

## Sustainable solutions to common problems.

Problem	Notes	Commercial Organic Solution	Organic Home Remedy
<b>Ants</b>	Farm sap sucking pests, like aphid, scale, mealybug to harvest their sweet excretion (honeydew). Ants tunneling in pots may stunt plant growth.	Apply horticultural glue around trunks to create a sticky barrier. Tanglefoot Pest Barrier, Trappit Barrier Glue, Yellow Sticky Trap (Roll). Absorbacide dust applied to nest entrances	Tip: Nests in potted plants can be drowned. Plunge pots in soapy water overnight. Drain, then flush out soap using plenty of clean water.
<b>Aphids</b>	Fast breeding insects that weaken plants by feeding on their sap. May spread harmful viruses which permanently affect plant health. Sooty mould (see own entry) grows on leaves splashed with aphid honeydew.	DC Tron, Eco-Oil, Natrasoap, Eco-Neem, Neem Oil, Pest Oil, Pyrethrum*, Spraytech oil, Synertrol	Hose aphids off regularly with a jet of clean water to reduce populations. Spray aphids with soapy water made from unscented vegetable oil based soap. Mix 15ml of liquid soap into 1 litre of water

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<p><b>Bacterial leaf spotting diseases</b></p> <p>P. syringae group (12 species), Erwinia group (11 spp.) Pectobacterium carotovorum, various strains)</p>	<p>Foliage, fruit and flower dieback, starting with blotches of necrotic tissue that gradually coalesce. Mostly affects crops and ornamentals during warm, wet, humid, calm conditions. May affect many flowers, herbs, vegetables and fruit in the Brassicaceae, Solanaceae, Apiaceae, Lamiaceae, Rosaceae, Asteraceae, Lobeliaceae, Actinidiaceae, Vitaceae, Malvaceae, Apocynaceae, Balsaminaceae and other plant families</p>	<p>Eco-Neem, Neem Oil</p>	<p>Do not wet foliage when watering infected plants.</p> <p>Regularly remove infected foliage and bury or burn.</p> <p>Do not save seed from infected plants.</p>
<p><b>Birds and flying foxes</b></p>	<p>Commonly sold fruit tree protection nets made from single filaments of plastic will trap, maim and kill birds and snakes.</p> <p><i>Any netting mesh that you can poke your finger through is potentially harmful to wildlife.</i></p>	<p>Enclose trees or banana bunches with Coolaroo or Hailguard netting*. Tie around the stem to prevent flying foxes climbing inside. Also, a frame to keep net off fruit also prevents animals nibbling them through netting.</p> <p>Alternatively, bag fruit or fruit trusses individually using Pest Guard Bags, Plant Guard Bags.</p>	<p>Use waxed paper or cloth exclusion bags for individual/ fruit bunches</p>

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<b>Blossom end rot</b>	A nutritional disorder (lack of calcium) affecting fruit of tomato, eggplant, chilli and capsicum which causes the ends of fruit to blacken and rot.	Dolomite or agricultural lime (high in calcium)	Sprinkle half a handful dolomite per square metre a fortnight before planting
<b>Caterpillars</b> Cabbage white moth, aka diamondback moth, <i>Plutella xylostella</i> ; Cabbage white butterfly, <i>Pieris rapae</i> ; Common Brown Noctuid moth, <i>Diatenes aglossoides</i> ; Cucumber moth, <i>Diaphania indica</i> ; Cluster caterpillar, <i>Spodoptera litura</i> ; Rectangular-striped Noctuid moth, <i>Grammodes justa</i> ; Budworm Moth, <i>Helicoverpa armigera</i> ; Native Budworm Moth, <i>Helicoverpa punctigera</i> ;	Chewing insects that cause damage to foliage and fruit. Certain species feed at night, others use camouflage, some tunnel into fruit and corn cobs	Dipel, Eco-Grub, Success. These products must be re-applied after heavy rain or irrigation.	Hand pick and squash. Tip: handle hairy caterpillars with gloves as certain species use irritating hairs as protection. Make your own garlic spray. Crush 50g garlic, cover with 15-20ml liquid paraffin, soak overnight. Strain, then add 15ml pure liquid soap, mix into 1 litre water then spray

