

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

### **CHEMICALS**

#### **FERTILISERS**

I now use Nutricote® 16.8%N, 3.9%P, 8.1%K (180 day) Tree & Shrub blend as a time release fertiliser on my potted trees.

It is suitable for use in potting mix - granules coated with waxes to make slow release

NitroPhosca® Blue 12%N, 5.2%P, 14%Potassium, 8%Manganese

Use by rootstock producers for fast growing of rootstock shoots.

MAP® 10%N, 21.9%P, 1.5%Sulphur

General purpose orchard and vineyard fertiliser, sulphur discourages fungal growth.

#### **WATER FOR SPRAY MIXTURES.**

Use fresh rainwater only in making up a spray mixture, there may be salts or other nutrients in your dam water or bore water that may neutralise or change the chemical structure of your spray.

I never feel comfortable using town water which usually contains chemical additives like chlorine.

A few years ago I mixed up Roundup® in bore water containing 800ppm calcium salts and sprayed the Scotch thistle weed in the bottom paddock – a month later the thistles were flowering and growing on unheeded. I then mixed the Roundup® in tank water, sprayed again and the thistles were dead in a week.

#### **FUNGICIDES**

Potassium Metabisulphide (winemakers sulphur)

We put a teaspoon of this in a bucket of water and soak scions in the solution before shipping scions in the mail or de-frosting refrigerated scions about to be grafted.

Scions stored in the fridge need to be kept moist – we make up a spray bottle with ¼ teaspoon of winemakers sulphur in a litre of water and spray our scions in their plastic sealable sandwich bags then put the bags of scions in the fridge.

Mancozeb®

We mix 10grams per ten litres to make up a spray used to spray the trunk, branches and leaves to protect young trees from fungal attack as part or re-planting procedures. (See apple tree re-plant syndrome)

Young potted rootstocks are prone to develop powdery mildew at times of warm weather with high humidity and we spray to stop the mildew spreading.

Bordeaux Mixture

My father used this mixture in his orchard 70 years ago and it is still commonly used as a fungicide treatment today.

Thoroughly stir 150Grams of copper sulphate in a 15 litre bucket of water.

Thoroughly stir 150grams of builders lime in another 15 litre bucket of water.

Strain the two mixtures in equal proportions through pantyhose (we use nylon curtain material) and stir the new mixture (which turns a sky blue colour) and you are ready for spraying.

We thoroughly spray all of our orchard trees and potted grafted trees as the buds swell at the beginning of springtime.

### Leaf Curl Fungicide (Copper Oxychloride)

Peach trees and other stone fruits are susceptible to curly leaf and their buds usually swell a couple of weeks before the apples. The stone fruits need to be sprayed early in spring with this stronger copper fungicide to effectively prevent curly leaf.

We usually spray again a few weeks later when we spray the apples with Bordeaux Mixture.

### INSECTICIDES

#### Avatar® (Indoxacarb)

This is a powerful (expensive) insecticide that many people would not use but when the choice is to use it or watch your orchard trees die from weevil attack, it is a necessary evil. We have made up a strong mixture of just 15grams per 50 litres in November on two occasions when the weevils were coming up out of the ground at night to eat the leaves of our orchard trees.

The aim is to kill the weevils by having them eat sprayed leaves so that they don't go back underground and destroy the tree's root system.

We have also used this insecticide on our potted trees to kill insects that have come into our orchard as eggs in our potting mix.

This insecticide should not be used regularly in case the insects become immune.

#### Bugmaster® (Carbaryl)

We have used a mixture of 15ml to 7 litres of water on trees or pots that showed a second round of insect attack in early summer as an alternative to Avatar®

#### Bifenthrin® (Pyrethroid)

We carry this insecticide in stock as we are required to use it on bare-root trees when shipping under quarantine regulations. It is hard to get and we had to drive to Shepparton to get it.

We have used a mixture of 8ml to 8litres on potted trees to destroy insects in our pots to make the pots ready for delivery in winter when insect presence was obvious.

#### Hydrated Lime (Builders Lime)

Not only do you use this powder in making Bordeaux Mixture – you can also use it in its powder state to dust cheery and pear trees to kill pear and cherry slugs.

