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Common insect pests and diseases on fruit trees in the home garden

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Department of Agriculture

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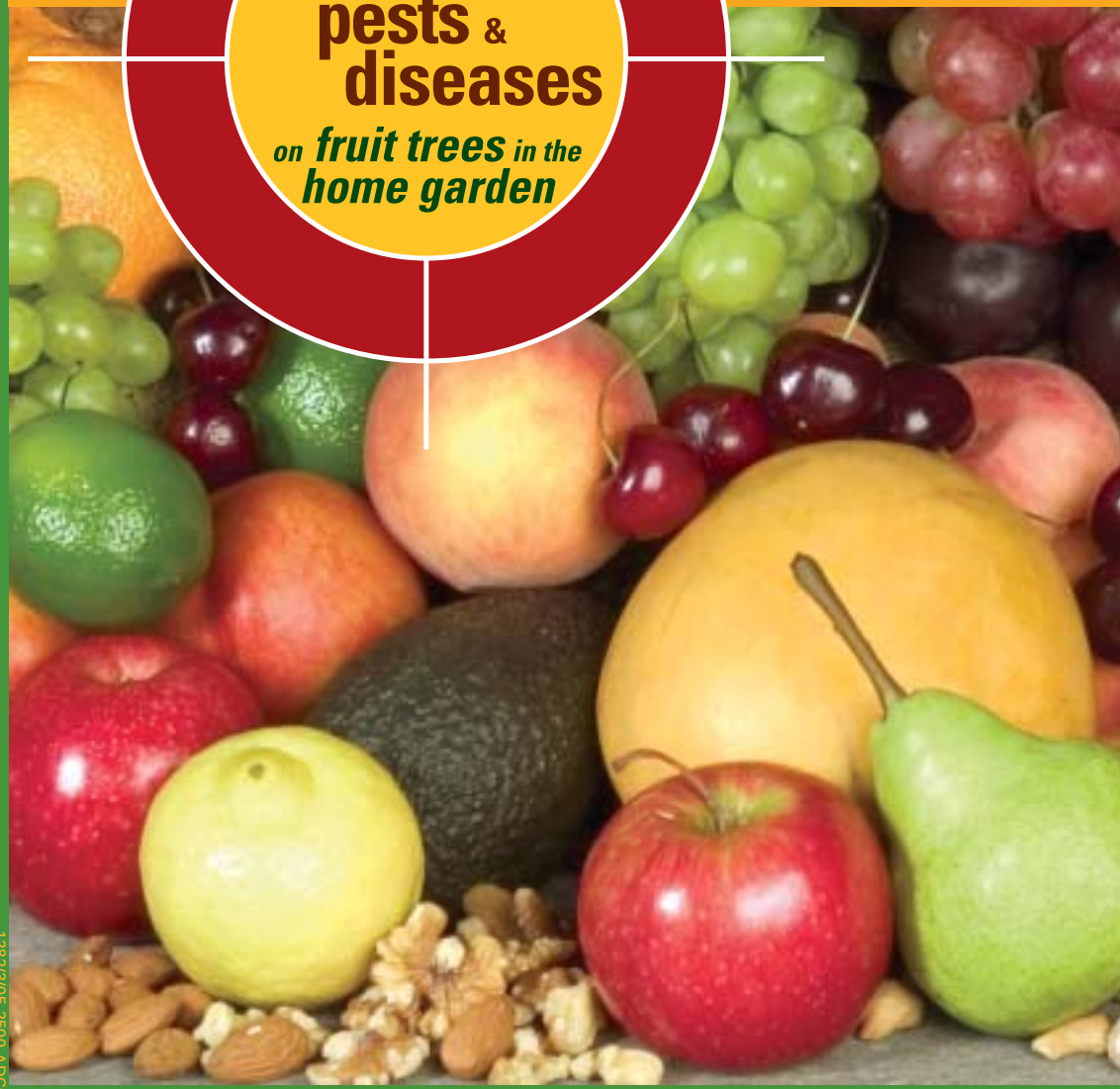

Department of Agriculture

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

9368 3666 or 1800 084 881

Email: info@agric.wa.gov.au

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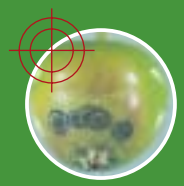
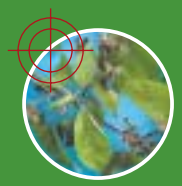


