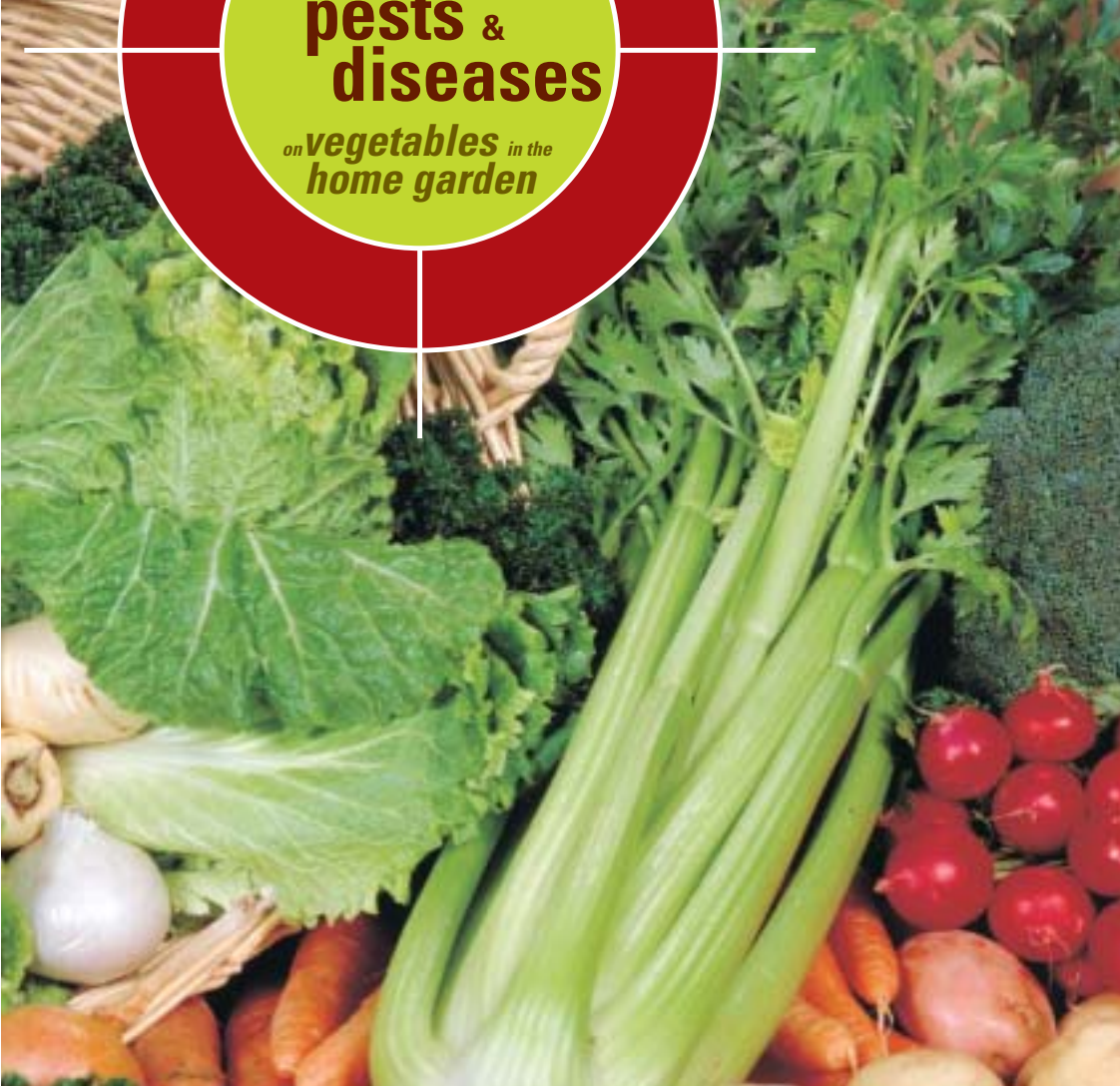




Department of
Agriculture



Common
**insect
pests &
diseases**
*on vegetables in the
home garden*



Common insect pests & diseases

on *vegetables* in the
home garden

by Harald Hoffmann,
Stewart Learmonth & Peter Wood

Introduction

Home gardeners frequently see insect pests and diseases affecting their vegetables. Usually they would have seen them in previous seasons, and the symptoms look familiar. However, there are occasions, when an unusual pest (not native to Western Australia) can occur. Exotic pests are a concern for the farming community, as they could threaten the agricultural and horticultural industries and increase the price of production and cost to the consumer.

This bulletin describes the most common insect pests and diseases in home vegetable gardens.

Please report anything unusual to the Pest and Disease Information Service on 9368 3666 or 1800 084 881.



Control

As chemical registrations constantly change, this bulletin does not recommend any control measures. Your local plant nurseries or hardware store can assist you with advice.

Important disclaimer

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PEST**AFRICAN BLACK BEETLE****VEGETABLE**

Prefer potatoes, tomatoes and sweetcorn; also attack cabbages and cauliflower; sometimes pumpkins, melons.

SYMPTOMS

Young plants chewed at or below ground level; holes in tubers.

SEASON

Adults from Summer – Spring; larvae late Spring – mid Summer.

COMMENT

Beetle; prefers clayey and loamy soils.



African black beetle



larva

