Insect traps & protection.

‘An unedited excerpt from…’

A PRACTICAL INTRODUCTION

TO THE AUSTRALIAN DEMETER BIODYNAMIC METHOD OF FARMING.

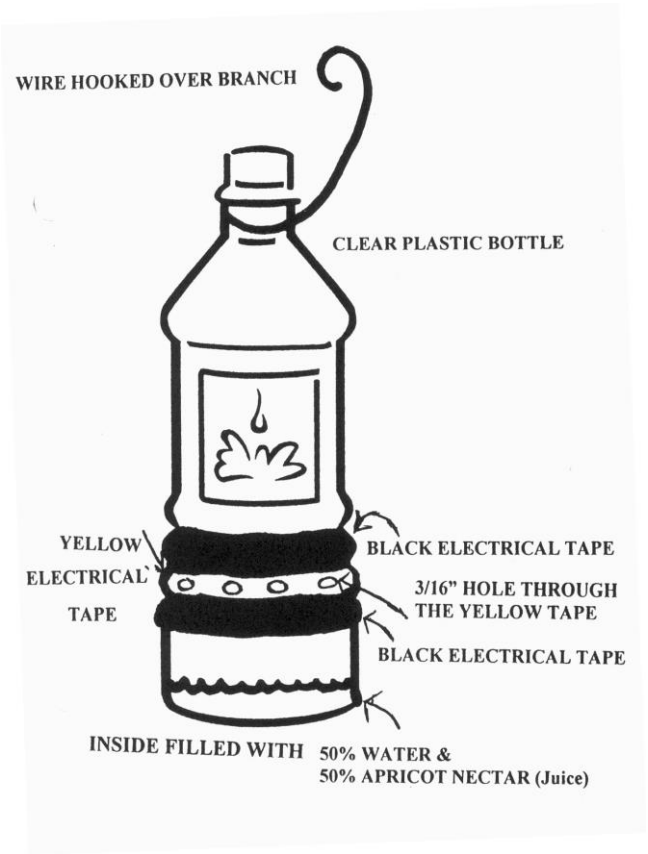
In either case do not saturate the whole tree as it still needs to breath. Cover the patches infested with scale.

Another effective old remedy is to blow lime over the entire tree.

D. INSECT TRAPS

Below is a picture of a fruit fly trap sent into us from Dennis Pelham as his response to the article in the December 2007 *Bio-Dynamic Growing* magazine about Geoff Stone's problems with fruit fly. Dennis has found it to be very effective in catching "the little critters".

FRUIT FLY:



The flies are drawn to the yellow colour (ie "Flower" colour) and the apricot smell. They fly through the 3/16" holes to get to the nectar. Being half water they cannot land so they then fly upwards to the light. Eventually they fatigue and drop into the liquid and drown.

A trap was hung in each tree (5year old) at first bud burst in Spring and "topped up" with fluid (50%-50%) until fruit was ready to pick.

European Wasps: A similar principle is applied by an excellent Italian Apiarist regarding the problem of European wasps invading bee hives. They hang plastic bottles near the hives, but they use slightly larger holes with apple juice and sugar as the attractant. In order to deter the bees they also added a dead lizard body to the juice. This deters the bees, but adds to the wasp attraction.

By altering the hole size and/or attractant inside, this idea could be used for other insects as well.

Codling Moth Trap: Make a brew of 4ltrs gallon of molasses, 30grams of yeast, 20ltrs of water and 30 grams of sassafras oil. Place in a trap and put near or through the orchard effectiveness is increased if placed under a light.

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Control of Earwigs using Fluted Cardboard Rolls

The following information was provided to Darryl Ward by Dr A Nicholas from Tamworth Agricultural Institute and is reprinted here with permission

Dr Nicholas successfully used rolled up fluted cardboard to collect earwigs for a project conducted a few years ago. The collection resulted in very few remaining in the orchard to cause damage that and the following season.

Strips of fluted cardboard (15cm x 40cm) were rolled up and held with an elastic band. The cardboard rolls need to be positioned low in the tree to take advantage of the earwig's habit of returning to the ground during the day (earwigs being nocturnal). Earwigs produce an aggregation pheromone which attracts them to each other and, once impregnated into the cardboard, back to the same cardboard roll each dawn.

