

TRIAL N ERROR ON MIAPPLE FARM – by Peter Cooke

PESTS AND DISEASES.

BITTER PIT (BROWN BRUISE)

Bitter pit in apples is caused by calcium deficiency in the soil – as we have at Miapple Farm. We watered in the early years with dam and creek water and experienced bitter pit particularly in our Pink Lady apples. After we found good bore water containing plenty of calcium salts (the same that cause staligites in underground caves) – we have watered our orchard with bore water and the bitter pit problem has ceased.

MOZAIC VIRUS?

Mozaic virus is indicated by yellow blotches on the leaves of the apple trees. The blotches can also simply be caused by stress from lack of water or heat.

We had the symptoms on one branch of a Pink Lady and after pruning that branch off, the healthy new growth took over and the symptoms disappeared. Other small trees that struggled in their early years showed the yellow blotches but then outgrew them. On Miapple Farm we believe our symptoms have been stress.

SUNBURN

Most of our trees are growing on MM111 rootstocks from the UK. Where the grass around the trees has been cut short, lesions have developed on the west (sunny side) of the rootstock, resulting in the bark coming away at the base of the rootstock on the west side. The tree then partly dies back and shows stress due to lack of water and nutriment passing up that side of the tree.

We now allow the grass to grow knee high around the base of the tree. My European friends paint the base and trunk of their trees with plastic house paint.

THRIPS

Where apples have grown together in bunches (usually of 5) the thrips nest in the space between the apple bunch. They then feed on the skin of the young apples scarring the surface of the apple. The problem is generally solved by thinning the apples to 2 in a bunch early in the growth season.

ANTS

We get ants in our pears and stone fruits. The little birds are allowed access to the orchard so that they can feed on the insects – but they have also taken a liking to fruit and take a peck from the skin of a fruit. The ants then follow up by entering the pecked hole and feeding on the flesh inside.

We can reduce the number of ants by putting sticky paper barriers around the tree trunk.

EUROPEAN WASP

We had one season a few years ago when European wasps occupied over-ripe apples that remained on the trees. We needed to take care in removing the over-ripe apples – but fresh picked just ripened apples did not contain any wasps.

BROWN APPLE MOTH

We only seem to see the odd Brown Apple Moth in our young nursery trees where some of the young leaf shoots have been nibbled.

CHERRY AND PEAR SLUGS

These slugs appear in late spring a couple of days after rainfall and the weather remains

mild. Where we have to hot Australian summer days over 35 degrees, I thought the slugs would not survive the hot weather. In February 2017 we had 4 days in a row over 42 degrees and the slugs made a meal of my perry pear trees.

In milder weather we spray the leaves with “Success®” to kill the slugs. We have tried the old fashioned method of sprinkling the leaves with fire ash – but it does not work as well. In the hot weather you can't spray (or the leaves will go brown) and it is often too windy as well. In desperation I dusted the trees with Hydrated Lime (Builders lime) by standing upwind and throwing the powder up the tree with a garden trowel. I looked up the Hydrated Lime treatment on internet and found garden guru Peter Cundall doing exactly the same thing. Just one thing more to note; wear gloves, goggles and a breathing mask to keep the lime out of your eyes and nose and off your skin.

LOCUSTS (PLAGUE GRASSHOPPERS)

We had a small plague about 5 years ago and in accordance with Dept of Primary Production regulations we prepared to spray with deadly Chlorpyrifos if the hopper egg beds exceeded 10 square metres. The egg beds were smaller and when the locusts hatched they spread across the orchard eating all the grass in their path – but the apple trees above them were left alone.

GRASSHOPPERS

The grasshoppers attack small apple trees under a metre tall in areas where there is bright sunshine. They got into our new graft potted trees in December and started to eat the young leaf shoots. We moved the potted trees into the shade and the grasshoppers did not follow. Where the small apple trees cannot be moved a suitably strong insecticide spray on the young leaves is needed to kill the hoppers when they eat the leaves. The problem is that you can't spray on hot days as it makes the leaves go brown – spraying must take place at dusk or in the evening.

RABBITS

Rabbits are a problem when they take a liking to the bark of young apple trees and ringbark them. We painted the base 30cm of our young trees with Gripco® neutral bitumen paint. The rabbits hate the taste of bitumen and they left our young trees alone.

