



PESTFACTS South-Eastern



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PestFacts is a free service designed to keep you informed about invertebrate pest-related issues - and solutions - as they emerge during the winter growing season. The service is supported by the GRDC's National Invertebrate Pest Initiative, with a focus on pests of broad-acre grain crops in south-eastern Australia.

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SLUGS

Grower, Michael Nash, has reported the presence of slugs in a canola crop (2-4 leaf stage) near Mortlake, in the Western district of Victoria. Slug numbers were monitored by placing terracotta-paving tiles throughout the paddock (approximately 120 tiles in total), then counting the numbers of slugs underneath each week. Michael says numbers increased from early May onwards, and baiting has now been carried out. An iron-chelate based product (Multiguard) was used rather than a traditional chemical, in order to help maintain a healthy population of beneficial species, such as carabid beetles, which are voracious predators of slugs. Slugs have also been reported in other canola crops in the Western district in recent weeks.

Slugs can be problematic to emerging crops and grasses at this time of year, particularly in areas that have experienced good autumn rainfall. They are more likely to be found in paddocks where they have previously been a problem. The most commonly encountered species are the grey field slug (*Deroceras reticulatum*) and the black keeled slug (*Milax gagates*), which both grow to about 40-50 mm long. Michael reports finding both of these species, as well as low numbers of the brown field slug (*Deroceras panormitanum*).

Click [here](#) for images of the grey field slug and click [here](#) for images of the black keeled slug.

Slugs damage plant seeds and seedlings, mainly feeding at night. Damage to seedlings is often in patches and can result in the death of plants. Although all seedling crops and pastures may be attacked, canola is particularly susceptible. Because slugs are usually more active at night, it can be difficult to estimate numbers accurately without monitoring. Using terracotta tiles, or another type of 'trap' such as carpet squares or flowerpot bases is the best



way to monitor slug numbers. Traps should be placed on the soil surface when it is visibly wet, and then checked after a few days for the presence of slugs underneath. A small amount of bait placed under each trap will help to attract slugs if they are present. Once the crop has been seeded and germination has commenced, crops should be examined at night for slug activity. It is also a good idea to continue these checks to determine the effectiveness of control methods.

The most common control method for slugs is to apply baits, which should be applied early in the season after good germinating rains. This is when slugs are emerging from their hiding places and actively looking for food. This means there is little alternative food to compete with the bait pellets and adults are likely to be killed before they have laid eggs. Baiting will generally only kill 50% of the slug population at any one time, mainly the larger ones. Baiting (using a suitable application method) in early autumn around crop edges may minimise the impact of slugs invading from surrounding pasture or fence lines.

There are also a number of other effective control measures for slugs, including cultural and biological methods. Abundant ground cover and stubble can provide ideal moisture levels and shelter for slugs. Good crop hygiene, weed control and removal of refuges can help to reduce the problem over time.

PASTURE COCKCHAFERS

Agronomist, Craig Drum (Tatooon Rural), reports finding [blackheaded pasture cockchafer](#) grubs (*Acrossidius tasmaniae*) in a long-term pasture paddock southwest of Ararat, in the Western district of Victoria. Approximately 15 early instars were found in a 10 cm x 10 cm area, along with several carabid beetles. Both the adults and larvae of carabid beetles actively prey upon a variety of pests, including cockchafer grubs. Craig says the paddock will be monitored closely to determine what impact the carabid beetles (and other predators) are having on the grubs, prior to making a control decision.

Cream coloured scarabid larvae with yellow-brown head capsules have been reported by agronomist, Mick Duncan (Northern Agriculture), in an improved pasture paddock northeast of Armidale, in the Northern Tablelands district of New South Wales. These have been identified by senior technical officer, Ken Henry (SARDI), as *Sericesthis* spp. (yellowheaded cockchafers) and *Dasygnathus* spp. (redheaded white grubs). Damage was patchy and Mick says up to 50 grubs per square metre could be found in 'hotspots' throughout the paddock. In these areas the grass could be 'rolled back like a carpet'.

Small, cream coloured grubs with yellow head capsules have also been reported in several newly sown crops near Forbes, in the Central West Slopes and Plains district of New South Wales. These are also likely to be yellowheaded cockchafers, or a closely related scarabid species.

Click [here](#) for images of the yellowheaded cockchafer,

Blackhead pasture cockchafers are pests of pastures and cereals in Tasmania, SA, NSW and Victoria. The grubs are creamy-grey in colour with a black head. When fully grown in winter they are about 15mm long. The grubs come to the surface at night in response to rains and heavy dews. They feed on clovers, grasses and some weeds, chewing plant material in their tunnels during the day. Small mounds of dirt surrounding holes on the soil surface are often the first sign of blackheaded pasture cockchafer activity. Other indicators are bare patches that



appear in pastures from mid-autumn to late winter. Heavily infested areas may feel spongy underfoot.

Blackheaded pasture cockchafers are the only cockchafer species that comes to the surface to feed, and several chemicals are registered for their control. Previous reports suggest that when chemicals are needed, alpha-cypermethrin generally achieves adequate control. If cockchafers are a continual problem, consider sowing tolerant pasture species such as phalaris and cocksfoot. Avoid short, open pastures and a high clover content, which favour pasture cockchafers.

Yellowheaded pasture cockchafer larvae are "C" shaped, creamy-grey in colour and have a yellow head capsule. When fully grown in winter they are about 25-30 mm long. The grubs live in the soil until mid-to-late summer, where they emerge as yellow-reddish beetles about 10-15 mm in length. Unlike blackheaded cockchafers, which come to the surface to feed, yellowheaded cockchafers are primarily root feeders.

