

Pest & Disease Control – Fruit

Sustainable Best Practice

Steps in fruit pest & disease control

1. Use the following science proven prevention practices

- a. Warm sunny location
- b. Develop free draining soil by adding lots of compost and raising above surrounding soil.
- c. Apply an annual dressing of lime. Apply 'Tui Novatec Premium' fertiliser or 'ican Fruit Food' September and March (for healthy plants potassium content of fertiliser should equal nitrogen).
- d. Avoid overhead watering – weeper soak hoses or irrigation drippers are best.
- e. Practice good garden hygiene- in particular, remove and destroy diseased leaves immediately they appear.
- f. Remove alternate plant hosts to fruit pests and diseases, especially weeds.
- g. Select disease resistant varieties especially for apples and stone fruit.
- h. Prune to ensure good air flow through the trees.



2. When pests or diseases attack

- a. Positively identify the problem, and learn more about the life cycle, temperature/humidity level, method of spread, alternate hosts, best prevention and control tools. Full information is found in - Garden Pest & Disease Control book – available at independent garden centres or www.gardenadvice.co.nz
- b. Take prompt action. Early intervention provides best control especially if a pesticide is required.
- c. For food crops it is important to select a pesticide that is registered under the ACVM Act and approved for use on the crop and purpose.
There are a number of BioGro certified organic products that are not registered and not approved for use on food crops. Organic does not mean 'safe' or 'free of natural toxins', - BioGro certified organic simply means - free of synthetic chemicals.

3. The following charts recommend the most cost effective, environmentally friendly pesticides registered and approved for purpose in the home garden.

Note:

- a. Home garden products are of low toxicity. (none are poisons, carcinogens, or mutagens)
- b. Most of these products have a 1 day withholding period, (the period between spraying and harvesting). Success Ultra has a 1–14-day withholding – check the label for details on each crop.
- c. All recommended products are safe to bees once the spray has dried, except *Groventive*. Do not spray when bees are present. Do not use *Groventive* if plants are in flower.



Crop	Disease	Best practice sustainable control	Organic control	Pest	Best practice sustainable Control	Organic control
Blueberries	Leaf spots	Grosafe Free Flo Copper + Enspray 99	Grosafe Free Flo Copper + Enspray 99	Aphids, Mealy bug, Thrips, Scale	Enspray 99 + BioNeem	Enspray 99 + BioNeem
				Leaf roller caterpillar	Mavrik*	(Spinosad coming soon)
				Passion vine hopper	Mavrik*	Enspray 99 + BioNeem
Brambles Raspberry Boysenberry Blackberry	Dry-berry	Free Flo Copper + Enspray 99	Free Flo Copper + Enspray 99	Bud moth	Mavrik*	(Spinosad coming soon)
	Cane spot	Fungus Fighter*		Leaf roller	Mavrik*	(Spinosad coming soon)
	Rust	Fungus Fighter*		Mites	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Botrytis mould	Botry-Zen	Botry-Zen	Passion vine hopper	Mavrik*	Enspray 99 + BioNeem
Citrus Lemons, Oranges, Mandarins, Grapefruit, Tangelos, Limes, Lemonade	Brown Rot	Free Flo Copper	Free Flo Copper	Aphids & White fly	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Melanose			Scales & Mealy bug	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Verrucosis			Thrips	Success Ultra	Enspray 99 + BioNeem
	Blue mould			Mites	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Glomerella			Leaf roller	Success Ultra	(Spinosad coming soon)
Currants	Botrytis mould	Botry-Zen	Botry-Zen	Aphids, Mealy bug, Thrips, Scale	Enspray 99 + BioNeem	Enspray 99 + BioNeem
				Leaf roller	Mavrik*	(Spinosad coming soon)
				Passion vine hopper	Mavrik*	(Spinosad coming soon)

Crop	Disease	Best practice sustainable	Organic control	Pest	Best practice sustainable control	Organic control
Feijoa				Mealy bug, Scale	Enspray 99 + BioNeem	Enspray 99 + BioNeem
				Leaf roller, Guava moth	Success Ultra	(Spinosad coming soon)
Grapes	Powdery mildew	Fungus Fighter	Free Flo Copper + Enspray 99	Aphids	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Black spot	Fungus Fighter		Mealy bug	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Downy mildew	Free Flo Copper		Leaf roller	Success Ultra	Enspray 99 + BioNeem
	Botrytis mould	Botry-Zen	Botry-Zen	Blister mites	Enspray 99 + BioNeem	Enspray 99 + BioNeem
Passionfruit	Brown spot	Free Flo Copper	Free Flo Copper	Aphids & Thrips	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Grease spot			Passion vine hopper	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Septoria spot			Leaf roller	Success Ultra	(Spinosad coming soon)
Persimmon				Mealy bug & Scale	Enspray 99 + BioNeem	Enspray 99 + BioNeem
				Leaf roller	Success Ultra*	(Spinosad coming soon)
Pip Fruit Apples Pears Quinces Nashi	Black spot	Fungus Fighter	Free Flo Copper + Enspray 99	Aphids	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Powdery mildew			Leaf curling midge	Groventive	Enspray 99 + BioNeem
	Fire blight	Free Flo Copper + Enspray 99	Free Flo Copper + Enspray 99	Mealy bug & Scale	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	European canker			Codling moth	Success Ultra	Nothing available
				Leaf roller	Success Ultra	(Spinosad coming soon)
					Mites & Blister mite	Enspray 99 + BioNeem
Stone Fruit	Brown rot	Fungus Fighter*	Botry-Zen	Aphids, Thrips, Scale, Mites	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Leaf curl hole, Rust	Free Flo Copper	Free Flo Copper	Cherry-Pear slug	Success Ultra	Enspray 99 + BioNeem
				Leaf roller, Oriental moth	Success Ultra	(Spinosad coming soon)
Strawberries	Leaf spot	Fungus Fighter*	Free Flo Copper	Aphids	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Botrytis mould	Botry-Zen	Botry-Zen	Mites	Enspray 99 + BioNeem	Enspray 99 + BioNeem
Tamarillo	Powdery mildew	Free Flo Copper + Enspray 99	Free Flo Copper + Enspray 99	Aphids and white fly	Enspray 99 + BioNeem	Enspray 99 + BioNeem
	Leaf spot			Caterpillars	Success Ultra	(Spinosad coming soon)