ANT EATERS (ECHIDNAS)

If you have ever tried to move an echidna when he digs in to protect himself you will understand why we refer to them as mini bulldozers. They would come into the orchard and tear their way through the bird netting. Then in their effort to get at the ants around the base of a fruit tree they will dig out the tree to get at the ants.

Our only solution was to surround the orchard with 90cm high rabbit netting that had been pegged outwards at ground level.

KANGAROOS

Metre high netting won't keep the roos out so that they won't eat the young shoots in spring and the teenage juveniles love to fight and flatten young trees in the process. Our solution was to install 180cm high hingedlock fencing strained tight at the bottom 90cm and loose strained on the top 90cm. The theory is that adult kangaroos can jump a 180cm fence by bouncing over on the top wire – but with the wire loosely strained, the top wire gives way under them and they fall back down without getting over. So far it has worked,

COCKATOOS AND PARROTS

Bird netting is the only solution – but clever parrots will find a way in if they can – they learn quickly from one another and will find their way under a net if it is not weighed down.

If netting trees individually, use a frame or combination of poles and poly pipe to keep the netting away from the tree. I have watched a parrot sit on a net draped over a tree and chew at the branches through the net until the net drops enough to get to the fruit through the net.

BUSH RATS

Thankfully we don't have many bush rats – they will find a way through the fence or chew through the netting – then climb a tree to eat the fruit. I had a neighbour who had his fruit trees decimated by bush rats – the only solution is the use of a rat shot gun at night.

TWO LEGGED RATS

A few years ago before we out locks on all our orchard gates one or more of these rats removed our whole crop of apples over easter while we were away at a wedding. It is not a jailing offence to steal if you don't break and enter. Our defence is now a system of CCTV cameras and locked gates around our orchard.

APPLE REPLANT SYNDROME

We have lost a number of trees through weevil attack, wet feet syndrome or the new weather. A replanted tree in the same place just won't grow.

Replacement is not so simple. First we remove nearly a cubic metre of the soil from where the old apple tree died, spray the hole with Mancozeb® fungicide– and replace it with fresh soil and compost – not from the orchard.

We choose a replacement tree with a strong rootstock – MM111 M793 or Granny Smith. The replacement tree is sprayed with fungicide after planting and fed with MAP fertiliser regularly after planting.

PHYTOPHTHORA AND FUNGAL ATTACK

Spores from Phytophthora exist naturally in the soil and become concentrated if rainwater runs into a depression in the ground where a tree has been planted. We have experienced this problem where trees were planted using a back-hoe and the soil around the tree subsequently sub-sided. Then the tree got sick as if the roots were incapacitated.

If the tree survived, the depression in the ground was sprayed with Mancozeb® fungicide, the hole was filled, drained and domed to prevent further accumulation of fungal spores. The tree was pruned back to enable to weakened root system to support remaining tree. Where successful the weakened tree has grown new branches and recovered.

CURLY LEAF IN STONE FRUIT

In early spring and the buds are swelling we spray our stone fruit with copper based fungicide for leaf curl. Then when the apple trees are ready to flower a few weeks later we spray our apple trees with Bordeaux Mixture (fungicide) and spray our stone fruit again as well. We have still experienced curly leaf when we had a lot of rain through spring that washed off the fungicide spray. Curly leaf followed and most of the diseased leaves dropped off by summer. Some trees dropped their fruit as well – but most grew new leaves at the beginning of summer and that was enough to provide the sugars for the fruit when they ripened.

POWDERY MILDEW

We only seem to get powdery mildew in the leaves of potted rootstocks after a summer rain. The symptom is a white powdery film appears on the leaves and within a few days the edges of the leaves will go brown and die. The potted rootstocks will pass the mildew spores on to their neighbours if we don't isolate the infected potted tree.

WET FEET

Our favourite rootstocks MM111 are strong except when they get wet feet. After a wet season, a spring came up out of the ground beside a tree which died two weeks later. Another apple tree was planted in a depression where a gum tree had previously existed. Two summer thunderstorms filled up the depression with rainwater for a couple of weeks and the healthy tree keeled over and died. The replacement tree will be planted in a mound above the level of depression and the area properly drained.