Apple scab

Papaya Fruit fly



Fire blight

European red mite

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Common insect pests & diseases on fruit trees in the home garden

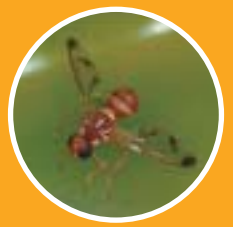
by Harald Hoffmann, Glynn Ward, Stewart Learmonth & Peter Wood

Introduction

Home gardeners frequently see insect pests and diseases affecting their fruit trees. Usually they would have seen them in previous seasons, so the pests or diseases look familiar. However, there are occasions, when an unusual pest (not native to Western Australia) can occur. These 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 the cost to the consumer.

This bulletin describes the most common insect pests and diseases on fruit trees in home 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 stores can assist you with advice.

Important disclaimer

The Chief Executive Officer of the Department of Agriculture and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.

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PEST

BLACK VINE WEEVIL

FRUIT

WIDE HOST RANGE, PARTICULARLY STRAWBERRIES AND CUT FLOWERS.

SYMPTOMS

Grubs feed on roots and can eventually kill plants. Adults leave characteristic notches in leaves.

SEASON

All year, but grubs are most active during Spring.

COMMENT

Adults feed at night; grubs spend winter in soil, burrowing deeper if cool.

Black vine weevil

PEST

CODLING MOTH

FRUIT

POME FRUIT; PREFERS APPLES

SYMPTOMS

Small grub holes on skin of fruit; fruit may drop prematurely; grubs in fruit; abundant frass seen on outside of fruit; over wintering cocoons on rough bark on trunk of tree.

SEASON

All year, but visible from October – March during apple and pear season.

COMMENT

Three generations every year; pupate under bark.

Codling moth adult

Larva

PEST

EUROPEAN RED MITE (ERM)

FRUIT

ALL TREES; PREFERS SUMMER FRUIT

SYMPTOMS

Pale spotting on leaves; as mite populations increase the leaves appear bronzed. Under-surface of the leaf brown, and badly damaged leaves may fall early; reduced yield and sugar levels; red over-wintering eggs with spine under bark on trunk and lower branches.

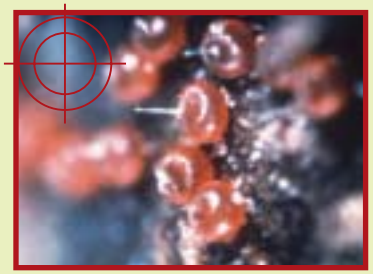
SEASON

September – February.

COMMENT

Present in NZ and Eastern States.

Adult European red mite (ERM)



Eggs

PEST

EXOTIC FRUIT FLIES
(QUEENSLAND, MELON, PAPAYA FRUIT FLY)

FRUIT

WIDE RANGE OF FRUITS AND VEGETABLES

SYMPTOMS

As Mediterranean fruit fly is established in WA, grubs in fruit do not necessarily mean that an exotic fruit fly is present. Unusual patterns such as fruit fly attacking undamaged avocadoes should be reported.

SEASON

All year when fruit are present.

COMMENT

Looks different from Mediterranean fruit fly in thorax colour. (see photos on page 18)

Papaya fruit fly

Queensland fruit fly

Melon fruit fly - © Paul Zborowski

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

GRAPE PHYLLOXERA

GRAPEVINES

Galls on grapevine roots; after 2 to 3 years of infestation, grapevine leaves yellowing, plants showing poor growth.

All year, peaking in mid Summer.

Small aphid < 0.5 mm long; transmitted by human action; lives in roots; above ground damage is only visible 2 to 3 years after infestation.

Grape phylloxera

Healthy and affected roots

Affected vineyard

EXOTIC INSECT PESTS

WESTERN FLOWER THRIP

MANY CROPS, BUT MAINLY A PEST IN GREENHOUSES ON ORNAMENTAL PLANTS. IT HAS MANY HOSTS – RECORDED ON 244 PLANT SPECIES

Discolouration of the upper leaf surfaces; indentations where feeding occurs. Foliage may show: silvering; deformity and growth malfunctioning; surface lumps; halo-spotting – small dark scars surrounded by white tissue. On some host plants such as capsicums, egg laying causes a reaction of the surrounding plant tissue. Feeding causes scarring and discolouration of flowers and deformity in buds if these are attacked at an early stage.