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<p><b>Fruit fly</b> (Mediterranean fruit fly, <i>Ceratitis capitata</i>; Queensland fruit fly, <i>Bactrocera tryoni</i>)</p>	<p>Fruit fly maggots, found across mainland Australia, eat fruit and introduce secondary decay fungi and bacteria, causing decay.</p> <p>Thin skinned fruit, like tomato and pawpaw, are most susceptible.</p> <p>Closely related to and sometimes mistaken for vinegar fly (these smaller flies are found on rotting fruit in bowls and compost heaps).</p>	<p>Enclose fruit in cages using wildlife-safe fruit fly mesh (2mm gauge mesh), such as Vegie net.</p> <p>Enclose individual fruit/ fruit trusses using Pest Guard Bags or Plant Guard Bags. Bait and trap using Cera Trap, Naturalure, Qld Fruit Fly trap, Wild May.</p> <p>Spray fruit with Eco-Neem, Neem Oil</p>	<p>Tip: Where possible, pick fruit early and ripen indoors. Dispose of fallen fruit daily by burying.</p> <p>Make traps using 0.5L PET bottles. Make one entry hole, 3-5mm wide, half way down the bottle. Add a few tablespoonfuls of bait - dilute fruit juice/ Vegemite/ Marmite solution. Use half teaspoonful of vegemite per bottle. Suspend traps from tree, 2m apart. Empty and refresh bait at least weekly.</p>
<p><b>Fruit spotting bugs</b> (<i>Amblypelta nitida</i>, <i>A. lutescens</i>), <b>spined citrus bug</b> (<i>Biprorulus bibax</i>), <b>bronze orange (stink) bug</b> (<i>Musgraveia sulciventris</i>)</p>	<p>Bugs are a varied group of sap-sucking insects which damage leaves, stalks and fruit</p>	<p>Enclose fruit in cages using fruit fly mesh (as above).</p> <p>Enclose individual fruit/ fruit trusses using Pest Guard Bags, Plant Guard Bags.</p> <p>Spray insects with Pyrethrum*, Eco-Neem, Neem Oil</p>	<p>Tip: vacuum bugs off trees. Protect eyes from irritating chemical bronze orange bugs squirt. Wear gloves to hand pick and squash bugs.</p>

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<p><b>Grasshoppers</b> (<i>Atractomorpha similis</i> and <i>Valanga irregularis</i>)</p>	<p>Typical targets: leafy plants. Unchecked, feeding reduces plant vigour and yield of many leaf vegetables.</p>	<p>Pyrethrum*, Eco-Neem, Neem Oil</p> <p>Neem Oil, unlike Eco-Neem, has many active ingredients and acts by providing a deterrence (it affects insects ability to taste the surface of foliage, therefore preventing them from knowing if it is suitable); as a suffocant (with first instar hatchlings); and by interfering with the completion of metamorphosis. Spray crops.</p>	<p>Tip: swat or squash in early morning or dusk when grasshoppers are sluggish. Learn to recognise and protect egg masses of praying mantis, these are natural grasshopper predators</p>
<p><b>Leaf eating beetles</b> (Pumpkin beetle, <i>Aulacophora abdominalis</i>, Leaf eating ladybirds, <i>Epilachna</i> spp., Figleaf beetle, <i>Poneridia semipullata</i>)</p>	<p>Various species affecting a wide range of crops, especially sweetpotato, pumpkin and fig. The 24-spotted, 26-spotted and 28-spotted ladybirds attack crops belonging to the potato and cucumber families</p>	<p>Spot spray individuals with pyrethrum*, Eco-Neem, Neem Oil</p>	<p>Hand pick and squash.</p>

