



PestFacts WA

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Slaters and Portuguese millipedes are damaging crop seedlings

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Image 1: Portuguese millipedes and a pill bug slater (at bottom of photo) in an oat crop. Photo courtesy of: Quenten Knight (Agronomy Focus).

Quenten Knight (Agronomy Focus) has reported finding damage in emerging oats from slaters and Portuguese millipedes north-east of Grass Patch. Quenten noted that the damage was confined to heavy cloddy soil with delayed crop emergence.

Slaters and Portuguese millipedes feed on organic matter in the soil and can occasionally attack living plants by chewing the leaves and stems. Slaters can cause extensive damage to emerging seedlings, and while crop damage by Portuguese millipedes is unusual, the

incidence has increased in recent seasons. Large numbers of Portuguese millipedes can be present in paddocks and not cause crop damage.

Slaters

- Kulin
- Cascades
- Munglinup



Image 2: Slater chewing damage on oat seedlings. Photo courtesy of: Dani Whyte (Braeleigh Consulting).

Dani Whyte (Braeleigh Consulting) has reported extensive damage from slaters in an oat seedling crop near Kulin, where up to 10 ha of the crop has been severely damaged. The oat crop had been sown into dense stubble.

Monica Field (Farm and General) has also reported slater damage to emerging canola crops near Cascades and Munglinup.

Introduced slaters have only recently become a problem in high rainfall crops sown into dense stubble. Damage to canola crops may be more noticeable in later sown crops that have experienced moisture stress and in paddocks with heavier loams and clays. Slaters survive on organic matter on the soil surface and a heavy stubble load may aid their survival over summer. If the organic matter dries out the slaters cannot survive.

Slaters have a hard skeleton on the outside of their bodies, 7 pairs of jointed legs, and 2 pairs of antennae.

The common slater, *Porcellio scaber*, grows up to 20 mm in length and is usually pale grey. The pill bug, *Armadillidium vulgare*, which can roll into a ball when disturbed, grows up to 18 mm and is dark brown to black in colour. Both are European species that are now widespread in Australia.



Image 3: Slaters. Photo courtesy of: DPIRD.

Portuguese millipedes

Growers in the southern region may have noticed an increase in Portuguese millipede (*Ommatoiulus moreleti*) populations in recent seasons, particularly after the first rainfall of the season.

Portuguese millipedes are native to southwest Europe, and after being accidentally introduced into Western Australia (WA) in 1986 are now commonly found in the southwest region. These millipedes are easily transported between properties and to new regions through infested soil, plant material and in farm machinery.

Increases in Portuguese millipede numbers have been linked to an increased uptake of no-till practices, stubble retention, and improvements in soil organic matter which can provide a favourable habitat for millipede populations. Cesar Australia have reported some damage to emerging canola crops in South Australia, New South Wales and Victoria in recent years, and suggest that millipedes feed on crop plants to access moisture when it is limited. More information is available on Cesar Australia's [Black Portuguese millipede](#) PestNote.

The smooth, cylindrical body of the Portuguese millipede distinguishes it from native millipede species, which look bumpier. Native millipedes are usually found in low numbers and are widespread. Portuguese millipedes congregate in large numbers around houses and sheds on farms and are quite mobile, especially after the first rains in autumn.

Black Portuguese millipedes will curl up into a tight spiral when disturbed, or try to escape with thrashing, snake-like movements. Adults are 20 to 45 mm long when fully developed and range in colour from slate-grey to black. The juveniles are light grey/brown, often with a darker stripe along each side. For more information on the millipede's life cycle see DPIRD's Portuguese millipedes page.

How to check crops and manage slaters and Portuguese millipedes

Crops can be checked by observing plant damage and searching at night. Portuguese millipedes are attracted to light and slaters are easily found under stubble in the vicinity of crop damage.

Slaters cause uneven rasping-type damage that can appear similar to slug and snail damage. They can chew the tops of emerging cotyledons or leaves of crop seedlings, leaving only the seedling stumps.

Portuguese millipede damage to canola crops can appear as irregular pieces chewed from the leaves, or dead seedlings if chewing damage is severe. Damage to cereals can also occur if the stems of young plants are chewed.

Control options are limited but there are some measures that will curb populations including cultural control methods to remove or decrease the amount of stubble on the ground in early autumn. Early sowing of high-vigour varieties at a higher seeding rate will help compensate for seedling losses from pest damage.

At crop germination the only management option for slaters and millipedes is to bait or to spray. The application of residual insecticide sprays have had some efficacy in protecting a germinating canola crop from damage. However, as both of these pests are nocturnal and shelter under stubble it can be difficult to get good spray coverage for their control.

Slaters and millipedes will seek out baits when actively feeding.