All year.

Western flower thrip is established in the Perth metropolitan area, but report when it occurs in rural Western Australia.

Western flower thrip

If any of these exotic pests are suspected, report to Pest and Disease Information Service on 9368 3666 or 1800 084 881

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

AFRICAN BLACK BEETLE

PEST

FRUIT

YOUNG GRAPEVINES AND TREES

SYMPTOMS

Ringbarking of young plants at or below ground level; presence of splayed, fibrous tissue on stem of plant; yellow or red leaves.

SEASON

Adults from Summer – Spring; grubs late Spring to mid Summer.

COMMENT

Prefers clayey and loamy soils.

Adult African black beetle

Larva

Splayed bark at base of grapevine

APHIDS (WOOLLY APPLE APHIDS)

PEST

FRUIT

ALL FRUIT TREES; APPLES

SYMPTOMS

Small, soft insects on shoots and young growth.

SEASON

Mainly Spring and Autumn.
April – September, November – January.

COMMENT

Sap suckers; aphids can carry viruses.
Woolly appearance.

Aphids

Woolly apple aphids

COMMON INSECT PESTS

(LIGHT BROWN) APPLE MOTH

PEST

FRUIT

ALL FRUIT TREES

SYMPTOMS

Chewed and skeletonised leaves in low centre of trees; damage on ripening fruit surface where fruit touches leaves; shelters in lengthwise rolled leaves held by webbing.

SEASON

October – April.

COMMENT

Caterpillar up to 20 mm long; yellow to light green; gumming occurs on damaged fruits.

(Light brown) Apple moth adult

Larva

APPLE DIMPLING BUG:

NATIVE TO AUSTRALIA; HAS DISTINCT SMELL WHEN SQUASHED

PEST

FRUIT

APPLES AND ORNAMENTALS

SYMPTOMS

Bug found under or in flowers; causes cell damage which results in scarring and dimples when fruit develops.

SEASON

September – November.

COMMENT

May be mistaken with native fly or leaf hoppers; avoid unnecessary spraying.

Apple dimpling bug

Damage

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

APPLE WEEVIL

ALL, BUT PREFERS CHERRIES

Grub feeds on tree roots; adult can ringbark young trees and fruit stalks (resulting in reduced fruit sizes).

November - April.

Feeds at night.

Apple weevil

Larva

Damage

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

BRYOBIA MITE

ALL FRUIT TREES; PREFERS APPLES AND PEARS

Mites feed on upper surface at night; feeding sites appear stippled, paler than surrounding areas.

Spring – Autumn.

Tree may defoliate if numbers too high.

Bryobia mite

COMMON INSECT PESTS

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

CAROB MOTH

CAROB BEANS, ALMONDS, ORANGES, POME FRUIT, FIGS, LOQUATS, STONE FRUIT, AVOCADOES

In almonds, grub feeds on kernels as soon as green hulls begin to split; in oranges grub bores into the navel end causing premature ripening and fruit drop; in other fleshy fruit, grub feeds on the seeds or near the stone.

All year; most active in warmer weather.

Remove mature nuts from tree, as moths over Winter in old nuts on ground; most abundant in the metro area, more uncommon in south-west orchards.

Carob moth larva

Damage

Larva

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

CATASARCUS WEEVIL (REDLEGGED WEEVIL)

SOMETIMES ON GRAPEVINES

Leaves scalloped along edges; tree sometimes seriously defoliated.

During growing season.

Native weevils feed in Summer on eucalyptus leaves.

Catasarcus weevil adult

Damage

CARPOPHILUS (DRIED FRUIT BEETLE)

PEST

FRUIT

ALL FRUIT TREES

SYMPTOMS

Burrows into ripening fruit on stem end or in natural cracks.

SEASON

All year; Summer rainfall and rotting fruit provide good conditions for breeding.

COMMENT

Lays eggs in rotting or damaged fruit, so keep garden floor clean.

Carpophilus (dried fruit beetle)

CHERRY SLUG AND PEAR SLUG

PEST

FRUIT

ALL FRUIT TREES

SYMPTOMS

Upper surface of leaves chewed, turn brown.

SEASON

November – February, depending on climate.