PEST**APHIDS****VEGETABLE**

Most vegetables.

SYMPTOMS

Small soft insects on shoots and young growth.

SEASON

Mainly Spring and Autumn.

COMMENT

Sap suckers; aphids can carry viruses.



Aphids

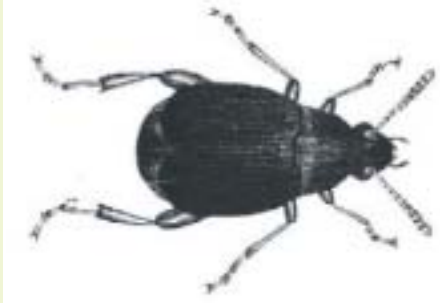
BEAN WEEVIL

Beans.

Larvae in seeds.

Summer – Autumn.

Will breed in dry beans in garden.



Bean weevil

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

BEET WEBWORM

Beetroot; silver beet.

Ragged holes in leaves; bright green caterpillar, up to 12 mm long.

Most active in Summer.

Weeds harbour bugs; remove.



Beet webworm larva

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT



adult

PEST**VEGETABLE****SYMPTOMS****SEASON****COMMENT****CABBAGE WHITE BUTTERFLY**

Brassicas.

Holes in leaves; velvety green sluggish caterpillar up to 30 mm long.

Spring – Summer.

Big white butterfly.



Cabbage white butterfly



larva

PEST**VEGETABLE****SYMPTOMS****SEASON****COMMENT****CLUSTER CATERPILLAR**

Many plants; prefer brassicas, strawberries.

Egg mass on underside of leaves; many tiny grubs; leaves skeletonised, then holed; grey-green caterpillars, up to 50 mm long.

Summer – Autumn, Autumn – Winter on strawberries.

Appearance may vary.



Cluster caterpillar

COON BUG

Some vegetables.

Plants wilt from loss of sap; fruits toughen and discolour.

Most abundant in warm weather.

Breeds in marsh-mallows and hogweeds.



Coon bug

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

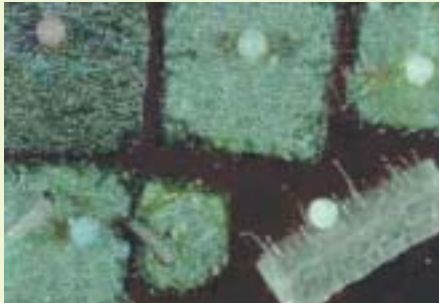
CORN EARWORM

Many plants; prefer sweet corn.

Holes in leaves and damage to cobs.

