Vegetable weevil
[Listroderes difficilis]

Other common names: Brown vegetable weevil

Summary:
The vegetable weevil is a sporadic pest and widely distributed across all Australian states. Adults have grey-brown bodies, a prominent snout and a distinctive pale 'V' on their back. Both adults and larvae are pests of establishing canola, often where weeds are present. Vegetable weevils do not typically feed below ground. More damage usually occurs around crop edges or where host weeds are present. Vegetable weevils can be managed by reducing weed host plants and using a border spray at crop emergence.

Occurrence:
The vegetable weevil originated in South America, and is now a sporadic pest that is widely distributed throughout Australia, occurring in all states and territories.

Description:
Weevils are the largest family of beetles. There are over 6,000 described species in Australia. Adult vegetable weevils (sometimes called the brown vegetable weevil) are 8 mm long, greyish-brown in colour and have a noticeable and inconspicuous V-shape marking (grey brown) on the wing covers near the rear of the body. Adults have a prominent snout and small pointed process towards the rear of each wing cover. Vegetable weevils are flightless. Larvae are legless and either yellow to green, or cream in colour with an orange-brown head. They have a curved body and can grow up to 13 mm long.

Adult vegetable weevil showing pointed processes and V-shape on wing covers (Source: cesar)
Lifecycle:

Vegetable weevils have one generation per year, with adults laying up to several hundred eggs on plants, surface litter or soil from mid March until September. Larvae feed on leaves of plants and pupate in the soil. Adults emerge between September and October, but during summer and early autumn adults undergo a diapause period and are inactive in the soil.
**Behaviour:**

Larvae feed during the night on developing plants and shelter in the soil during the day. Adults emerge in spring, feed at night and shelter during the day. Adults undergo a diapause period and are inactive in the soil during summer. Because they are flightless insects, natural dispersal can be slow.

**Similar to:**

It is difficult to distinguish between the larval stages of weevil species. Larval stages are legless (apodous), maggot-like in shape and may be confused with fly larvae, which are also legless. Unlike weevils, most fly larvae do not have a well-defined head capsule. Adults and larvae are similar to the grey-banded leaf weevil. Adults are also confused with spotted vegetable weevil.

**Crops attacked:**

Canola and other brassica plants. Capeweed is a common weed host.

**Damage:**

Canola seedlings may be retarded or killed completely as a result of feeding. Both adults and larvae are capable of chewing sections out of the leaves. This species does not typically feed below ground. Vegetable weevils cause damage that includes chewing of leaf edges, or seedlings eaten down to ground level. More damage usually occurs around crop edges or where host weeds are present.

![Vegetable weevil damage to cotyledons and first leaves of canola (left) (Source: Copyright © Western Australian Agriculture Authority, 2015)](image)

**Monitoring:**

Monitor canola crops at establishment and the seedling stage during autumn and winter. Focus on crop edges in particular. Searches for adults are best undertaken at night, as this is when vegetable weevils are most active. During the day, search for weevils around the base of damaged plants or hiding under trash. Larvae may be just below the soil surface or found in the terminal growth. Pitfall traps are an effective technique to assess the abundance of weevils.
Economic thresholds:

There are no established economic thresholds for this pest.

Management options:

**Biological:**
There are no known predators, parasites or pathogens that effectively control vegetable weevils.

**Cultural:**
Reduce weed host plants, particularly capeweed, prior to planting. This can be achieved through grazing, cultivation or the use of herbicides. Rotations involving non-host plants, or a long weed-free fallow prior to planting, will minimise both adult and larval numbers. Sowing canola crops away from paddocks known to contain vegetable weevils reduces the risk of invasion.

**Chemical:**
Several insecticides are registered for control of vegetable weevils in broadacre crops, including alpha-cypermethrin, bifenthrin, chlorpyrifos and esfenvalerate. Effective control can often be achieved with a border spray at crop emergence. Blanket sprays are often unnecessary for effective vegetable weevil control.

Damage by vegetable weevils can be reduced by reducing weed host plants and a border spray at crop emergence.

Acknowledgements:
This article was compiled by Sandra Hangartner, Garry McDonald (cesar) and Paul Umina (cesar).

References/Further Reading:


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