COMMENT

Several generations per year; minor pest; cherry slug and pear slug are the immature stages of sawfly wasps.

Cherry slug and pear slug

COMMON INSECT PESTS

CITRUS LEAFMINER

PEST

FRUIT

CITRUS

SYMPTOMS

Snake-like mine on underside of citrus leaves; twisted and curled leaves.

SEASON

Late Summer and early Autumn; peak in March and April.

COMMENT

Unsightly damage to tree, but no significant yield loss.

Citrus leafminer moth

Damage

Damage

CITRUS WHITEFLY

PEST

FRUIT

CITRUS, BUT OTHER WHITEFLY SPECIES HAVE WIDER RANGE

SYMPTOMS

Eggs and pupae sticking to underside of leaves; insects fly in clouds when disturbed.

SEASON

All year; greatest population in Spring and Autumn.

COMMENT

Sap suckers; leave sooty mould on fruit; mould grows on the sweet material secreted by the whiteflies.

Hoover fly larva is attacking Citrus whitefly eggs

Citrus whitefly on leaves

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

COON BUG

ALL TREES

Sucks sap; occasionally a problem on young trees.

All year; most abundant in warm weather.

Breeds in marshmallows and hogweeds.

Coon bug

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

CRUSADER BUG

ALL TREES; PREFERS YOUNG CITRUS

Sucks sap; occasionally a problem on young trees, and all new growth.

All year; most abundant in warm weather.

When disturbed, shoots out a stinking fluid.

Crusader bug

COMMON INSECT PESTS

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

EUROPEAN EARWIG

ALL FRUIT TREES

Holes in leaves, shallow and irregular damage to fruit.

September – March.

Damages flowers, shoots, leaves of summer fruit, vineyards and vegetables.

European earwig

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

FULLER'S ROSE WEEVIL

ALL, BUT PREFERS PLUMS AND APRICOTS

Grub feeds on tree roots; adult can ringbark young trees and fruit stalks (resulting in reduced fruit sizes). Frass may foul fruit at the stalk end.

November – April.

Lays eggs in mini sprinklers, blocking them.

Fuller's rose weevil

FRUIT TREE PINHOLE BORER

PEST

ALL FRUIT TREES, BUT APRICOTS AND PLUMS MOST SUSCEPTIBLE

FRUIT

Female beetles bore into trunk leaving fragile spines of frass, which stick out of the trunk like toothpicks. Foliage of tree becomes yellow, then brown and tree dies.

SYMPTOMS

Females fly at temperatures over 21°C.

SEASON

Grubs emerge in 2 months and feed on fungus that grows on faeces of grubs and on tunnel walls; affects mainly trees suffering stress.

COMMENT

Fruit tree pinhole borer adult

Damage

GARDEN WEEVIL

PEST

ALL; PREFER APPLES, GRAPEVINES, NECTARINES

FRUIT

Feeds on fruit, causing scarring.

SYMPTOMS

October – February.

SEASON

Chewing insect; nocturnal.

COMMENT

Garden weevil adult

Larva

GRASSHOPPERS AND LOCUSTS

PEST

ALL PLANTS

FRUIT

Plants chewed or skeletonised.

SYMPTOMS

Summer – Autumn.

SEASON

Can come in large numbers; affected trees more likely to be near pastures.

COMMENT

Australian plague locust

Yellow winged locust

Wingless grasshopper

HELIOTHIS

PEST

ALL FRUIT TREES

FRUIT

Caterpillars feed on flowers, new shoots and newly set fruit, causing fruit drop.

SYMPTOMS

November – April.

SEASON

Two species of Heliothis: native budworm and cotton bollworm; corn earworm or tomato grub almost identical. On young trees Heliothis feed on growing points of leaders so extra training is required later.

COMMENT

Heliothis brown

Green

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

LOOPER CATERPILLAR

ALL FRUIT TREES

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

More abundant in warm weather.

Moves by a distinct looping action.

Looper caterpillar

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

MEDITERRANEAN FRUIT FLY

ALL FRUIT TREES

Tunnels in the pulp of fruits; decomposing the fruit inside; early fruit drop.

November – June.

Most significant insect pest in Summer fruit.
Collect fallen fruit, seal in plastic bags and place in bin.

