

# Taking care of tomatoes

**T**omatoes love summer. Plants popped in the ground in October and November grow strongly in warm weather and the first little fruit are already appearing in some gardens. Keeping up with feeding and watering over the coming months will ensure bumper crops of delicious sun-ripened fruit right through till autumn.

It's time to be on watch for pesky bugs, as summertime is also party time for pests and diseases.

Early blight is a fungal disease which starts by causing distortion of the new growth, followed by brown or black spots. Late blight is

caused by a microorganism called *Phytophthora* which thrives in a warm moist environment. Brown patches appear on the leaves and can spread very fast. When tomato leaves turn yellow and wilt the plant may be under attack from other soil dwelling fungal diseases, usually in cool wet conditions.

Aphids and clouds of tiny whitefly can breed like fury as the weather warms up. But by far the most destructive of the sucking insect pests is the Tomato and potato psyllid (TPP). The adults look like tiny cicadas, about 3 mm long. Yellowish nymphs appear on the underside of the leaves. Their excreta looks like grains of sugar. The worst thing

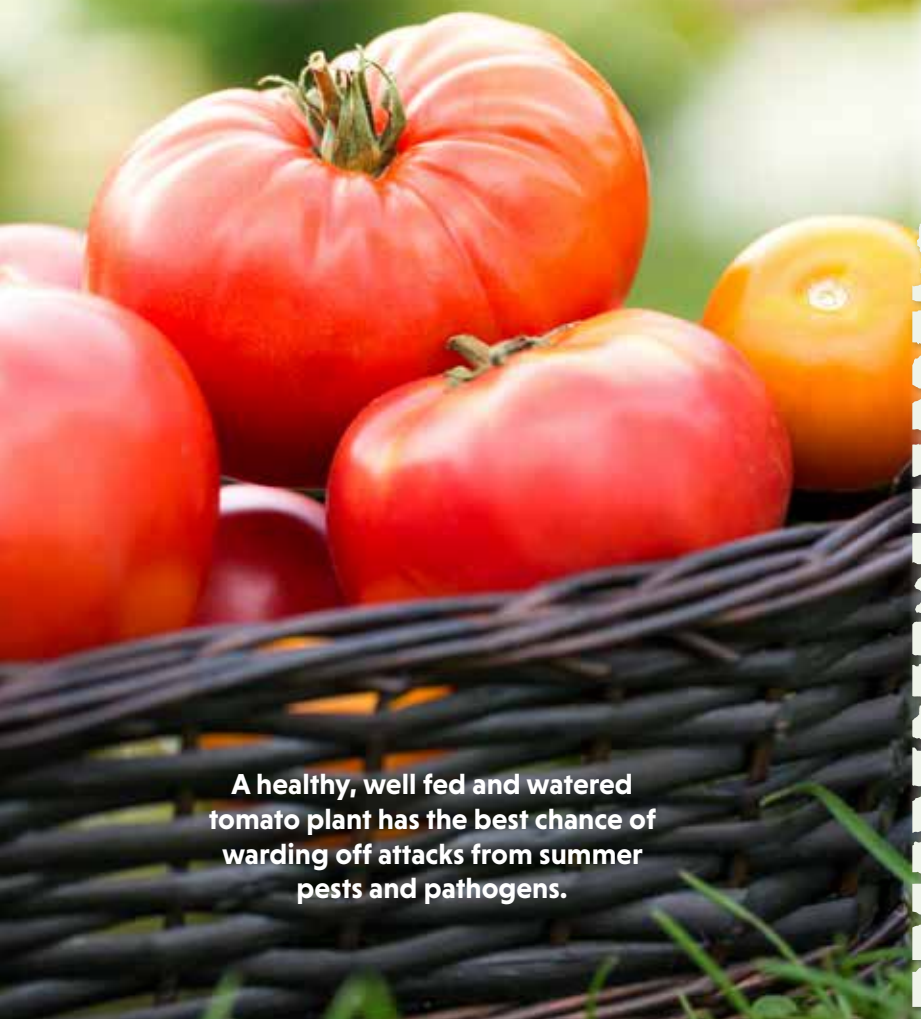
about this sap-sucker is that it injects bacteria which severely weaken the plant with significant loss in yield. TPP is hosted by many plants in the tomato family, including weeds, and it also attacks kumara.