Notes:

1 This chart recommends products that are registered and approved for the pests and diseases on the specified crops, with a few off-label recommendations by necessity.

2 An 'off label' recommendation is acceptable where there is no registered approved product available, and an alternative is recommended which is approved for use on similar / related crops. The 'off label' recommendations in this chart are [in blue text with an asterisk](#) *

3 Product trade names have been used to make it easier for gardeners. *Eco-Neem and Naturally Neem* are equivalent to *BioNeem*. Do not use other Neem brands.

4 Never use a product that is not registered under the ACVM Act, as such products do not have approval for use on edibles. There are increasing numbers of unregistered pesticides being marketed which are of unknown toxicity, especially natural organic. Natural/Organic does not necessarily mean safe - ignore marketing blurb—eg. there are several brands of neem which are not approved for use on edibles. The neem recommended in this chart is registered home garden use and approved for use on food crops.

5 All information in this chart is published in good faith and has been checked for accuracy from manufacturer's data and registration authorities. However, the writers will not be liable to any other person and accept no responsibility for any claim, action, loss, damage, cost or expense, whether direct or indirect, consequential or economic, resulting from the use or miss-use of the information.

Recommended Products for Fruit

Insecticides

Fungicides



Grosafe Enspray 99

Mineral Oil of high purity - 99.8% for control of all stages of sucking insects- aphids, white fly, thrips, mealy bug, scale and mites. Also provides a good level of control of powdery mildew. Approved for all fruit

Grosafe BioNeem; Eco-neem; Naturally Neem

Neem products approved for use on food crops for control of sucking insects. The repellent action assists and extends control of other insecticides. The above three are the only neem products approved for food products and used at 1/3 the rate of others.

Yates Success Ultra

For control of codling moth on pip fruit, guava moth and leaf roller on citrus, stone fruit, and sub-tropical fruit

Yates Mavrik

For all insects and mites (except mealy bug and scale) on tamarillos and passion fruit

Grosafe Free Flo

Copper for protection against a wide range of fungal diseases on all fruit. Especially effective as a winter clean-up and prevention. Finer particle size and better adhesion makes this product the best of the coppers.

Yates Fungus Fighter

Systemic fungicide for control of black spot and powdery mildew on pip fruit & grapes, and brown rot on stone fruit.

BotryZen

A fungal culture which is applied during and immediately after flowering which colonizes the young fruit preventing brown rot fungus developing

What is Sustainable Best Practice?

Sustainable best practice gardening involves using all known science proven cultural techniques that maximise plant performance, and minimise pest and disease problems in a manner that is eco-friendly and sustainable.

This best practice gardening chart is brought to you by two of Aotearoa New Zealand's most knowledgeable and experienced horticulturists....

Bill Brett - Associate of Honour Royal NZ Institute of Horticulture

Kelly Jean Reyland (nee Kerr) Kelly-Jean Reyland - NZ Young Horticulturist of the Year 2013.

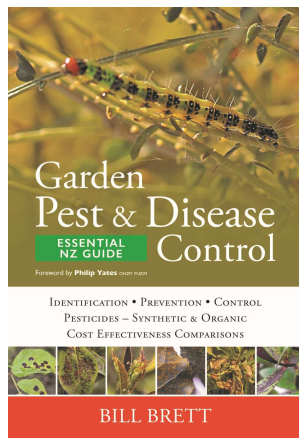
All cultural practices recommended are sustainable based on science.

All products recommended are best in class based on —

- Cost effectiveness - best result value for money
- Sustainable – based on science.
- Safe to people and the environment.



For more information, refer to the book '**Garden Pest & Disease Control**' or contact – www.gardenadvice.co.nz



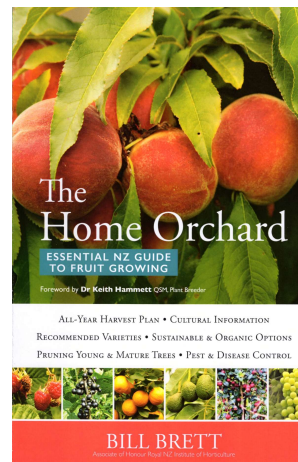
Garden Pest & Disease Control

For more detail on pest & disease control— this book provides –

- Identification – 240 photos
- Detail of every pest/disease
- Prevention methods that work
- Organic gardening
- Pesticide details, legal status, approved use, comparison with alternatives – for every pesticide available
- Star rated comparison/quick reference charts for every product for every purpose/crop

Author - Bill Brett

\$57.50



The Home Orchard

For more detail on growing fruit—this book provides –

- What makes a good soil?
- Plant nutrition – what when and how to feed.
- Planning the home orchard with an emphasis on picking fruit all year from a small space.
- Details/comparison of fruit varieties.
- Pruning, pollination and thinning
- Pest and diseases of fruit—prevention, control, spray programmes where required with an organic option.

Author – Bill Brett

\$37.50