Mediterranean fruit fly

COMMON INSECT PESTS

MEALYBUG

APPLES, PEARS, NASHI, CITRUS, GRAPEVINES AND HOTHOUSE PLANTS

Small, oval, sap-sucking insects up to 4 mm long, covered with a fluffy layer of protective wax. Colonies look like blobs of sticky cotton wool and may be accompanied by sooty mould.

All year but more prominent in Summer and Autumn.

Sap suckers; propagated by ants; over Winters under bark; produce sooty mould on citrus.

Mealybug

Mealybug on citrus

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

NEMATODES

ALL FRUIT TREES

Tree stunted with very few feeder roots; root lesions.

Active year round but biggest numbers in Summer.

Most trees are grafted onto resistant rootstocks.
Chemical treatments are dangerous; seek expert advice.

Nematodes

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

PEAR LEAF BLISTER MITE

PEARS

Blisters on leaves, young fruit and buds, turning red, then black; buds fail to grow.

All year but worst in December – February.

Over-winters in buds.

Pear leaf blister mite

Damage

Damage

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

RUTHERGLEN BUG

ALL FRUIT TREES

Thin strings of clear gum hang down from green fruit; fruit shrivel, do not mature; young foliage wilts rapidly.

Spring – Summer.

Sap sucking insects; breed in weeds; keep garden clean to prevent; move in swarms and settle in thick clusters on Summer fruit.

Rutherglen bug

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

SCALES

ALL FRUIT TREES AND ORNAMENTALS. SOME SCALES PREFER SUMMER FRUIT AND SOME PREFER CITRUS. SEE WEBSITE FOR MORE DETAILS.

Trees appear water stressed; leaves turn yellow and fall; limbs die and bark cracks and exudes gum. Crawlers can cause halo-like red discolouration on fruit and a bright red mark under the bark of tender wood.

All year but are a problem May – September and October – January for pome fruit; June – December for stone fruit. On citrus, crawlers emerge in Summer and settle as waxy scales from Autumn – Winter depending on the type of scale.

Sap suckers; categorised as either hard or soft. Soft scales rarely kill trees, but excrete honeydew on leaves and fruit, which attracts black sooty mould and ants.

Pink wax scale on citrus

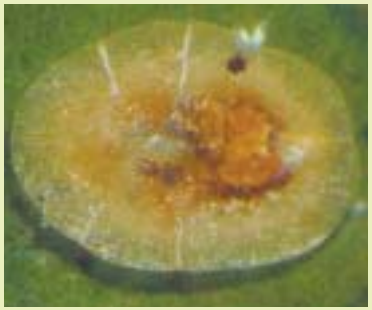
Chinese wax scale on citrus

San Jose scale

Red scale

White wax scale on citrus

Soft brown scale



Soft brown scale adults and crawlers

Frosted scale

SNAILS AND SLUGS

PEST
ALL FRUIT TREES

FRUIT

SYMPTOMS
Minor leaf damage, occasionally feeding on fruit; faeces on fruit.

SEASON
All year.

COMMENT
Move during rainy periods.


Common garden snail


White Italian snail


Vineyard snail


Small pointed snail


Slug

SPRING BEETLE

PEST
ALL FRUIT TREES

FRUIT

SYMPTOMS
Young growing shoots, leaves and flowers are chewed.

SEASON
Spring and early Summer.

COMMENT
Usually only active for 3 weeks.


Spring beetle

THRIPS

PEST
ALL FRUIT TREES

FRUIT

SYMPTOMS
Scars on fruit as nymphs feed on immature fruit; possible silvering of fruit before ripening; damage on terminal shoots stops them from growing.

SEASON
August – November.

COMMENT
Over-winters as adults in weeds; minimise weeds.


Thrips

TWO-SPOTTED MITES

PEST
ALL FRUIT TREES

FRUIT

SYMPTOMS
Yellow stippling on leaves, webbing; mites mainly on underside of leaves; on peach trees on the upper leaf surface. Heavy infestation can cause leaf drop, exposing the fruit to sunburn.

SEASON
Warmer months; prefers dry and hot conditions.

COMMENT
Two-spotted mites cut tissue and suck oozing sap.


Two-spotted mites


Two-spotted mites

PEST FRUIT SYMPTOMS

APPLE SCAB

APPLES

Leaves

Apple scab symptoms occur on both fruit and leaves throughout the growing season. On leaves, apple scab appears as black spots on either the upper or lower leaf surface. Spots appear as light green areas that later turn olive green or black and velvety.

