TRIAL N ERROR ON MIAPPLE FARM – by Peter Cooke

PLANNING AND PLANTING.

Rainfall Areas

The need for adequate rainfall (at least 500mm p.a) to provide the needs of an orchard also means there will be burnable growth in the bushland and paddocks surrounding your orchard if it is in Australia.

I grew up in Upper Beaconsfield where the average rainfall was over 1,000mm per year and most of our neighbours had apple orchards without need for irrigation.

The downside was that as I grew up there were no less than 6 bushfires surrounding our house and orchard and eventually on Ash Wednesday the fire storm was so intense that it jumped a 15 acre ploughed field to destroy our house, sheds and orchard along with all the neighbours houses and orchards as well.

With climate change the rainfall near my old farm has halved and is now insufficient to provide the needs of an orchard and there is no ground water to supplement the rain. The price of land went through the roof because of the proximity to the big city and there are no orchards left in the area.

Where rain is short but irrigation water available.(But still fire danger)

Miapple Farm was chosen 13 years ago where the annual rain is below 500mm but there is ground water that is not too salty. The area is named Spring Plains because out in the middle of the paddocks there grow big old red river gums (usually river trees) that have tapped into the underground water.

I can pump up to 2 megalitres of water each year from a bore to supplement the rainfall needed to keep my orchard of 400 trees alive and productive.

Harcourt the apple centre of Victoria is 20kms to the east of Miapple Farm where the rainfall is similar but supplemented by an irrigation scheme that collects rainwater from the surrounding hills.

Fire danger is still there and only last year 2015 there were 52 fire trucks, 2 graders and 4 bulldozers putting out a fire on the next door neighbours property.

I cut 20 acres of grass paddocks around my house and orchard every year to reduce the fire danger.

Wind break trees around an orchard.

Ideally an orchard should be surrounded by wind breaks of trees and in the old days it was common to see rows of pine trees or cyprus pines around an orchard.

Unfortunately they are hazardous when a bushfire appears.

Finding a tree suitable for a fire resistant windbreaks is difficult and the best I have come up with is an Australian Lillypilly.

Fencing windbreaks.

At Miapple farm I had to build 1800mm high fences to keep out the kangaroos so on the hot wind (north-west) side of the orchard I installed 1800mm high shade cloth on the fences to reduce the hot winds.

Planning the orchard. infrastructure

Before planting trees first consider where the irrigation water piping will be placed.

It is best underground with risers installed to carry taps adjacent to where rows of trees will be.

Allow for gates and access driveways and enough room for your farm equipment to

turn around at the end of each row.
You will soon get sick of the bird damage to your trees and fruit, so allow for netting poles to be erected when the time comes. Standard bird netting for orchards is 10metres wide and your support poles will need to be 10 metres apart.

Tree Rows.

Gates, driveways and netting infrastructure have some bearing on placement of tree rows.
Tree rows should be planted in a North/South alignment to give the trees best access to sunlight. At Miapple Farm we planted the rows 5metres apart and a tree every 2metres within each row to best fit them within the infrastructure.
Plant trees 1.5 metres from the fencelines to allow space to mow and get access behind the trees.
Planting the trees in straight lines using brickies string line also helps for the later installation of irrigation dripper lines.

Planting holes.

The best plantings took place where the holes were hand dug, rocks removed and soil type determined. Trees were planted with the root system just below ground level and the graft set about 100mm above ground. Soil backfill was supplemented with a mixture of sandy loam and compost to leave the ground mounded about 50mm above ground level.
Use of a backhoe through necessity and rocky ground seemed to be a good alternative when I had 50 trees to plant in a couple of days. But the holes finished up too big with a lot of backfilling labour needed. I learned to regret the use of a backhoe in later years when the soil around the roots of the trees subsided and the whole trees sank up to 150mm below their planted ground level.
Faced with planting 50 trees or more in later years, I resorted to using a 250mm post hole digger to make holes 600mm deep supplemented by hand digging where underground rocks were encountered. The post digger leaves a hard clay crust around the hole that will prevent young roots passing through the hole walls. So the planting process includes breaking away the hardened edges of the hole with a crow bar to partly backfill the hole before adding composted soil to the mix while planting at much the same depth as for the hand dug holes.
Watering in each tree after planting is necessary to remove any air holes left around the roots when planting.

Wet Feet.

Apple rootstocks particularly MM111 don't like wet feet – if the tree is planted in a hollow the ground needs to be mounded up to keep the roots above any standing water particularly in an impervious clay soil.
While most of my orchard is well drained, there is one particular spot where a spring rises after a lot of rain. Trees planted in that spot don't live long in wet weather.
In another area the ground has a hollow where a big old gum tree had been removed in years gone bye. A tree planted on that spot grew well for 2 years with normal rainfall and irrigation – then we had two thunderstorms within a week, filling the hollow with water and the healthy young tree drowned.

Mulch and compost.

I bought in a load of mushroom compost mixed with topsoil from local supplier and learned to regret it. Who knows where they got the topsoil from but the seeds in it included some pretty horrible weeds which grew around the newly planted trees.

The seeds in a propertly matured compost are usually destroyed during manufacture and I have learned to mix bought compost with a known topsoil before using it as a planting medium.
Buying in mulch or even potting soil is risky – you don't know what weed seeds or insect eggs may be in it.
I mulched my veggie garden with oaten straw a few years back and produced a healthy oat crop the following autumn. Fortunately I was able to dig it back in as green compost before it went to seed.

Stake the young trees.

MM111 usually produces a straight young tree that did not need staking. The changes in weather has altered all that.
In recent years we get a strong South East wind in the summer months between hot spells. The wind pushes the young tree over in a North West direction and the leaves turn into the sun with their shiny side up accordingly. Then the hot spell comes with a hot North West wind and the tree is pushed back the other way so that the underside of the leaves then face the hot sun and burn.
By staking the tree it is held upright so that the leaves will remain turned into the sun regardless of the wind direction. Take care to hold the tree with a loose band or string around the tree that will not constrict it later.

Wind and sunburn protection.

Young trees don't last long in a strong hot Westerly wind. Where a young tree has no wind protection I drive in three stakes near the tree on the North West side and partly surround the tree with a shade cloth or hessian bag to heep the hot wind off it until it is two summers old and has established a proper root and leaf system. This simultaneously keeps the afternoon sun off the bark of the young rootstock preventing sunburn lesions.
If grass is allowed to grow close to the young tree that will also reduce sunburn of the rootstock.