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<p><b>Leafminer, citrus</b> (Phyllocnistis citrella)</p>	<p>Moth larvae which feed by tunneling inside citrus foliage, producing silvery lines, curled edges. This affects productivity, especially with young plants.</p>	<p>Spray foliage with white oil, DC Tron, Eco-Oil, Pest Oil, Spraytech oil or Synertrol</p> <p>Apply during the cool seasons in northern Australia and during the warm seasons in southern Australia.</p>	<p>Hand pick and bury or burn affected leaves.</p> <p>Make your own white oil, mixing 250ml sunflower oil with 125ml dishwashing detergent. Mix, and use 1 tablespoonful per litre of water</p> <p>Apply once every three weeks as for commercial products.</p>
<p><b>Mealybug</b> (many species, Pseudococcidae family)</p>	<p>Sap sucking pests with a protective cottony covering. May transmit plant viruses. Often found clustered deep inside whorls of foliage, or leaf undersides. Most plants are most susceptible, especially houseplants, plants on balconies and in glasshouses and igloos.</p>	<p>Spray foliage with white oil, DC Tron, Eco-Oil, Pest Oil, Spraytech oil or Synertrol</p>	<p>Dab clusters of pests with a cotton bud dipped in surgical spirit, methylated spirits or mineral turpentine, tea tree oil, neem oil, or a thin vegetable oil.</p> <p>Tip: larvae of beneficial ladybirds also protect themselves with a similar cottony covering. They reveal themselves by being active, mobile hunters, unlike their prey.</p>

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<p><b>Mildew</b> (powdery mildew, Blumeria spp.)</p> <p><b>downy mildew,</b> Peronospora and Pseudoperonospora spp.)</p>	<p>Common fungal diseases during warm, wet, calm, humid weather. May severely reduce yield of grape, fig and crops in the cucumber family</p>	<p>Spray foliage with Fungus Fighter, Eco-Carb, Eco-Fungicide</p> <p>These are preventative. Various modes of action, some change the pH of the leaf surface, making it hard for spores to germinate, others make the leaf surface harden, making it harder for germinating spores to penetrate the tissue of host plants</p>	<p>Tip: avoid wetting foliage when watering.</p> <p>Remove and dispose of infected foliage.</p> <p>Make your own fungicide by mixing one part cows milk to five parts water. Apply every five days, starting before the disease takes hold. This milk solution, Eco-Carb and Eco-Fungicide won't harm mildew-eating ladybirds, a natural pest biocontrol.</p>

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<p><b>Pawpaw mosaic or curly top virus</b> (PapMV)</p>	<p>An incurable, pawpaw-specific disease, originating in the Americas. It is suspected that the vector is a sap sucking leafhopper insect. Leaves develop a mosaic pattern, the leaf in between veins may become thin, hard, distorted, leaves progressively diminish in size</p>	<p>None.</p>	<p>Tip: 'Southern Red' pawpaw is said to show some resistance to these viruses. Contaminated tools can transmit the virus from plant to plant. Sterilise equipment in between pawpaw plants.</p> <p>Expose cutting blades to a flame for a few seconds (use a methylated spirits burner), or dip equipment in a 1% solution of household bleach for 30 seconds, or dip equipment in tea tree oil, methylated spirits, or mineral turpentine for 30 seconds.</p>
<p><b>Mites</b> including Tomato russet mite, Citrus russet mite</p>	<p>Sap sucking pests. Adults are invisible without magnification. Colonies produce thin, fine webbing and affected foliage and fruit become peppered with tiny bite marks. Damage is worst in hot, dry conditions with low humidity, especially in igloos, glasshouses.</p>	<p>Wettable sulphur, Absorbacide. Weekly applications necessary as mites have a short life cycle and these compounds kill adults, not eggs.</p> <p>Spray developing citrus fruit with Eco-Neem, Neem Oil.</p> <p>Apply when symptoms first appear.</p>	<p>Tip: misting leaf undersides with water, two or three times daily, helps mould to destroy mite eggs.</p> <p>Affected citrus fruit are unsightly, but edible</p>