Numerous spots on a leaf may merge along the veins and extend over much of the surface.

Older spots on the upper surface can become raised and give infected leaves a blistered, scabby appearance.

Leaf infection late in the season shows as dark grey to black angular spots on the under surface.

Early apple scab infection on leaves

Older spots may have a blistered, scabby appearance

Advanced infection

Leaf infection later in the season shows dark grey to black angular spots on the leaf surface

EXOTIC DISEASES

APPLE SCAB

APPLES

Fruit

Initially, fruit infections are small, black, and circular. As the spots enlarge, the central area becomes black and corky and the surrounding border shows a greyish-white band of loosened skin.

Fruit infected early in development becomes severely scabbed; infection on nearly mature fruit results in small spots with little distortion.

Early fruit infection

Mature fruit infection

PEST FRUIT SYMPTOMS

SEASON

During growing season.

COMMENT

Extremely serious, could come from Eastern States.

If any of these exotic diseases are suspected, report to Pest and Disease Information Service on 9368 3666 or 1800 084 881

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

FIRE BLIGHT

POME FRUIT

Watery exudate oozes out of infected plant parts under humid conditions; ooze appears milky. Certain parts, like blossoms, appear water-soaked and grey-green. Developing fruits remain small, and appear shrivelled and dark. Woody parts have red to dark staining in the xylem and pith.

Finally, affected parts appear dark, as if scorched by fire.

All year; over-winters in bark tissue, becomes active in Spring.

Bacteria; can be spread by bees; controlled with copper bactericides and removal of cankers.

Fire blight

If any of these exotic diseases are suspected, report to Pest and Disease Information Service on 9368 3666 or 1800 084 881

ALTERNARIA

APPLES, PEARS, STONE FRUIT, CITRUS

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

Circular, dry, firm, shallow lesions on leaves or later on fruits.

All year; peaks in rainy and foggy conditions.

Encouraged by overhead sprinklers.

Alternaria on citrus fruit

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

BACTERIAL CANKER (ALSO CALLED BACTERIAL SHOTHOLE, STONE FRUIT BLAST, BACTERIAL GUMOSIS)

STONE FRUIT

Leaves: brown irregular spots, which rapidly drop out to produce a shothole effect.

Twigs: sunken dark spots, often with gumming. The terminal, young growth often withers.

Limbs: usually elongated cankers with gumming. The tissue under the canker is discoloured.

Fruit: infection causes raised purple spots on green fruit, becoming sunken with dark centres as the fruit matures.

April – September.

Transmitted in water droplets; avoid Winter pruning; practise hygiene; use a copper fungicide control program.

Bacterial canker on plums

Shoot death from bacterial canker

Bacterial canker causing shoot death

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

BACTERIAL SPOT

STONE FRUIT

Leaves: greenish yellow spots that can enlarge in wet weather into angular water-soaked areas, often with a yellow halo on plums. When the spots dry out, they become brownish purple and drop out, giving a shothole appearance.

Twigs: sunken, elongated areas, initially dark green, but becoming tan.

Fruit (peach): many tan spots less than 1 mm in diameter, often becoming cracked and pitted, with gum formation and a green halo.

Fruit (plum): small, oily spots turning dark brown, becoming depressed and cracking in the centre. With severe infection, spots can be 15 mm or more in diameter.

April – September.

Transmitted in water droplets; prune in Winter; remove all limbs with cankers, and burn; use a fungicide control program.

Bacterial spot on plum leaves

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

BITTER ROT

APPLES AND PEARS

Small, brown, circular areas develop on fruit surface. Spots later become sunken, forming a saucer-shaped depression. Under wet weather conditions, pink fruiting bodies of the fungus develop in the centre of the rotten area.

During fruiting season after petal fall: September – June.

Management via spraying of fungicide and removal and burning of all infected material.

Bitter rot on pears

Bitter rot on apples

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

BOTRYTIS

GRAPES

Moist rot on the berries and other fleshy parts of the vine; at latest stages visible as a grey felt-like mat of spores.

Occurs during growing season but peaks with humidity and temperature after rainfall.

Remove affected bunches; fungus over Winters on mouldy bunches; use appropriate fungicides to prevent infection.