The best location for the rolls is therefore on the tree trunk just below and opposite the first main lateral branch. This position attracts most of the earwigs coming down the tree without the cardboard becoming too wet. If you place the roll immediately below the first branch it will get very wet when it rains and the earwigs will abandon it.

A roll was put on every fourth tree. You need to tie the cardboard rolls to the tree trunk by using knotted elastic bands or even string**. DO NOT use drawing pins as they are toxic to the tree.**

When the rolls are first put out they are new and not attractive to the earwigs so you should not disturb them for a week while they weather and become impregnated with aggregation pheromone. A cardboard roll will last about 10 weeks providing the magpies don't learn that they contain a tasty morsel.

The earwigs can be collected and killed by opening the rolls over hot soapy water in a bucket.

Earwigs breed in Spring, with each female rearing two broods of about 10 to 15 young in a nesting chamber in the ground. Early Spring trapping tends to catch mostly males as brooding females tend to stay near the nesting chamber. The earliest time to catch a reasonable number of earwigs in the Bathurst area was mid to late September. Put out a few rolls to monitor earwig activity and then add more once they become active.

Empty the rolls every few days during peak activity. After three weeks you may only find one or two per roll trap. The following season should show much less earwig activity.

While this is a labour intensive process to begin with there are ongoing benefits, and of course no chemicals are involved.

The European earwigs favourite food is aphids and one or two earwigs per tree may be a good thing if they don't cause to much crop damage.

Dr Nicholas undertook the trappings in a mixed fruit orchard containing rows of apple, pear, peach and nectarine trees. The traps were put in the peach and nectarine trees, which are favourites of earwigs.

Ant Baits

Jam base: Combine equal parts of jam and derris dust or equal parts of borax and jam. Place these in a jar with the lid on which has a small hole to let ants in.

Protein base:
650 grams peanut butter
50 mls cooking oil
60 grams borax or borasic acid
Mix well till the borax is dissolved. Place the bait in a plastic bag and cut a tiny hole in one corner to allow ants or other pests access.
Keep the bait away from pets and children.

Pasture and Crop protection from insect attack using 500 and 501 in combination.

The following method has been found effective when Red Legged Earth Mite (*Halotydeus destructor*) is attacking the very early growth of pasture or lucerne. It has also had some success where vegetable plants were being attacked by sucking pests.

The principle to be applied when considering this treatment is the activity/vitality of the plants, since pests attack plants with low vitality as part of the decomposition/recycling activity of Nature. Using 500 and 501 together can help to invigorate the vitality of the plant. For Example:

a) Where plants have germinated (from the two leaf stage), but growth is slow to start due to cold climatic conditions.
b) It can also help to invigorate the plant at the end of the growing season (eg when tomatoes have neared the end of the fruiting process).

Procedure:

- Use 35gms of straight (i.e. unprepared) 500/ac. Stir for one hour and spray in the evening. The next morning use 1gram of 501/ac and stir for one hour. Spray high in the air over the area previously treated the night before with 500,

- or if working on wet or very large areas only, modify the above process as follows:
  Using 1 gram of 501 and 1¼oz (35 grams) of non-prepared 500 per acre, stir both substances together for one hour in the same manner as is done for either substance on its own. Spray out in the morning over the plants at a pressure of 30-40 psi. This combined spraying will not be as effective as that indicated above,

but it is a compromise which allows larger areas of crops or pasture to be treated which would not otherwise be possible.

The procedure can be repeated again in the following days, however, experience has suggested that if the initial spray does not produce results, further applications are unlikely to be effective.

E. HERBAL RECIPES AND USEFUL SPRAY RECIPES FOR THE HOME GARDENER

While not a specific Bio-Dynamic Management Tool, the following recipes may be useful at some stage of your home garden management.

Garlic Spray: Used for cockchafers, wireworms, aphids, cabbage white butterflies and codling moth. (Not poisonous to humans or animals.)

85 grams chopped garlic mixed with 2 tablespoons medicinal paraffin or mineral oil. Leave to soak for 45 hours. Dissolve 7 grams pure soap (e.g. Lux flakes) in a ½ litre of hot water. Mix all together, strain, and bottle.

Use 1 part to 99 parts water. Increase strength if required.

Chamomile tea: This is a very mild fungicide.
Cover a handful of flowers with boiling water or use a teabag according to instructions on pack. Spray out when liquid is cool.