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<p><b>Scale insects,</b> including Pink Wax Scale, <i>Ceroplastes rubens</i>; Chinese wax scale, <i>Ceroplastes sinensis</i>; Mussel scale, <i>Lepidosaphes beckii</i>; Gum tree scale, <i>Eriococcus coriaceus</i>; Red citrus scale, <i>Aonidiella aurantii</i>; Soft brown scale, <i>Coccus hesperidum</i>;</p>	<p>Sap sucking pests, immobile when adult. Adults excrete honeydew, food for ants which farm them. Sooty mould often grows on leaves splashed with honeydew, reducing plant growth. Mussel scale (<i>Lepidosaphes</i> sp.) can weaken or kill citrus</p>	<p>Spray both sides of foliage, all stems and bark with white oil, DC Tron, Eco-Oil, Pest Oil, Spraytech oil or Â Â Synertrol.</p> <p>Apply these suffocants by following the manufacturers instructions as these are a varied group of oils.</p>	<p>Tip: use a soft scourer and soapy water to remove infestations. This can help to dramatically reduce stress caused by Mussel scale</p>
<p><b>Slugs and snails</b></p>	<p>Nocturnal molluscs that feed on seedlings, fruit, roots and foliage</p>	<p>Escar-Go repellent, Multiguard bait, Slugga Copper Barrier Tape.</p> <p>Tip: avoid chemical baits based on the poison metaldehyde, which may harm children, pets and wildlife.</p> <p>Follow instructions for Multiguard.</p>	<p>Mix one part of espresso coffee with three parts water and spray seedlings and vegetables. Repeat after heavy rain or irrigation</p>

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<p><b>Sooty Mould</b> (various Ascomycete fungi)</p>	<p>Various fungi producing black growth on foliage as they feed on honeydew. Infestations are non-lethal but weaken growth. Sooty Mould indicates feeding by sap sucking pests. Control sap sucking insects to control mould</p>	<p>None</p>	<p>Tip: control the pests causing the problem and sooty mould disappears.</p> <p>Remove gently, using a soft scourer and soapy water.</p> <p>Clean off severe infestations during cloudy weather. This reduces the risk of sunburn to foliage exposed by cleaning</p>
<p><b>Thrip</b> (thunder flies) Various species</p>	<p>Minuscule, winged, sap sucking pests most common during warm, dry weather. Often occur in huge numbers. Damage makes foliage look silvery and flowers become distorted. Vectors of various diseases.</p> <p>May affect eggplant, tomato, chilli, capsicum.</p>	<p>Natrasoap, Pyrethrum*, Yellow Sticky Traps/ Tape, DC Tron, Eco-Oil, Pest Oil, Spraytech oil, Synertrol, Eco-Neem, Neem Oil</p>	<p>Tip: misting foliage and overhead watering reduces attack.</p> <p>Thrips are attracted to bright yellow flowers which can be grown as sacrificial crops in orchards</p>

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<b>Whitefly</b>	Small, winged, sap sucking pests that live on leaf undersides, often in large numbers. Attack a wide range of crops, especially in igloos and glasshouses. Leaves lighten in colour as they are peppered by hundreds of minuscule white holes caused by feeding on the undersides of leaves.	Natrasoap, Pyrethrum*, Yellow Sticky Traps/ Tape, DC Tron, Eco-Oil, Pest Oil, Spraytech oil, Synertrol, Eco-Neem, Neem Oil	Tip: misting leaf undersides with water, two or three times daily, helps mould to destroy whitefly eggs.  Minimise product use by spraying leaf undersides only

- \* Coolaroo or Hailguard netting are the only two products used to net trees that are approved by Brisbane Bat Conservation & Rescue. All other nets injure and kill birds and flying foxes. Order either on line from Bunnings or Fernland Agencies: [sales@fernland.com.au](mailto:sales@fernland.com.au) and they mail direct Australia-wide;
- \* Products sold as pyrethrum that do not display the certified organic logo contain mostly synthetic pyrethroids. Synthetic pyrethroids are not permitted in organic gardens.