Botrytis on grapes

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

BROWN ROT

STONE FRUIT AND POME FRUIT

Superficial, circular, brown spots expand outwards on the surface of mature fruit resulting in soft decay of the flesh. Tufts of grey fungus develop on surface of lesion. Cankers may also be found on shoots and small branches.

Usually at fruit maturity.

Regular spray program will also control brown rot; remove affected fruit.

Brown rot on peach

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

COLLAR ROT

POME FRUIT

Affects the bark of the lower scion portion of the tree, which becomes stunted with poor growth and small fruit. When bark is removed, the inner phloem tissue is orange or red-brown, eventually becoming dark brown.

November – February.

Soil and water borne fungus; may breed on native plants.

Collar rot on apples

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

CROWN ROT

POME FRUIT

Similar to collar rot but affects rootstock of the tree.

November – February.

Soil and water borne fungus; may breed on native plants.

Crown rot on apples

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

CROWN GALL

APPLES AND PEARS

Galls, varying in diameter located on the crown and roots.

Grow at temperatures > 20°C.

Caused by a bacterium; may be transmitted through rootstock or pruning; maintain hygiene.

Crown gall on peach

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

DIEBACK (JARRAH)

AVOCADOS, SOME NUT SPECIES

Plants become chlorotic and show poor growth, or plants die suddenly.

Warm and moist conditions.

Fungus affects root system; make sure plants are well drained; treatments possible via stem injection: contact the Department of Agriculture for current recommendations.

Dieback on avocado

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

DOWNY MILDEW

GRAPES

Small yellow spots (oil spots) on upper surface of young leaves, later enlarging to cover most of the leaf.

Warm and moist conditions.

Avoid high density plantings; prune to open up canopy; use fungicides.

Downy mildew on grape leaves

Different stages of downy mildew in grape bunches

Downy mildew in grapes

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

FLYSPECK

APPLES

Distinct groupings of shiny, black fungal bodies on the surface of the fruit.

September – June.

Over-winters on twigs.

Flyspeck on apple

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

FRECKLE

STONE FRUIT

Small greyish spots on fruit turn into lesions; 0.8 cm diameter of dusty or velvety green appearance. Numerous lesions are clustered near the stem end of the fruit.

August – December.

Over-winters on twigs; open pruning discourages fungus.

Freckle on apricot

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

LEAF CURL

STONE FRUIT

Leaves become thickened, blistered, and greatly distorted; curled parts turn yellow with pink tinge or become deep red. Whitish bloom covers the infected leaf surface. Eventually these leaves shrivel and fall. Severe infection results in heavy defoliation. Shoots become stunted and distorted with death of the terminal bud. Fruit develop red irregular blistered areas giving the appearance of early ripening.

July – December.

Fungus resides in branches; affects trees early in season; as weather warms up, tree outgrows fungus and loses symptoms; several fungicide applications early in season gives good control.

Leaf curl on peach tree

PEAR SCAB

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

PEARS

Scab first appears on the bottom and later on the side of the fruit. Infected fruit often become misshapen. Infection begins at the green-tip stage of flower bud development.

Infection is highest when blossoms are open, but continues for about 6 – 9 weeks.

Scab spores develop during the Winter, in infected leaves on the ground; use an effective fungicide control program.

Pear scab

POWDERY MILDEW

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

POME FRUIT

White, felt-like patches on mainly lower surface of leaves; later, whole leaf can be affected. Curled leaf, which becomes brittle. Small russeted fruit.

September – January.

Resistant cultivars of pome fruit are available; fungicides can give good control.

Powdery mildew on apple leaves

Powdery mildew on apple

PHYTOPLASMA

PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

STONE FRUIT

Trees have smaller, paler leaves, often curled upwards and occasionally reddening of the mid-veins and petioles. Reduced growth and overall dwarfing of tree. Rootstock may reshoot.

Growing season.

Transmitted in budding and grafting; also by insect-like leafhoppers.

Healthy plum branch (below) compared to material affected by phytoplasma (top)

RUST

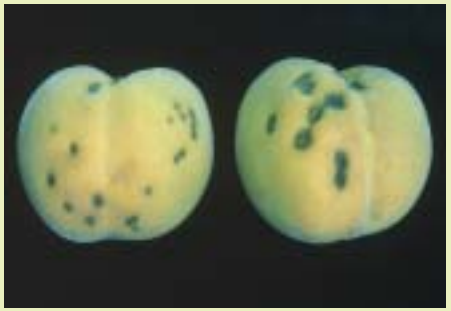
PEST
FRUIT
SYMPTOMS
SEASON
COMMENT

STONE FRUIT

Pale, yellowish green, angular spots on both leaf surfaces, which turn yellow. Twigs may split, fruit develop water-soaked greenish spots that become sunken as fruit growth continues.