Spring – Autumn.

Caterpillar similar to native budworm.



Corn ear worm

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

PEST**CUTWORM****VEGETABLE**

Most vegetables.

SYMPTOMS

Young plants wilting; stems attacked near ground level; caterpillar, up to 35 mm long.

SEASON

Year round, most damaging Spring and Autumn.

COMMENT

Caterpillar; nocturnal; look in surrounding soil.



Cutworm - green



brown

PEST**DIAMOND-BACK (CABBAGE) MOTH****VEGETABLE**

Brassicas.

SYMPTOMS

Tunnels in leaves; patches on underside of leaves eaten, leaving only transparent film on top, bright green caterpillar, up to 12 mm long.

SEASON

Most active in warm weather.

COMMENT

Small caterpillar.



Diamond-back moth adult and larva

EGGFRUIT CATERPILLAR

Egg plants.

Small holes near fruit stalk;
caterpillars up to 25 mm long inside fruit.

Summer – Autumn.

Difficult to control inside fruit;
aim to kill larvae as they hatch.



Eggfruit caterpillar

GARDEN WEEVIL; WHITEFRINGED WEEVIL

Many plants; prefer asparagus, beetroot, peas,
potatoes, silver beet, spinach, sweet potatoes, carrots.

Stems and foliage chewed (adult)
and boring into tubers (larva).

Adults Spring – Summer; Larvae Winter – Spring.

Chewing insect; nocturnal.



Garden weevil

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT



larva



White fringed weevil larva



adult

GARDEN WEEVIL; WHITEFRINGED WEEVIL (continued)

Report Black Vine Weevil (below).



Black vine weevil

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

GRASS-HOPPERS AND LOCUSTS

All plants.

Plants chewed or skeletonised.

Summer – Autumn.

Can come in large numbers.



Australian plague locust



Yellow winged locust



Wingless grasshopper

GREEN VEGETABLE BUG

Most plants: beans, tomatoes, potatoes, peas, silver beet, cabbage, cauliflower, pumpkin, corn.

Plants react in different ways: beans shrivel, become deformed; kernels of corn shrivel; tomatoes hard, corky growths appear where the fruit has been pierced.

Most active in Summer.

Sap sucker; weeds harbour bugs; remove; if plants are affected, remove straight after harvest.



Green vegetable bug

LEAF EATING LADYBIRDS

Some vegetables including tomatoes, curcurbits, potatoes.

Leaves skeletonised; pupae at underside of leaves; look like common ladybirds but one has 26 spots and one 28 on a yellow background.

More abundant in warm weather.

Breed on weeds such as deadly nightshade; larvae are covered with black spines.



Leaf eating ladybird larva / adult

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT



damage

PEST**LEAFHOPPERS****VEGETABLE**

Most plants: carrots, potatoes, tomatoes, lettuce.

SYMPTOMS

Leaves mottled; tiny green insects which fly when disturbed.

SEASON

Spring – Summer.

COMMENT

Transmitters of viruses.



Leafhopper



damage

PEST**LOOPER CATERPILLAR****VEGETABLE**

Most vegetables: favours potatoes, beans, tomatoes and peas.

SYMPTOMS

Attacks foliage and sometimes flowering and fruiting parts; caterpillar up to 35 mm long.

SEASON

More abundant in warm weather.

COMMENT

Moves by a distinct looping action.



Looper caterpillar

LUCERNE FLEA

Some vegetables: peas, potatoes, beans.

Small irregular patches on leaf, sometimes lower surface; insect is dumpy looking, wingless up to 2 mm long, green or greenish yellow.

May – October.

Remove capeweed from your garden.



Lucerne flea

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

MOLE CRICKETS

Sweet potatoes.

Holes in tubers.

Spring and Autumn.

Live underground; come out on warm nights to feed; fly to mate.



Mole cricket

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

PEST**NATIVE BUDWORM****VEGETABLE**

Most plants starting to fruit: prefer beans, peas, tomatoes.

