses.  
Prepare another clean bucket of water containing one teaspoon of Potasium Metabisulphide to soak and warm up selected frozen scions to room temperature.  
Prepare labels and attach them to scions delected for grafting with rubber bands.

Wash your hands before operations begin and disinfect your bench and tools before each graft.

I select a rootstock that will match the thickness of the scion and graft the two together using the whip and tongue method for the best results. If the scion wood is too dry I put a drip of clean water on the join to help the tongue slide under the opposing tongue. Some orchardists dab a little Rootex rooting fluid on the join at this point.

I have found cleanliness is most important for success.

After the graft joining process, the whip and tongue should be strong enough to hold the rootstock together with the scion and I then clip the rootstock to my holding jig and touchup any bare wood on the join with grafting mastic, wrap and tie off the

grafting tape over the join and tie on the label with the tape ends of the grafting tape. There are numerous examples of performing the graft available on Youtube. After wrapping the graft, I prune the scion back of there are more than 5 buds above the graft and cover the cut with mastic to keep in the moisture. The newly grafted young tree is placed in a clean bucket of water awaiting the potting process.

The dirtiest item on my grafting bench is probably my jar of grafting mastic. It is usually open to the air for most of the grafting season and has had many dirty fingers stuck in it over the years. My jar is still half full of mastic after 8 years of grafting – who knows how many microbes and fungal spores have collected in it over the years. My new thinking is to remove enough mastic for the day with a clean knife and to set it aside on a small petrie dish for use – replacing the jar lid until more mastic is needed.

At the end of the days grafting, any unused rootstocks are returned and heeled in again in the vegie patch. If you leave them in water too long they will drown. Rootstocks left over at the end of the grafting season are potted up for future planting budding or grafting next season.

#### Grafting – Pears.

If I graft a pear scion on to a bare-root pear rootstock and then pot it up, my graft success rate is less than 10%. The graft success rate improves to about 80% if I pot the rootstock and let it grow in the pot for a year and then graft onto the potted rootstock the following year.

#### Potting up.

Using 4 litre square plastic pots, I line the bottom of the pot with a couple of sheets of newspaper to stop the mix falling through the holes at the bottom.

I trim the roots if needed to fit the young tree in the pot and fill it three quarters full with potting mix – adding fingerfulls of fertiliser to make up a teaspoonful in all.

The graft and attached label should end up above the edge of the pot.

I place the filled pots in rows five pots wide on plastic sheeting to prevent weeds growing up through the pots. I water them in on potting day and then water them once a week filling the pot to the brim with water – so each pot gets about a litre of water.

The pots are placed in the spring sunshine in a position protected from the wind.

In those first couple of months the new young potted trees may be hit with frost but I have never been aware of any damage done by the frost.

#### Pot maintenance.

For more information on potted trees and maintenance see the Potting page.