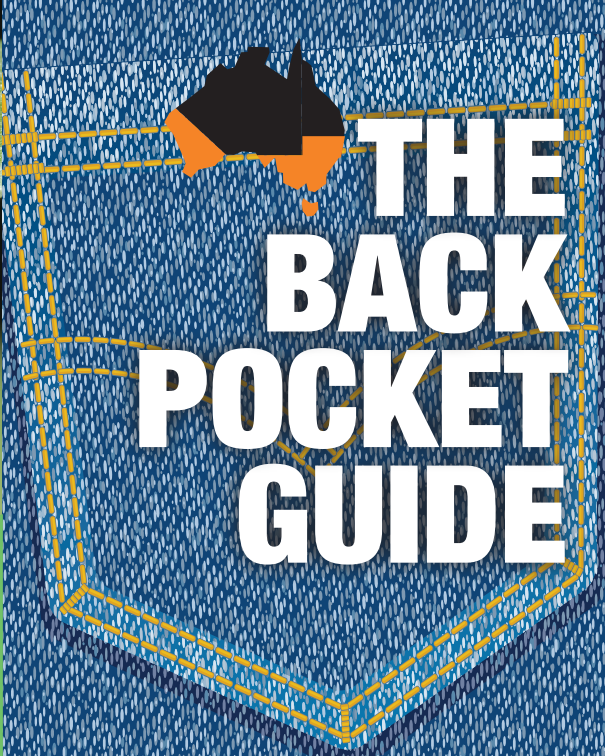




CROP WEEVILS



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THE BACK POCKET GUIDE

INTRODUCTION

Weevils are a diverse group of beetles that are commonly found in Australian grain crops. **Adult** weevils appear very different to the larvae. Adults have a hardened body, six prominent legs and an elongated, downward curved head forming a 'snout'. The **larvae** are legless, maggot-like in shape and may be confused with fly larvae. Weevil larvae possess a small, hardened head capsule.

Crop weevils feed on vegetative parts of crop plants including the roots, stems, shoots, buds and leaves. Both adults and larvae can be damaging to plants, depending on the species, crop type and time of year. Typical feeding damage commonly observed is scallop-shaped holes along the edges of leaves.

Weevils can be difficult to control with chemicals due to their secretive habits. Several species are also patchy in



PHOTO: DAFWA

Characteristic feeding damage caused by many weevils.

their distribution within paddocks. For some species, seed treatments and foliar insecticides can provide a level of control. Weevils are typically favoured by minimum tillage and stubble retention. Cultivation, burning and reducing the amount of stubble will reduce the suitable habitat for weevils and reduce their number.

Identification of crop weevils is important when making control decisions. The distinctive appearance of weevils makes them unlikely to be confused with other beetles. However, distinguishing between the many species of weevil is challenging. This guide is designed to assist growers in identifying the most commonly observed weevils found in the southern and western cropping regions.

www.grdc.com.au/GRDC-BPG-CropWeevils



Thinning of canola seedlings due to weevil feeding.



PHOTO: cesar



Sitona weevil

DESCRIPTION:

- A widely distributed but sporadic pest that is found across the southern and western cropping regions;
- Adults are 3 to 5mm long and greyish-brown in colour with three characteristic pale stripes on the thorax. They have a short, broad snout, and
- Larvae are white with an orange-brown head capsule, and grow up to 5mm long. They live in the soil.

CROPS ATTACKED AND DAMAGE:

- Medic pastures, lucerne and subclover;
- Adults make scallop-shaped notches in the leaves and chew the stems of seedlings;
- Heavy infestations can lead to complete defoliation of plants, and
- Larvae feed on root hairs and root nodules, which can slow plant growth and reduce the plants' ability to fix nitrogen.

CONFUSED WITH:

- Larvae are similar in appearance to the larvae of the small lucerne weevil and the vegetable weevil, and
- Adults can be confused with the vegetable weevil and whitefringed weevil.

PHOTO: ADULT (cesar), LARVA (SARDI)



PHOTO: ADULT (cesar), LARVA (cesar)

Whitefringed weevil

DESCRIPTION:

- A sporadic pest found in New South Wales, Victoria, South Australia and Western Australia;
- Adults are large weevils, growing 10 to 12mm long, and have a grey-brown body with a prominent white or lighter brown-grey band along the side of their body. They have a short broad snout, and
- Larvae are up to 14mm long and creamy yellow in colour with a brown head and black mouthparts. They are soil dwelling and are slightly curved in shape.

CROPS ATTACKED AND DAMAGE:

- Numerous, including lucerne, clovers, medics, beans, chickpeas and maize;
- Larvae feed on plant roots, which can result in seedling death;
- Established plants can become stunted or show reduced vigour, and
 - Adults feed on leaves, making scalloped markings. This damage is often less severe compared to larval damage.

CONFUSED WITH:

- Sitona weevil, vegetable weevil and small lucerne weevil.