SYMPTOMS

Holes in pods; greenish caterpillar up to 35 mm long.

SEASON

Year round, most damaging Spring.

COMMENT

Caterpillar.



Native budworm – yellow



Native budworm – green

PEST**NEMATODES****VEGETABLE**

Most vegetables.

SYMPTOMS

Lesions on roots; stunted plants.

SEASON

All year, but more prominent in warmer seasons.

COMMENT

Report Potato Cyst Nematode (below)



Root knot nematode



Potato cyst nematode

ONION MAGGOT

Beans, onions, cauliflower curds.

Seedlings die; seed fail to germinate; maggots at roots, maggots on curds.

Most active, Spring - Autumn.

Lays eggs in organic matter; dig in well before planting.



Onion maggot

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

PEA WEEVIL

Peas.

Foliage and flowers of flowering peas eaten by adults; larva in green pea seeds.

Spring and Summer.

Only lays eggs into green peas.

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT



Pea weevil

PEST**POTATO MOTH****VEGETABLE**

Potatoes.

SYMPTOMS

Leaves chewed; stems hollowed and tunnels in tubers.

SEASON

Summer – Autumn.

COMMENT

Will attack exposed tubers; keep crop moist and covered.



Potato moth larva



adult

PEST**REDLEGGED EARTH MITE****VEGETABLE**

Most vegetables.

SYMPTOMS

Seedlings turn pale; tiny black mites with red legs.

SEASON

Winter – Spring.

COMMENT

Mites which cut tissue and suck oozing sap; breed on clovers, so remove weeds surrounding the garden.



Redlegged earth mite (L) & predatory mite (R)



damage

RUTHERGLEN BUG

Many plants, prefer brassicas, strawberries, lettuce.

Malformed fruit on strawberries, "blinding" amongst cauliflower and broccoli.

Spring – Summer.

Sap sucking insects; breed in weeds, keep garden clean to prevent.

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT



Rutherglen bug

SNAILS AND SLUGS

Most vegetables.

Slimy tracks; holes in leaves.

All year (move during rainy periods).

PEST

VEGETABLE

SYMPTOMS

SEASON



Small pointed snail



Vineyard snail



Common garden snail



White Italian snail



Slug

PEST**VEGETABLE****SYMPTOMS****SEASON****COMMENT****SWEET POTATO LEAF MINER**

Sweet potatoes.

Small, dark reddish to black grub up to 10 mm long.

More abundant in warm weather.

The grub eats plant tissue between the upper and lower leaf surfaces, leaving a transparent papery 'window' in the leaf.



Sweet potato leaf miner larva



adult

PEST**VEGETABLE****SYMPTOMS****SEASON****COMMENT****THRIPS**

Cucurbits, onions, pepper, tomatoes, onions, garlic, beans, cabbage, celery.

White streaks on leaves; tiny insects.

All year, especially late Spring.

Small insects who rasp the surface of leaves and suck juice; transmit viruses; vary in colour from yellow to black.



Tomato thrip

TIGER MOTH

Most vegetables.

Foliage chewed; hairy black and white caterpillar.

Late Winter and Spring.



Tiger moth caterpillar

PEST

VEGETABLE

SYMPTOMS

SEASON

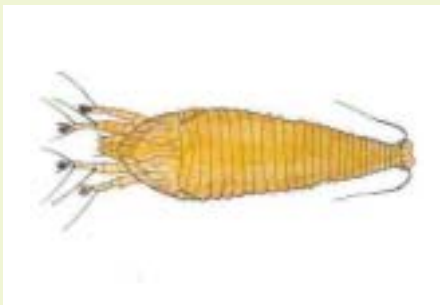
TOMATO RUSSET MITE

Tomatoes.

Leaves turn shiny and bronze, then die.

Most active in warm weather.

Torpedo shaped microscopic creature; creamy white or greyish white, not visible with the naked eye.



