

Pests & diseases

Before you turn to toxic chemicals, make sure you follow these steps to reducing the likelihood of getting pests and diseases in your fruit trees:

1. Choose the right kind of fruit, and the right specific variety, to suit the conditions at your place. For the varieties that suit home gardens, see the 'Tried & True' chart overleaf.
2. Allow enough space between trees for good airflow, and also prune to keep the inside of the tree open.
3. Summer prune to remove the lush growing tips, so the plants are less attractive to sucking insects.
4. Keep your plants appropriately fertilised and watered, so they don't become vulnerable to pests and diseases.
5. Attract a range of helpful insects into your garden to control the pests for you:
 - plant 'good companions' for your trees (see the 'Companions' page)

Tonics for your trees

Regular doses of tonic food (e.g. compost, comfrey leaves, seaweed) help plants resist diseases and survive the effects of insect attacks.

You can either put the tonics on the soil as a mulch, or make a 'tea' out of them:

- Put one of the above tonics in a bucket of water, cover it with a lid, and leave it for a few weeks. (It will smell terrible!)
- Put a cup or two of the liquid in a bucket or watering can and dilute it with water to the colour of weak tea.
- Pour this over the leaves, or strain the bits out and spray the tree.

- keep some rocks, logs and long grass on the property for helpful animals to hide in (or under) and live and breed safely.

Helpful insects

Ants	eat	fruit flies, codling moth and some caterpillars	
Birds	eat	heaps of insect pests	BUT also your fruit
Centipedes	eat	caterpillars and slugs	
Hedgehogs	eat	millipedes, snails and slugs	BUT also ground-nesting bird's eggs, skinks, geckos
Hoverfly larvae	eat	aphids, scale insects, mites, young caterpillars and the larvae of pear/cherry slugs	
Lacewing larvae	eat	HEAPS of aphids, scale, mealy bugs, mites and whitefly	
Ladybirds	eat	scale, aphids, whitefly and mealy bugs	
Praying mantises	eat	caterpillars, bugs, beetles, aphids	BUT also beneficial insects
Spiders	eat	flies, mosquitoes, codling moth, caterpillars, butterflies	AND anything else that strays into their web!
Parasitic wasps	invade	caterpillars and their larvae eat the caterpillars from the inside	



Hygienic habits

Good garden hygiene is ESSENTIAL.

- Clean up all fallen fruit, 'mummies' and prunings, as pests and diseases can live on them until next season. Remove them from your property.
- When you're pruning, wipe your tools with methylated spirits or bleach between trees, to avoid spreading diseases.

Lotions & potions

If you think you've discovered a problem in your fruit trees, first of all find out exactly what's going on:

- Is it *really* a pest attack or outbreak of disease? If it's a nutrient deficiency or a problem with the soil, then spraying for diseases won't get rid of the problem!
- Take some samples (in a plastic bag) to your local nursery to get advice, or compare the sample with pictures in library books (e.g. *Managing Pests and Diseases* – Rob Lucas) or on websites (e.g. www.hortnet.co.nz/publications/hortfacts/hfinal.htm).

Not all pests require action from you e.g.

- Pear leaf slug dries up on a hot day.
- Beneficial insects multiply when there's a lot of their favourite pest food around, and sometimes they can restore the balance without your 'help'.

Some growers do a copper spray at leaf fall and again at bud burst to control diseases.

- Always read spray labels carefully and apply as recommended.
- Wear protective gear.
- Make sure you know what else is living in the target zone – even a 'natural' spray can wipe out both the pest you're targeting, and also every other friendly insect in the area.
- Spray in the morning before many insects are out and about, and when there is no wind so the spray doesn't drift.

Don't give up!

If your trees develop a pest or disease problem, don't give up on your efforts to provide the best conditions possible.

Controls you can make

Problem	Solution
Sucking insects (e.g. aphids)	Blend together 2–3 garlic cloves, 6–12 chilli peppers, 1tbsp cooking oil, 7 cups of water, and a few squirts of detergent. Spray it directly on the pest.
Fungal diseases	Mix 1tbsp baking soda with 4.5l of water, and spray it on the affected areas.
Powdery mildew	Mix equal parts of milk and water, and spray it on affected areas.
Codling moth (apples)	Wrap corrugated cardboard around the base of the tree when it's fruiting so the moths hibernate in it. Take it off in early winter and burn it.

For more spray recipes see www.urbanorganics.org.nz/node/35

'Natural controls' you can buy

Problem	Solution
Slugs, snails, caterpillars	Diatomaceous earth – a natural rock-based powder
Sucking insects (e.g. aphids)	Neem oil or sprays based on fatty acids – useful if numbers seem to be building up.
Codling moth	Pheromone-based traps that you hang in trees at a certain time of year – they don't control the moth, but they help you know if you have a lot and need to take some action
Fungal diseases	Copper or sulphur-based sprays – read the labels, use only as recommended, and wear protective gear.