Control of yellowheaded cockchafers is complicated; there are no insecticides that provide effective control because of their subterranean feeding habits. Pasture renovation is the key to controlling these species. Re-sowing bare areas using a higher seeding rate is often the most effective strategy. Cultivating the affected areas prior to sowing a crop can also help reduce pest populations as it exposes the grubs to predation by predatory invertebrates and insectivorous birds. To help facilitate biological control, existing on-farm native vegetation should be preserved, and more breeding habitats for these birds and parasitic insects should be created.

To check paddocks for cockchafers, dig in the affected areas or look on the soil surface for tunnel entrances. Be aware that if you did not have problems with cockchafers last year, it does not mean that you won't have this year. Adult beetles achieve long distance dispersal by flying, usually at dusk on warm evenings around late November.

BRYOBIA MITES

Agronomist, Heidi Gooden (Delta Agribusiness), has reported the widespread presence of [bryobia mites](#) (*Bryobia* spp.) in many canola crops around Wagga Wagga, in the Riverina district of New South Wales. Mites were found in high numbers over a 4-5 week period through May, during which the region received little or no rainfall. As most canola in the region had been sown in late April following some good rain, crops struggled during this extended dry period and some sustained significant damage. This warm, dry period provided ideal conditions for bryobia mite activity, as unlike most other earth mite species that prefer the winter months, bryobia mites are typically most active in autumn, spring and summer.

Heidi estimates that approximately one-third of the canola crops in the region were affected to some degree. In the worst affected paddocks there were patches where all plants had silvering and cupping on the leaves and cotyledons, which are typical signs of bryobia mite damage. Bryobia mites were reported in the Wagga Wagga area in [PestFacts Issue No. 2](#), however the extent of the problem was not fully apparent. Heidi says there did not appear to be any clear pattern linking the affected paddocks, although triazine tolerant (TT) canola varieties appeared to incur greater damage.

Often called the 'clover mite', bryobia mites are less than 1 mm long with a fawn-orange coloured body and orange legs. They may attack clovers, canola, wheat and lupins, and in



the field they can be easily misidentified as redlegged earth mites. Bryobia mites can be distinguished by their long forelegs, which are about 1.5 times their body length.

Click [here](#) for images of bryobia mites.

Bryobia mites can be difficult to control with pesticides, and they are often reported to persist in the field following chemical applications aimed at other mite species. Recent findings by CESAR have found that organophosphates may provide better control of bryobia mites than synthetic pyrethroids. Heidi reports that omethoate was most commonly used when chemical control was necessary.

MORE MANDALOTUS WEEVILS

Mandalotus weevils (*Mandalotus* spp.) have been identified for agronomist, Allan Edis (AGnVET Services), from a canola crop near Henty in the Riverina district of New South Wales. This follows recent observations of Mandalotus weevils causing extensive damage to some canola crops in the Victorian Wimmera and Mallee districts, as well as the Mallee area of South Australia. Allan says approximately 3-4 ha of the paddock was completely bared out as a result of the weevil feeding. Mandalotus weevils are also assumed to be responsible for similar damage in a nearby canola crop, however no weevils (or any other pests) could be found upon visual inspection.

Adult Mandalotus weevils are 3-5 mm long and have a rounded, dull brown coloured body, which can easily be mistaken for a small clod of dirt. Adults actively feed during the night, whilst during the day they can be extremely difficult to detect. Feeding damage is usually first noticed on the leaves of emerging crop plants. In severe cases the seedlings may be 'ring barked' just above ground level. This causes the plants to fall to the ground where the weevils continue feeding on the leaves.

Click [here](#) for images of Mandalotus weevils and refer to [PestFacts Issue No. 3](#) for more information.

BENEFICIAL VELVET MITES

Agronomist, Chris Baker (AGnVET Services), has reported finding large, bright red coloured mites in a canola crop (2-leaf stage) northeast of Parkes, in the Central West Slopes and Plains district of New South Wales. The mites have been identified as predatory 'velvet mites', belonging to the Trombidiidae or Erythraeidae families. Beneficial velvet mites were also recently observed by researcher, Sommer Jenkins (CESAR), in an emerging canola crop south of Ararat, in the Western district of Victoria.

Almost all mites in the Trombidiidae and Erythraeidae families are predatory; as adults they are generally free-living active predators on a range of invertebrates, whereas the nymphs of many species are parasitic on insects. Balaustium mites (*Balaustium medicagoense*) from the Erythraeidae family are one exception to this; they are an emerging pest of several agricultural crops (including canola). Trombidiidae and Erythraeidae mites are typically bright red to brown in colour, and some species can be quite large. Their body is covered in many short stout hairs, giving them a 'velvety' appearance, which is particularly evident when viewed under a hand lens or microscope.

Click [here](#) for images of predatory Trombidiidae mites and click [here](#) for images of balaustium mites.



PESTFACTS SERVICE

PestFacts is sent directly to readers via e-mail (subscription free). This service is produced on an 'as-needs' basis in response to pest observations and reports. Your support and feedback are essential to the success of PestFacts. If you have recently observed invertebrate pests (or beneficials) in crops and pastures, contact Stuart McColl on (03) 9329 8816 or email stuart@cesarconsultants.com.au. A free pest identification service is available to all PestFacts subscribers.



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