Keep an eye out for tomato fruit worm (aka corn worm), a caterpillar that eats holes into fruit, leaving black excreta in its wake. The adult moths feed on nectar and lay eggs by night, hiding away during the day. Pick off any caterpillars and dispose of damaged fruit to prevent population build up.

Despite appearances, some tomato problems are not caused by anything living. Blossom end rot, for example, is the plants response to lack of calcium uptake, usually as a result of an inconsistent water supply. Dark brown hollow patches form at the base of the fruit.

## Tomato Tips:

- Plant tomatoes a few cm deeper than they were in their pots to stimulate new feeder roots for extra anchorage and nutrient uptake.
- Plant a diverse selection of varieties known for their disease resistance.
- Tomatoes are self-pollinating. Each tomato flower contains both male and female parts, so when pollen falls within the flower the flower fertilises itself. This is aided by wind movement and bees, but you can increase the odds by giving plants a daily tap or gentle shake.
- Mulching with a layer of straw or fine bark will help keep the moisture in the soil where it is needed.
- When lower leaves show signs of disease remove them to prevent disease spreading to the rest of the plant. Refrain from adding infected material to your home compost heap.



**A healthy, well fed and watered tomato plant has the best chance of warding off attacks from summer pests and pathogens.**

# PROTECT YOUR PRECIOUS HARVEST

If the pests are getting more than their fair share of your vegies, check out our handy guide below: Remember it's best to spray early morning or in the evening when beneficial insects aren't foraging.

Watering and feeding goes a long way to keeping tomato plants happy, but keeping bugs at bay takes a multi-pronged approach.

**Start with the basics.** A healthy, well-fed and well-watered plant has a better chance of fighting off attacks from pests and pathogens than a sickly malnourished one. Tomatoes need a continuous supply of nutrients to support their rapid growth. Soil that's rich in organic matter ensures water and nutrients are easily accessible to plants.

Water deeply to encourage young roots to grow deeply into the soil where there is a more reliable supply of moisture and nutrients. Apply water directly to the soil. Mulching with a layer of straw or fine bark will help keep the moisture in the soil where it is needed. Sprinklers are best avoided as wet leaf surfaces invite disease.

### Avoid humid conditions.

Tomato pests and diseases thrive and multiply in damp warm conditions. Keeping stems and leaves dry and well aerated is key. Keep them clear of large weeds to allow plenty of space for air movement. Too much air movement, on the other



PROBLEM	SOLUTION
 <p><b>APHIDS</b> Small black, brown, green or grey coloured insects that cluster on young shoots, flowers or under leaves.</p>	 <p>OR</p>  <p>Yates Nature's Way Organic Citrus, Vegie &amp; Ornamental gun ACVM no. P009281</p> <p>Yates Nature's Way Vegie spray ACVM no. P006022</p>
 <p><b>WHITEFLY</b> Small white winged sap sucking insects that fly up in a cloud when disturbed.</p>	 <p>OR</p>  <p>Yates Nature's Way Organic Citrus, Vegie &amp; Ornamental gun ACVM no. P009281</p> <p>Yates Nature's Way Pyrethrum spray ACVM no. P005977</p>
 <p><b>TWO-SPOTTED MITES</b> Active in hot dry weather. They are small to see but a fine webbing can indicate mite infestation.</p>	 <p>OR</p>  <p>Yates Nature's Way Organic Citrus, Vegie &amp; Ornamental gun ACVM no. P009281</p> <p>Yates Mavrik® spray* ACVM no. P008184</p>
 <p><b>THRIPS</b> Tiny sap sucking insects that scrape the surface of leaves and suck the sap. Leaves have a silvery, mottled appearance.</p>	 <p>OR</p>  <p>Yates Nature's Way Organic Citrus, Vegie &amp; Ornamental gun ACVM no. P009281</p> <p>Yates Mavrik® spray* ACVM no. P008184</p>
 <p><b>CATERPILLARS</b> Chewing pests that create holes in leaves, buds and stems.</p>	 <p>OR</p>  <p>Yates Nature's Way Fruit &amp; Vegie gun ACVM no. P008135</p> <p>Yates Success® Ultra spray ACVM no. P008970</p>
 <p><b>TOMATO POTATO PSYLLID</b> Adults resemble small 3mm long aphids, and jump when disturbed. Leaves wilt and yellow.</p>	 <p>OR</p>  <p>Yates Mavrik® gun ACVM no. P009094</p> <p>Yates Success® Ultra spray ACVM no. P008970</p> <p>Both for potatoes &amp; tomatoes</p>

yates.co.nz for FREE pest problem advice

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hand isn't helpful as wind damage is a potential entry point for disease. Tying tall growing tomatoes to a support keeps plants off the ground ensuring plenty of air movement to minimise disease.