#### Success® (Spinosap Bacteria)

Used to destroy cherry and pear slugs.

This is readily available at hardware stores and nurseries the normal mixture is 100gms per 20litres of water.

2 days after spring or summer rain, it pays to check the leaves of cherry and pear trees for the presence of these little black critters.

Spray the leaves to stop the slugs eating away your leaves.

#### White Oil

Aphids and scale may attack young growth by sucking the sap and will often be noticed by the presence of ants.

We use commercial white oil spray preparation but you can make up your own white oil by mixing cooking oil and detergent in water.

We have noted aphids on young growth in early autumn.

## Chlorpyrifos

Thank goodness we have never had to use this deadly stuff. It is used to destroy locusts by spraying the egg beds when the locusts hatch. It is so deadly you have to wear disposable overalls, long gloves, goggles and breathing apparatus during application.

When our orchard was attacked by locusts about 7 years ago the state government took all of the available organic insecticide for its own use and would not release any.

Then the Primary Industry department made it compulsory to spray locust eggbeds with the only alternative – Chlorpyrifos – if the size of the eggbeds exceeded 10 square metres.

The eggbed in our orchard only measured 6 square metres.

## HERBICIDES

### Roundup® (Glyphosphate)

Everybody has used Roundup at some time on their property and at Miapple Farm it has been quite effective in destroying scotch thistle in our paddocks.

Use fresh rainwater only in the spray mixture – one year we used bore water and the salt in the water neutralised the Glyphosphate so it had no effect.

We have tried using it to destroy Phalaris grass that clumps and grows near apple trees that have been irrigated through the summer.

We took care that we only sprayed the grass and not the trees but found that the presence of the Glyphosphate in the ground near the trees was enough to stunt tree growth.

When we accidentally got a little Roundup® spray on the water shoots at the base of a pear tree – the pear tree soon died.

Rootstock beds are given a lot of fertiliser and water – so up come the weeds. Weeding must be done by hand as the presence of any Glyphosphate in the bed stunts the growth of the rootstocks.

## PHYSICAL BARRIERS

### White plastic paint

While we have not as yet used this at Miapple Farm – we may have to use it in future on apple tree branches that are susceptible to sunburn.

### Gripcote® (Water based Bitumen sealant)

This is water soluble bitumen paint used as a sealant in fish tanks and farm water tanks. As the water dries out it becomes sticky and smells like bitumen. Your paint brush used is a throw away after use.

We first used bitumen paint on the base of our apple trees to discourage rabbits from ringbarking young trees. Rabbits don't like the taste of bitumen and as a deterrent it was quite effective.

In recent years we have also used this paint to seal splits in trees and bigger pruning cuts.

### OnGuard® (Fruit Tree Grease band)

If tied tightly enough around the trunk, this has effectively reduced the number of ants getting up the trees to get to the sugary fruit as it ripens.

We tried it also on the trees attacked by weevils and while it stopped the weevils eating the leaves at night, the weevils ate the roots underground instead and the tree died at the end of the following spring.

## FRUIT FLY TRAP

To make a Fruit fly trap – to indicate presence of fruit fly in your orchard.

Using a 2litre plastic milk bottle, carefully cut a 3cm x 3cm flap halfway down the side of the bottle and lift the flap up to make a little doorway in the bottle.

Label the bottle as a fruit fly trap.

Make up a mixture of 1litre water, 1 cup brown sugar, 1 tablespoon bakers yeast, 1 tablespoon vegemite and ½ cup of cloudy amonia and let it stand for 5 days before use.

Put a cup or two of the mixture in the pre-prepared trap bottle, replace the lid and hang the bottle trap (or two) in your fruit tree – out of the reach of children.

Check the trap for fruit fly every two days and change the mixture weekly.

## PRUNING STERILIZERS

Sterictech®

A petroleum based sealant that is painted on to cuts after pruning.

Gripcote®

A water based bitumen paint that we use as a sealant painted on to cuts after pruning.

Ti Tree Oil.

Mixed about 100ml to 400ml of water in a spray bottle, we spray our secateurs to sterilise each them before pruning or taking scions from each tree.