Fuller's rose weevil

DESCRIPTION:

- Commonly found across the southern and western cropping regions;
- Adults are about 8mm long and are greyish-brown with short whitish stripes on each side of the abdomen, and
- Larvae are about 6mm long and are yellow in colour with a pale head and black mouthparts. They are soil dwelling and have a slightly curved body.

CROPS ATTACKED AND DAMAGE:

- Canola, lucerne and pasture;
- Adult weevils feed on leaves, leaving a serrated edge;
- Adults can cause severe damage in isolated cases where they are high in number, and
- Larvae chew on plant roots.

CONFUSED WITH:

- Small lucerne weevil and whitefringed weevil.



Vegetable weevil

DESCRIPTION:

- Widely distributed across the southern and western cropping regions;
- Adult weevils are 8mm long, greyish-brown in colour and have a noticeable V-shape pale white marking at the rear of the body. They have a prominent snout, and
- Larvae are either yellow to green, or cream in colour with an orange-brown head. They have a curved body, grow up to 13mm long and are often observed feeding on plant foliage above-ground.

CROPS ATTACKED AND DAMAGE:

- Canola and other brassica plants;
- Vegetable weevils do not typically feed below ground. Both adults and larvae chew leaf edges or eat seedlings down to ground level, and
- More damage usually occurs around crop edges or where host weeds are present.

CONFUSED WITH:

- Adults and larvae are similar in appearance to the grey-banded leaf weevil, and
- Adults can also be confused with the spotted vegetable weevil.



PHOTO: ADULT (cesar), LARVA (DAFWA)



Small lucerne weevil

DESCRIPTION:

- An occasional pest in South Australia, Western Australia and New South Wales;
- Adult weevils are grey in colour with some brownish mottling and are up to 10mm long, and
- Larvae are creamy white, up to 8mm long, with small, pointed, brown jaws. They live in the soil.

CROPS ATTACKED AND DAMAGE:

- Lucerne, pasture legumes and canola;
- Adults feed on the cotyledons and leaves of plants;
- Seedlings can be completely chewed off at ground level, and
- In lucerne, damage also occurs when larvae burrow into or chew furrows in the taproot, resulting in plant death and bare patches.

CONFUSED WITH:

- Fuller's rose weevil and whitefringed weevil.



PHOTO: ADULT (cesar), LARVA (cesar)



Spotted vegetable weevil

DESCRIPTION:

- Also referred to as the Desiantha weevil;
- A sporadic pest and widely distributed across the southern and western cropping regions;
- Adults are mottled grey-black weevils with grey flecks on the abdomen. They grow up to 7mm long, and
- Larvae are white with orange-brown heads, and grow to 8mm in length. The larvae are soil dwelling.

CROPS ATTACKED AND DAMAGE:

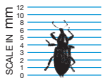
- Cereals and canola;
- Larvae attack cereals at the seedling and tillering stages. They feed underground on germinating seeds, and bore into the stems of seedlings and tillers, and
- Adults attack canola. They chew the cotyledons, leaves and stems of canola plants and may eat small plants down to ground level.

CONFUSED WITH:

- Spinetailed weevil.



PHOTO: ADULT (L WOODMORE), LARVA (cesar)



Spinetailed weevil

DESCRIPTION:

- Also referred to as the cereal curculio;
- Found across the southern cropping region; however, they are rarely significant pests;
- Adults are greyish-black in colour and grow up to 7mm long. The wing covers of the females are tapered at the ends to form two spines – males do not have these spines, and
- Larvae are white, with a yellow head capsule, and grow up to 8mm long. They live in the soil.

CROPS ATTACKED AND DAMAGE:

- Cereals;
- Larvae attack cereals at the seed, seedling and tillering stages. They may feed underground on germinating seeds just after sowing, or bore underground into seedling stems, causing them to wither and die, and
- Larvae will also bore into the base of tillers.

CONFUSED WITH:

- Spotted vegetable weevil.



PHOTO: ADULT (cesar)

Mandalotus weevil

DESCRIPTION:

- Sporadic pest that occurs in parts of South Australia, Victoria and southern New South Wales;
- Mainly found on lighter, calcareous or 'rubby' soils;
- Adults are approximately 3 to 5mm long, round and dull brown in appearance, often resembling a small clod of dirt, and
- Larvae are small, light coloured and soil dwelling.

CROPS ATTACKED AND DAMAGE:

- Canola, cereals, pulses and medic pastures;
- Feeding damage appears as holes chewed in leaves, and in severe cases as crop thinning and bare patches, and
- Canola seedlings can be 'ring-barked' just above ground level.

CONFUSED WITH:

- Polyphrades weevil.



Grey-banded leaf weevil

DESCRIPTION:

- A sporadic pest that has a widespread distribution across the southern cropping region;
- Adult weevils are approximately 8mm long and light brown-grey in colour. They have distinctive raised markings and a pale colour banding on the rear of the abdomen, and
- Larvae are yellow-green in colour with a darker coloured head, and grow up to 12mm long. They are often observed feeding above ground, on plant foliage.