**Minimise disease spread.**

Disease spores can be transported from one plant to another via tools and fingers. Avoid pruning tomatoes on a wet or humid day as moisture assists disease entry. When lower leaves show signs of disease remove them, ideally with clean sharp tools. Sometimes it may be necessary to remove an entire plant.

Refrain from adding infected material to your home compost heap, which is unlikely to get hot enough to kill all the disease spores and insect eggs. Ideally, avoid planting tomatoes and their relatives (potatoes, capsicum, chillies, eggplants) in the same place year after year. The longer a garden bed has a rest from any one plant family, the better. If it's too hard to change the planting place, consider changing the soil or planting tomatoes in containers.

**Consider crop cover.** Mesh crop cover fabric is now available in garden centres and is an effective way to prevent insect pests including psyllids from laying their eggs on crops. It is important that the fabric weave is small enough to block these tiny insects and it needs to be completely sealed around the edges and a tall frame will be needed for tall growing tomato plants. Disadvantages of fabric mesh can be increased humidity and reduced light. It will also block pollinators (not important for tomatoes).

**Keep watch and act early.**

Spraying with the right product at the right time can be the most cost effective option to save a crop under threat, but to be effective, insect and disease sprays need to be applied before pest and disease populations take hold. Garden centres are a good place to go for help in choosing the right product. Today's registered home garden pesticides are at the very low end of toxicity and pose no risk to humans when used as directed. Several are also safe to bees once they have dried on the plant. Natural products like neem tree oil and diatomaceous earth powder have been

**Trial different tomato varieties to find the best performers for your garden.**



shown to be effective against psyllids when used correctly. Copper provides effective control against fungus disease and is an accepted organic spray option, but its overuse is a concern for soil health.

**Try different varieties.** Most tomato varieties sold these days have good disease resistance, but how well a particular variety will fare in your

garden will depend on climate, soil and location. Working out which are best for your garden is largely a matter of trial and error and sharing success stories among friends and neighbours. Early ripening varieties may provide a good crop before the worst pests and diseases take hold. Grafted tomato plants offer extra vigour with disease resistant roots. 🌱

*It's a bug's life*

When looking for ways to grow healthy productive gardens while taking good care of nature, the more we can understand about the tiny creatures we live alongside, the better.

Beneficial insects worldwide are in decline. Without insects for pollination we'd be missing a huge chunk of the world's food supply. As precious as our pollinators, the predator insects that feed on common garden pests need our protection.

In New Zealand we have thousands of species of tiny parasitic wasps, which lay eggs inside other insects' eggs, larvae or pupae. When the wasp larvae hatch from their egg they consume their prey, pupate and emerge as new adult wasps. There are parasitic wasps known to prey on aphids, caterpillars, whiteflies, codling moth larvae. New species of parasitic wasp are constantly being discovered. Usually each parasitic wasp species attacks just one kind of pest. They occur naturally in our environment but many are now cultivated as biological control agents



Bees love Phacelia flowers

for crops. Find out more about this at [bioforce.co.nz](http://bioforce.co.nz).

Like bees, parasitic wasps seek food from flowers and are pollinators. Planting bee friendly flowers can also attract these minuscule garden heroes. Parasitic wasps are said to be partial to yellow marigolds, also lavender and the herbs fennel, rosemary and dill.

Planting to support nature has huge benefits - both in the backyard and beyond. Vege plants that turn to flower and ornamentals that are overdue for dead-heading provide food and hiding places for beneficial insects. Nature loves a messy garden!

Use any pest control with care and caution and always read the label. All insects are potentially harmed by any spray used to solve a pest problem.