Insecticide products with the active ingredients fipronil and metaldehyde are currently the only bait formulation registered for canola in WA for agricultural areas.

Further information

For more information on slaters refer to:

- DPIRD's Diagnosing slaters in crops page
- Grains Research and Development Corporation (GRDC) [Mitigating snails, slugs and slaters in Southern Western Australia](#).

For more information on Portuguese millipedes refer to:

- DPIRD's Portuguese millipedes page
- Cesar Australia's [Black Portuguese millipede](#) PestNote
- GRDC's [Millipedes and slaters in no-till systems](#) fact sheet.

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Canola aphid and virus update



Image 4: Winged and non-winged green peach aphids on turnip yellows virus infected canola. Photo courtesy of: Benjamin Congdon (DPIRD).

Green peach aphids (GPA) were recently reported for the first time this season at Northam in a 2-4 leaf canola crop. Approximately 2 out of the 30 plants inspected had GPA. Turnip aphids were also recently found in a 4-leaf canola crop at Northam.

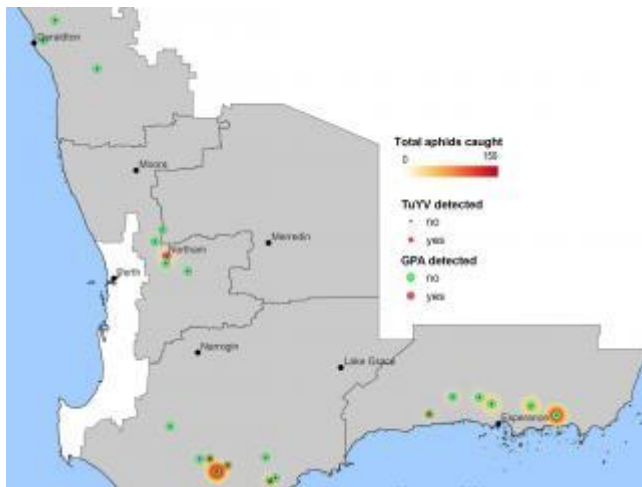


Image 5: Turnip aphids on canola. Photo courtesy of: Amber Balfour-Cunningham (DPIRD).

The Department of Primary Industries and Regional Development (DPIRD) continues to monitor aphid activity using yellow sticky traps on fencelines of canola paddocks in the Geraldton, Kwinana West, Albany and Esperance regions. The traps and nearby canola crops are being monitored for GPA and all aphids caught on the traps are being tested for the presence of Turnip yellows virus (TuYV). This trapping will continue until the start of September.

TuYV has not yet been detected in aphids or crops at Northam, but it has been detected in the Albany and Esperance port zone this season, mostly from cabbage aphids which are

not considered important TuYV vectors in WA. For more aphid and virus findings see the map below.



Findings from green peach aphid and turnip yellows virus monitoring sites, current to 25 June 2024. Map courtesy of: DPIRD.

This trapping surveillance is funded by the GRDC project DAW2305-003RTX “Effective virus management in grains crops”.

Management

Growers and advisors in the Kwinana West, port zone should be monitoring young crops for aphids over the next couple of weeks. The risk of TuYV is a lot higher when the vector GPA is present, while turnip aphids and cabbage aphids are not vectors of TuYV.

Cold weather over the winter months is likely to reduce aphid flights and slow down aphid population growth in canola crops.

Crops that have begun stem elongation and are aphid and virus free are now in the safe zone.

The use of insecticides to control certain aphid/virus combinations (such as cereal aphids/yellow dwarf viruses and GPA/TuYV) in these more mature crops is unlikely to provide any economic benefits. Crops still in the early vegetative growth stages may still be at risk if they are still in the pre-flowering growth stages when temperatures begin to increase, and aphids become more active again.

If growers or agronomists operating in these regions observe aphid infestation or virus-like symptoms in crops, please contact DPIRD Research Scientist [Benjamin Congdon](#) on +61 (0)8 9368 3499.

Effective chemicals currently available in Australia for control of GPA are alarmingly limited as GPA has evolved resistance to many insecticide chemicals. For more information see GRDC’s Aphid and insecticide resistance management in grain crops.

For registered insecticide recommendations, refer to DPIRD’s 2024 autumn winter insecticide guide.

Further information

To read about earlier aphid surveillance findings this season and management advice refer to the 2024 PestFacts WA Issue 4 article [Turnip yellows virus detected in migrating cabbage aphids](#).

For more virus management information refer to DPIRD's [Barley and cereal yellow dwarf viruses and their management](#) and [Turnip yellows virus and its management in canola](#) factsheets.

For further information contact Research Scientist [Benjamin Congdon](#), South Perth on +61 (0)8 9368 3499.

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