Tomato Russet mite (microscopic)

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

PEST**TWO-SPOTTED MITES****VEGETABLE**

Some vegetables: asparagus, peas, beans, curcubits, eggplants, globe and jerusalem artichokes, okra, parsnip, strawberries, tomatoes, capsicums.

SYMPTOMS

Yellow stippling on leaves; webbing, mites mainly on underside of leaves; plants can be stunted and reduced yield.

SEASON

Warmer months, prefer dry and hot conditions.

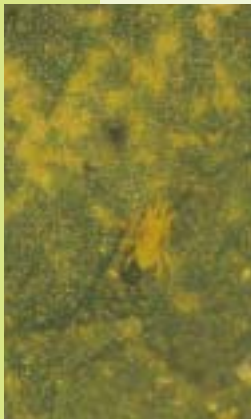
COMMENT

Mites which cut tissue and suck oozing sap.

Report European Red Mite (rarely occurs on vegetables)



Two-spotted mite



Two-spotted mite and eggs



European red mite



European red mite eggs

PEST**VEGETABLE BEETLE****VEGETABLE**

Some vegetables.

SYMPTOMS

Ringbark seedlings at night.

SEASON

Spring – Autumn.

COMMENT

Larvae; look like wireworms.



Vegetable beetle

VEGETABLE WEEVIL

Brassicas: cauliflower, cabbage, brussel sprouts, turnips, broccoli.

Stems and foliage chewed (adult and larva).

Adults Spring - Summer, Larvae Winter - Spring.

Chewing insect; nocturnal.

Report Black Vine Weevil (right)



Vegetable weevil larva



adult



Black vine weevil

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

WIREWORM

Some vegetables: seedlings, potatoes, onions and other fleshy underground parts.

Seedlings damaged; occasionally bore into in tubers.

All year.

Can live underground as larva for years; beetle is non damaging; also called "Clickbeetle".



Wireworm

PEST

VEGETABLE

SYMPTOMS

SEASON

COMMENT

VEGETABLE**SYMPTOMS****SEASON****PEST****MOST VEGETABLES**

Seedlings die before they emerge or after. In the latter case, rot develops on stem and constricts stems near soil surface; stems are weakened and plants collapse.

All year but mainly in wet conditions.

DAMPING OFF: CAN BE CAUSED BY RHIZOCTONIA, FUSARIUM OR PYTHIUM.



Damping off Rhizoctonia sp.

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****MANY VEGETABLES**

Soft brownish water rot develops, mainly on stems, followed by a fluffy white growth and small, black pebble-like bodies.

Spring – Autumn.

SCLEROTINIA

Carries over from one season to the next.



Sclerotinia rot

BROAD BEANS

Brown spots on leaves; streaks on stalks.

Autumn – Spring.

CHOCOLATE SPOT (BOTRYTIS)

Fungal development; favoured by wet conditions.



Chocolate spot

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

BROAD BEANS

Yellow spots on leaves becoming brown pustules.

Winter and Spring.

RUST

Fungal infection; favoured by wet conditions.



Rust on broadbeans

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

VEGETABLE**FRENCH AND RUNNER BEANS****SYMPTOMS**

Brown spots all over plants.

SEASON

Year round, most damaging Spring and Autumn.

PEST**ASCOCHYTA SPOT****COMMENT**

Fungus; can be seed borne: burn affected material as fungus can carry over in soil for years.



Ascochyta spot

VEGETABLE**FRENCH AND RUNNER BEANS****SYMPTOMS**

Yellow spots on leaves developing into brown pustules.

SEASON

Warm, moist conditions, most serious in beans harvested in Autumn and Winter.

PEST**BEAN RUST****COMMENT**

Fungal infection; starts in older plants on lower leaves and spreads upwards.



Bean rust

FRENCH AND RUNNER BEANS

Light and dark mosaic pattern on leaves.