Chive tea: For Apple scab or powdery mildew.
Cover chopped chives with boiling water – just enough to cover them – infuse for 15 minutes, cool and use undiluted.

Clay:
A diluted solution of clay – just add enough water till you can spray it – can be used on aphids and caterpillars. More effective on the former – it has no residual, of course and must be repeated every couple of days until the predators increase and start controlling the aphids.

Condys crystals: For powdery mildew.
7 grams potassium permanganate
7 litres water
Combine ingredients and spray at once.

Coriander : Use for red spider mite and woolly aphids.
Boil 1 part coriander leaves in 1 part water. Cool, strain and spray. This can also be used with anise.

Fever Few: Fever few flowers are often mistakenly called pyrethrum. They are not but can be used in the same way (see Pyrethrum recipe below). Double quantity of the flowers should be used.

Glue Spray: A weak solution of water soluble glue will suffocate many small insects and eggs, particularly aphids and thrips. It flakes off when dry. Flour and water also make glue by cooking together for this purpose.

Lantana Spray: This is for aphids.
Boil 500 grams Lantana leaves in a litre of water. Cool, strain and spray.

Mustard: Used for scale.
Take one part ground mustard seeds, add 20 parts water, spray. This is a very rough guide only, you may have to dilute the mixture more.

Onion: For scale, thrips, aphids and mites.
½ litre boiling water
1kg unpeeled onions
20 litres water.
Pour boiling water over onions, Cool, strain and dilute with water – spray every 10 days until pests are gone.

Chilli, Onion and Garlic: Effective against any leaf eating insect.
Limited effectiveness on most scale and hard surfaced pests like shield bugs. Try this before you use anything stronger.
4 of the hottest chillies you can get
4 kg Onions
2 bulbs of Garlic
2 litres water
Combine the ingredients and cover with soapy water. Leave 24 hours. Strain, add water and spray – store in a sealed container in a dark place up to 2 weeks if necessary.

Pot Plant Tonic: Take a handful of as many of the following as possible; comfrey, nettles, wormwood, chamomile flowers, yarrow, fresh green Lucerne. Use all if possible, but any are better than no tonic at all. Cover with water in a bucket with a lid. Seal and leave for three weeks. Take off a cupful of water, dilute to the colour of weak tea and spray into the pot. Add some more water to the bucket and replace lid. This supply of tonic should be good until the water removed is no longer coloured. At that stage use any residue as mulch around the pot.
Apply the tonic twice in the first week, then once a week indefinitely.

Pyrethrum (*Chrysanthemum Cinerariaefolium or Chrysanthemum*):
1 tablespoon pyrethrum powder or,
2 tablespoons Pyrethrum flowers or
4 tablespoons feverfew flowers.
Stand in 1 litre of hot water for an hour, soapy water is best as this helps the spray stick on the plant but it is not necessary. Strain and use.
Never boil pyrethrum, the fumes are toxic.
This spray has about a 12 hour toxicity.

Tomato Spray: Tomato spray can be used wherever you might once have used nicotine spray. It is also very poisonous but breaks down quickly. Only use it where other remedies aren't effective.
Take a quantity of tomato foliage, cover with 2¼ litres water. . Boil for 30 minutes, strain, dilute with 4 parts water to one of mixture. Add 20 grams soap flakes per litre of spray.
This is also toxic. Use as a general insecticide.

Wormwood: This both kills and repels fleas and other pests – flies, moths, snails and mosquitoes. Cover leaves with water and boil – leave for 3 hours. Dilute with 4 parts water.

VEGETABLE SPRAYS

Leaf Chlorosis: Spray or water repeatedly with stinging nettle tea.

Leaf Aphis: The occurrence of aphis always indicates a disturbance in the plant's sap stream, which can have manifold causes; - over manuring, insufficient feeding, shock through sudden cool changes or cold weather, varieties unsuited to locality. Often simple soil cultivation (aeration); effective irrigation; or a light application of nettle tea can be effective.

Brown rot in tomatoes: Preventative measures – Weekly spraying with **skim** milk are reported to be helpful. Valerian spray or applications of onion peel tea have also been used.

Also it is recommended to hill soil so as to lift plants out of area of moist soil/air, and use Casuarina tea.

Cabbage moth butterflies: Mixed planting with tomatoes and celery helps keep the cabbage moth away.