CROPS ATTACKED AND DAMAGE:

- Canola and lupins;
- Typical damage includes leaf scalloping, chewing of leaf edges and thinning of plants, and
- The stems of young canola seedlings can be completely chewed off at ground level.

CONFUSED WITH:

- Adults are similar in appearance to the vegetable weevil and spotted vegetable weevil, and
- Larvae are similar in size and colour to vegetable weevil larvae.

PHOTO: ADULT (cesar), LARVA (cesar)



PHOTO: ADULT (SARDI)

Polyphrades weevil

DESCRIPTION:

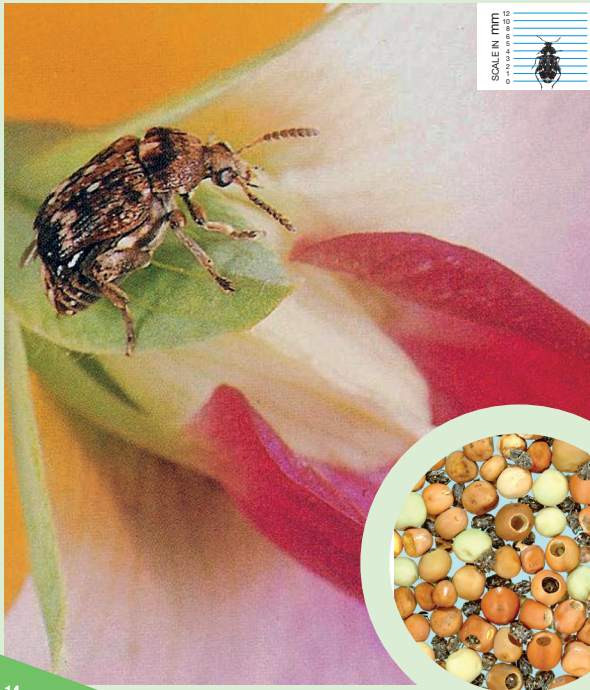
- Found almost exclusively on the Eyre Peninsula, South Australia;
- Adults are approximately 4mm long and have an irregular dull brownish-cream coloured pattern over their entire body, and
- Larvae are about 4mm long and creamy-yellow in colour. They live in the soil.

CROPS ATTACKED AND DAMAGE:

- Wheat and barley;
- Adults attack cereal seedlings close to ground level, resulting in bare areas within the crop, and
- Damage is typically patchy and only significant when a very high number of weevils is present.

CONFUSED WITH:

- Mandalotus weevil.



Pea weevil

DESCRIPTION:

- Despite its name, the pea weevil is not a true weevil but belongs to another group of plant-feeding beetles;
- The pea weevil is a common pest across the western and southern cropping regions (excluding Tasmania);
- The adult is about 5mm long and has a brown body flecked with white, black and grey patches, and
- Larvae are curled, cream-coloured grubs that grow to 5mm long. Like true weevils, the larvae are legless.

CROPS ATTACKED AND DAMAGE:

- Field peas;
- Larvae hollow out seed, reducing yield and quality;
- Infested seeds can lose up to 25 per cent of their weight from larval feeding and are prone to shattering when harvested, and
- Live adults can result in rejected grain at delivery.

CONFUSED WITH:

- Can be confused with true weevils, although they do not have the typical weevil snout.



PHOTO: ADULT (SARDI), PEA WEEVIL DAMAGE (DAFWA)

MONITORING

Monitoring involves the assessment of the health of a crop, the presence of pests and gauging their population levels at regular intervals. This is a critical component of integrated pest management as the identification of pest (and beneficial) insects, and their relative densities is used to inform control decisions.

A variety of sampling techniques can be used to monitor weevils. Visual searches are one of the most common methods. Often, direct searches need to be undertaken at night when species are mostly active. Pitfall traps can be used to sample ground-dwelling species, particularly adults. For soil-dwelling species, inspect root nodules for the presence of larvae. If poor establishment has occurred, search for the presence of larvae by digging in the soil to a depth of at least 10cm.

Damage can occur at any time of the season, but feeding during autumn is typically the most critical. Inspect paddocks and nearby weeds prior to sowing and monitor crops for signs of seedling damage and bare patches within paddocks. In spring, look for signs of chewing damage on plants as well as a loss of plant vigour.

Monitor regularly and thoroughly. The distribution of many weevil species can be patchy; randomly choose monitoring sites within each paddock. For some species, understanding the paddock history and where problems have previously occurred can be a guide. As a good place to start, inspect along fencelines and areas within paddocks where broadleaf weeds are present, or were growing prior to sowing.

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GRDC PestLinks, www.grdc.com.au/pestlinks

I SPY, www.grdc.com.au/Resources/Bookshop/2012/11/I-SPY

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