BEAN YELLOW MOSAIC VIRUS

Control aphids, do not plant seeds from infected plants.



Bean yellow mosaic virus

VEGETABLE

SYMPTOMS

PEST

COMMENT

BEETROOT

Small spots on leaves; centres of spots sometimes fall out.

Warm, moist conditions.

LEAF SPOT

Several fungi result in shothole appearance: infection results from windblown and/or water splashed spores.



Beetroot leaf spot

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****BRASSICAS**

Dark spots, concentric black rings.

Humid conditions.

ALTERNARIA SPOT

Fungal infection; results from wind-blown or water splashed spores, can be seed borne, remove diseased plant remains.



Alternaria spot

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****BRASSICAS**

Greyish spots on leaves; base of stem blackened.

Humid conditions.

BLACKLEG

Fungus; can be seed borne: remove diseased plant remains.



Blackleg

BRASSICAS

Yellow marks on leaf margins, becoming brown and withered, spreading.

Warm wet weather.

BLACK ROT

Bacteria; can be seed borne; moves freely in water and infect leaves near wounds or where moisture collects.



Black rot

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

BRASSICAS

Yellowish stunted plants; malformed 'clubbed' roots.

Warm weather.

CLUB ROOT

Fungus; avoid growing brassicas in same patch for 7 years; lime soil.



Club root

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

VEGETABLE**BRASSICAS****SYMPTOMS**

Yellowish spots on leaf surfaces; downy growth on undersides of spots.

SEASON

All year but mainly in cool wet condition.

PEST**DOWNY MILDEW****COMMENT**

Fungus; do not plant seedlings with yellowed or withered areas on leaves; remove mildew-susceptible weeds near crop (such as shepherds purse).



Downy mildew

VEGETABLE**CARROTS****SYMPTOMS**

Elongated spots on leaves and leaf stems; spots may join; leaves wither and die.

SEASON

Most active in cool, wet weather.

PEST**LEAF BLIGHT****COMMENT**

Two fungi; *Alternaria dauci* attacks older leaves and *Cercospora carotae* attacks younger leaves: can be seed borne and can survive in crop remains.



Carrot leaf blight

CELERY

Small circular spots on leaves with small black fruiting bodies; elongated spots on stems.

Cool, moist weather.

LEAF SPOT OR EARLY AND LATE BLIGHT

Caused by two fungi: *Cercospora* (early blight) and *Septoria apicola* (late blight): do not replant celery on same area for 3 years, burn infected trash.



Celery leaf spot

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

CURCUBITS

Greyish white patches on upper leaf surfaces; leaves turn brown and shrivel.

Warm, moist conditions.

POWDERY MILDEW

Fungus; grow curcubits in a sunny spot in well drained soil.



Powdery mildew

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****CURCURBITS**

Mosaic patterns on leaves; distortion, stunting.

During aphid season.

CUCUMBER MOSAIC VIRUS

Virus; spread by aphids from diseased to healthy plants.



Cucumber mosaic virus

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****LETTUCE**

Yellow patches on leaf surfaces; greyish-white downy growth on underside.

Present throughout year, attacks in cool moist weather.

DOWNY MILDEW

Fungus; do not plant seedlings with withered patches on leaves; avoid overcrowding to enable good air ventilation.



Lettuce downy mildew

LETTUCE

Plants become yellow and stunted.

During aphid season.

NECROTIC YELLOWS VIRUS

Virus; spread by an aphid which breeds on common thistle.



Lettuce necrotic yellows virus

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

LETTUCE

Dead, brown rings or spots develop on younger leaves; leaves turn yellow and droop.

Spring and early Summer.

SPOTTED WILT VIRUS

Virus; spread by thrips; symptoms similar to necrotic yellows virus.



Lettuce spotted wilt virus

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****ONIONS**

Purplish to greyish felt-like patches on leaves;
Leaves wither and droop from tips.

Wet weather, cool nights with relatively warm days.

