

Vegetable -Matters-of- Fact

Number 51
July 2008



POTATO

Whitefringed weevil in Potato (*Naupactus leucoloma*)

- It is the weevil grubs (larvae) that cause the damage.
- Adults feed on a wide range of plants.
- The most favoured crop is lucerne but other hosts are potatoes, carrots, cucurbits and legumes such as beans.
- In potatoes larvae damage the young plants and gnaw furrows or pits in tubers.
- Insecticides are not an effective control.
- Cultural practices are the most effective control method.
- Dry conditions may lead to an increase in weevil numbers.



An adult weevil, showing the distinctive white stripe along the side of the body.
(J.L. Castner, University of Florida)



Grub (larvae) of the whitefringed weevil
(W. Dixon, University of Florida)

Geographical distribution

Whitefringed weevil is native to South America and was first reported in NSW in 1932. It is now distributed throughout cooler southern coastal areas including the main potato growing areas. Its ability to feed on many crop species (over 380 plant species are attacked by the pest) means that once established, it is difficult to eradicate. Its distribution in Australia is patchy.

Economic importance

Whitefringed weevil can cause economic losses to potatoes in Victoria particularly if planting into infested ground or areas previously cropped with lucerne.

White fringed weevil's diverse feeding habit gives it the potential to become a major pest. In some parts of the world it has become impossible to grow crops due to the presence of high weevil populations.

Description

Adult weevils are beetle-like about 10 to 13 mm long with a short broad down-pointing snout. They are slaty-grey with a white strip along the edge of the wing cover which gives them their common name. The wing covers are fused together to form a shell and the insect cannot fly.

The grubs are white or grey with brown heads and no legs. They are wrinkled and slightly curved, tapering from behind the head to the hind end. They reach a length of about 13mm.



Life cycle

- All adult weevils found in the field are females. They live for several months and lay up to a 1000 eggs.
- Eggs are oval and about 1mm long. Batches of about 20 eggs are laid on or just under the soil surface or on soil trash. Eggs hatch after about 2 weeks.
- The young grubs burrow into the soil and are found mostly at depths of 5 to 15cm.
- The grubs feed on roots for many months before pupating in the soil in late spring.
- Adults emerge from the soil in late November through to April, with peak numbers usually in February.
- There is one generation per year.

Weevils are often present in low numbers in pasture crops in potato growing areas. Weevils can hide in hay bales, farm equipment and produce. When a legume such as lucerne or a root crop such as potato is grown in an infested paddock, numbers can quickly build up. Plants with fibrous roots, such as cereals are less preferred hosts.

Adults prefer feeding on plants with large, broad, smooth leaves and feed at the bases of leaf margins.

Pest management

There is no single control method but a combination of several methods can provide satisfactory control.

- Avoid planting in infested land.
- Infested land should be ploughed up in autumn and sown with a cereal such as oats or another crop with fibrous roots
- If you need to plant potatoes the land should be thoroughly prepared in the autumn and sown at a high seeding rate with a cereal such as oats.
- Adopt longer rotations with grains or grasses but avoid legumes.
- Avoid planting in an area previously cropped with lucerne or a legume.
- Avoid transporting hay, uncleaned vehicles and agricultural equipment or soils from infested fields.
- There are no satisfactory chemical controls due to the difficulty of reaching larvae in the soil and due to the extended period over which adults emerge.
- Populations are reduced by high rainfall because the larvae may be drowned when there is excess water.
- Changing weather patterns with less rain may lead to an increase in weevil numbers.

Resources used to produce this Matter-of-Facts

- Dixon W.N., 2003. **White fringed Beetles.** Fact sheet EENY-294 Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. <http://edis.ifas.ufl.edu/IN572>
- **Insects and diseases of Australian Potato crops** by Paul Horne, Rudolf De Boer and Dennis Crawford
- <http://www.cesar.org.au/>

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Vegetable Matters-of-Fact is published as part of DPI's VegCheque extension program.

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□ *The State of Victoria. Department of Primary Industries. 2004. ISSN: 1445-5676*