August – December
April – June.

Over-winters in twigs.



Peach rust

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

SCLEROTINIA (green fruit rot, calyx end rot)

MOST (400 SPECIES) FRUIT TREES

Affects blossoms and immature fruit. Starts in floral parts and spreads onto growing fruit. White mycelial mass and black sclerotia visible. In calyx-end rot a single, circular to oblong sunken lesion develops at the calyx end of infected fruit.

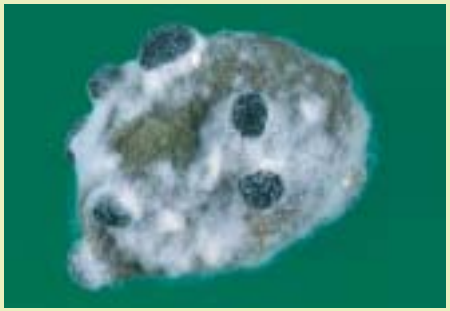
Warm, wet weather is conducive to infection during flowering and later in the season.

Over Winters in soil as sclerotias: black hard bodies; spores can only infect dying and senescent tissue, like wilting petals; once established, can infect healthy tissue; keep open canopy and minimise wetting the foliage at flowering.

Sclerotinia on apricot

Sclerotinia on kiwi fruit

Sclerotinia on apricot leaves



Sclerotinia on apricot fruit showing black fruiting bodies

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

SHOTHOLE

STONE FRUIT

Leaves: greenish yellow spots; can enlarge in wet weather into angular water - soaked areas, often with yellow halo on plums. When spots dry out, they become brownish-purple and drop out, giving a shothole appearance.

Twigs: sunken, elongated areas, initially dark green, but becoming tan.

Fruit (peach): many tan spots less than 1 mm diameter, often becoming cracked and pitted, with gum formation and green halo.

Fruit (plum): small, oily spots turning dark brown, becoming depressed and cracking in the centre. With severe infection, spots can be 15 mm or more in diameter.

August – December.

Bacteria: Over-winters in twig cankers and leaf scars that are exposed during Autumn leaf fall, then multiply in the Spring; bacteria can then be spread by water splash from rain or irrigation to the opening leaf buds.

Carefully prune during Winter to remove as many branches and twigs as possible carrying Summer cankers; collect and burn the prunings; use a fungicide control program.

Shothole on plum fruit

Shothole on plum leaves

Shothole on plum leaves

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

SOOTY BLOTCH

APPLES

Shades of olive green fungal bodies on the surface of the fruit developing into portions covering most of the fruit.

September – June.

Over Winters on twigs.

Sooty blotch on apples

PEST

FRUIT

SYMPTOMS

SEASON

COMMENT

VERTICILLIUM WILT

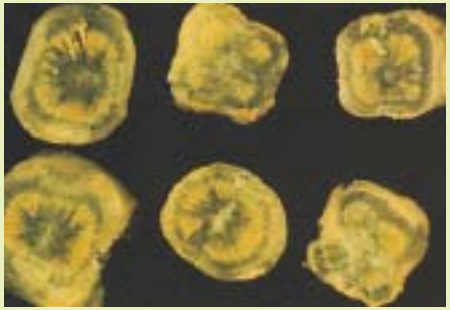
STONE FRUIT

Sudden wilting of leaves on one or more branches, rapid browning. Can start at base and move upwards. Young trees may be killed. Older trees may become stunted and lose productivity. Vascular tissue may be stained.

Early Summer.

Avoid planting in known infected soils or fumigate soil.

Verticillium wilt



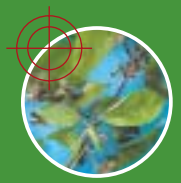
Vascular tissue stained by Verticillium wilt

ACKNOWLEDGEMENTS

Some photos have been supplied by courtesy of Infopest. (Queensland Department of Primary Industries).

Apple scab

Papaya Fruit fly



Fire blight

European red mite