DOWNY MILDEW

Fungus; use healthy seeds, remove and burn crop residues and rotate crops.



Downy mildew on onions

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****PARSNIP**

Small, irregular brown spots with dark margins on leaves;
red brown areas, forming craters on crowns.

Most active in Winter, favours cool, wet weather.

CANKER AND LEAF SPOT

Fungus; can survive in storage.



Leaf spot on parsnip

PEAS

Small purple spots on leaves and stems; tops can die, particularly from damage at soil line.

Generally develops during cool, wet weather.

BLACK SPOT AND FOOT ROT

Several fungi; grow in sunny, well drained positions; use healthy, fungicide treated, seeds; remove and burn crop residues and rotate crops.



Black spot and foot rot on peas

PEAS

Irregular yellowish patches of leaf surfaces; bluish-white downy growth on underside of patches.

Mild, humid weather.

DOWNY MILDEW

Fungus; use healthy fungicide treated seeds; spray with a suitable fungicide from the first signs of the disease; remove and burn crop residues and rotate crops.



Downy mildew

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****VEGETABLE****SYMPTOMS****SEASON****PEST****COMMENT**

VEGETABLE**PEAS****SYMPTOMS**

Foliage turns yellow from base up; leaves wilt; plants stunted; lower stem brick red.

PEST**FUSARIUM WILT****COMMENT**

Fungus; use healthy seeds; remove and burn crop residues and rotate crops.



Fusarium wilt in peas

VEGETABLE**PEAS****SYMPTOMS**

White powdery patches on older leaves, spreading upwards.

SEASON

Mild, humid weather.

PEST**POWDERY MILDEW****COMMENT**

Fungus; remove and burn crop residues and rotate crops.



Powdery mildew on peas

POTATOES

Brown-black spots on lower leaves, spreading upwards.

Wet weather and heavy dews.

EARLY BLIGHT (TARGET SPOT, BLACK SPOT)

Fungus; can spread from foliage to the tubers; do not leave tubers in ground after the plants mature; control with fungicide.



Early blight or target spot

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

POTATOES

Small, raised pustules on tuber surfaces; These split to expose black powdery mass of spores.

Cold, wet soil.

POWDERY SCAB

Fungus; spores can remain dormant in soils for many years; get healthy seeds and rotate crop.



Powdery scab

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

POTATOES

Young shoots die before emerging; older stems can be ring-barked; aerial tubers form, tubers can be infected.

Cold, wet soil.

RHIZOCTONIA

Fungus; treat seed potatoes with fungicide before planting; rotate, prepare beds well before planting to let organic matter break down.



Rhizoctonia/ Fungus

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

POTATOES

Leaf mottling; mosaic patterns; yellowing.

Cold, wet soil.

POTATO VIRUS X AND Y

Virus; potato y, can cause range of symptoms from mild mottling to severe yellowing and premature death.

If potato virus y is suspected report to Pest and Disease Information Service.



Potato virus x or y



Potato virus x or y

POTATOES

Edges roll inwards and thicken; plants stunted.

During aphid activity.

POTATO LEAF-ROLL VIRUS

Virus; transmitted by aphids; buy healthy tubers for planting and control aphids.



Potato leaf-roll virus

POTATOES, TOMATOES

Healthy potatoes showing elongation and pointed ends; tomato plants showing purpling and chlorosis, down curling, stunting and distortion.

Prefers warm conditions and high light intensity.

POTATO SPINDLE TUBER VIROID

Virus: highly infectious, spreads quickly through crops, can be seed borne.

If suspected, report to Pest and Disease Information Service.



Potato spindle viroid on potatoes

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT



Potato spindle viroid on potatoes

VEGETABLE**SILVER BEET****SYMPTOMS**

Small spots on leaves; centres sometimes drop out.

SEASON

Warm, moist conditions.

PEST**LEAF SPOT****COMMENT**

Several fungi; same as beetroot leaf spot; not usually damaging in home gardens.



Silverbeet leaf spot

VEGETABLE**SILVER BEET****SYMPTOMS**

Seedlings die; leaves develop spots; roots and stems rot.

SEASON

Air temperatures higher than 15° C encourage rotting.

PEST**LEAF AND STEM ROT****COMMENT**

Fungus; can be seed borne: rotate crops and fertilise well; avoid over-watering.

TOMATOES

Leaflets wither on one side of leaf from base up; fruits can develop spots with halos.

Late season.

BACTERIAL CANKER

Bacterium; can be seed borne: rotate crops; burn infected plants; use sterile (including use of new tomato stakes) practices to avoid infecting healthy plants.



Tomato bacterial canker

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

TOMATOES

Small, irregular, greasy black spots on leaves and stems.

Most common in Winter.

BACTERIAL SPECK

Bacterium; can be seed borne: rotate crops; burn infected plants; use sterile practices (including new stakes) to avoid infecting healthy plants.



Bacterial speck leaves

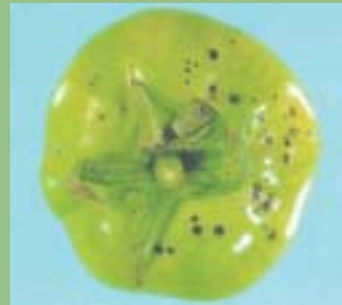
VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT



Bacterial speck fruit

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****TOMATOES**

Dark brown spots with concentric rings and yellow margins on leaves from base up.

Warm moist conditions.

EARLY BLIGHT (TARGET SPOT)

Fungus; use healthy plant material; burn diseased plant remains; control from early onset of disease with fungicides.



Target spot

VEGETABLE**SYMPTOMS****SEASON****PEST****COMMENT****TOMATOES**

Leaves turn yellow and wilt from base up; sometimes only one side of branch affected.

Most common in warm weather.

FUSARIUM WILT

Fungus; use healthy plant material; burn diseased plant remains; rotate crop.



Fusarium wilt on tomatoes

TOMATOES

Plants wither and wilt from base up; stunted.
Cooler weather, more common south of Bunbury.

VERTICILLIUM WILT

Fungus; use healthy plant material; rotate crop.



Verticillium wilt on tomatoes

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT

TOMATOES

Shiny bronze spots on youngest leaves;
plants shrivel and die.

Symptoms show more in cooler conditions.

SPOTTED WILT VIRUS

Virus; spread by thrips, control pest;
destroy infected material.



Tomato spotted wilt

VEGETABLE

SYMPTOMS

SEASON

PEST

COMMENT



Tomato spotted wilt

VEGETABLE**SYMPTOMS****PEST****COMMENT****TOMATOES**

Fruit has yellowish markings; mosaic patterns, mottling and distortions on leaves and fruit.

TOBACCO AND TOMATO MOSAIC VIRUS

Virus; transmitted mechanically; use sterile practices; avoid smoking.



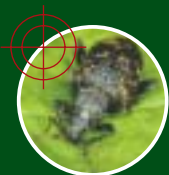
Tobacco mosaic virus fruit



Tobacco mosaic virus leaves

ACKNOWLEDGEMENTS

Photos by: Western Australian Department of Agriculture, Victorian Department of Primary Industry, Marilyn Steiner (Agriculture New South Wales), Integrated Pest Management Technologies, Infopest (Queensland Department of Primary Industries)



Black vine weevil



Potato cyst nematode



European red mite



European red mite eggs

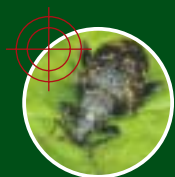


**Please report anything unusual
to the Pest and Disease Information Service on**

9368 3666 or 1800 084 881

Email: info@agric.wa.gov.au

Web: www.agric.wa.gov.au



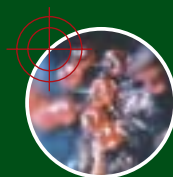
Black vine weevil



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