PestFacts WA

Issue: 19
Date: October 2025

Contents

Patchy crops: Diagnosing the cause for better 2026 management

- Dandaragan
- Calingiri
- Highbury

Wheat plants with some displaying take-all symptoms, including white coloured heads, among healthy plants. Photo courtesy of DPIRD.

Take-all has recently been confirmed in wheat crops near Dandaragan and Calingiri.

Rhizoctonia root rot in barley at Highbury. Photo courtesy of DPIRD.

Patches of rhizoctonia root rot were also observed in barley at Highbury this week.

Patchy growth in cereals may result from soilborne diseases such as rhizoctonia and take-all, from root lesion nematodes (RLN), or from non-disease factors. Multiple constraints can co-exist in affected areas.

Accurate diagnosis now, using tools like Predicta B, can help guide effective management decisions for 2026. Growers are encouraged to investigate poor-performing patches early to reduce disease carry-over and improve paddock productivity next season.

Take-all

Wheat plant roots affected by take-all. Photo courtesy of: DPIRD.

Take-all is a fungal root disease affecting wheat and barley, particularly in Western Australia's (WA's) medium to high rainfall areas.

In the crop, look for patches (up to several metres in diameter and with indistinct and irregular edges) of white tillers and heads containing shrivelled or no grain. Dark lesions (often referred to as 'black socks') will be present on crowns and stems. The roots of affected plants are blackened, brittle and break easily. They are black to the core, not just on the outer surface. Yield losses can be severed if unmanaged.

A grass-free break crop (e.g. canola or lupins) and strict weed control are essential to reduce inoculum levels.

Accurate diagnosis, using tools like Predicta B, can support planning for 2026.

For more information on take-all refer to Soil Quality's Take-all disease factsheet

Rhizoctonia root rot

Distinct rhizoctonia root rot patches in a barley crop. Photo courtesy of: DPIRD.

Plant roots affected by rhizoctonia. Photo courtesy of: DPIRD.

Rhizoctonia root rot, caused by *Rhizoctonia solani* AG8, is widespread across WA's cereal growing regions.

Infected crops show sharply defined patches of stunted plants with spear-tipped roots. Early root infection leads to distinct bare patches, while later crown root infection causes uneven growth. Weeds often thrive in these areas due to reduced crop competition.

For 2026, growers with confirmed rhizoctonia should consider a grass-free break crop such as canola, pulses, or clean pasture. Canola rotations have proven effective in reducing inoculum levels, although rhizoctonia may return in the second cereal year. Deep tillage (e.g. mouldboard ploughing) and sub-seed furrow loosening can also help reduce disease pressure.

Seed dressings and in-furrow fungicide treatments are registered for use in cereals for the suppression or control of rhizoctonia. For more information, refer to DPIRD's Fungicides page.

For detailed information about management options for rhizoctonia, refer to:

- Grains Research and Development Corporation's (GRDC's) Tips and Tactics Rhizoctonia factsheet
- DPIRD's Rhizoctonia in your paddocks YouTube video
- GRDC's Managing Rhizoctonia in wheat and barley YouTube video
- DPIRD's Soil Quality: 5 Soil Biology e-book.

Root lesion nematodes

A microscopic view of root lesion nematodes (stained pink) in the root system. Photo courtesy of DPIRD.

Nematodes are microscopic, worm-like creatures that come in many forms and are important to soil biological structure. Plant parasitic nematodes naturally live and feed on the plant root systems, and most plants can tolerate low levels without any ill effect. However, when populations of plant parasites like root lesion nematodes (RLN) increase to damaging levels, yield is likely to be impacted. These impacts are exacerbated by environmental stresses such as a moisture stress, poor soil fertility, or soil compaction.

Root lesion nematode damage causing visible patches in a wheat (var. Mace) crop near Dumbleyung. Photo courtesy of DPIRD.

Above-ground symptoms of plants infected with RLN include stunting, poor growth, fewer tillers, early wilting and lower leaves turning yellow prematurely and dying back from the tips.

Cereal roots with lesions from nematode feeding activity (left) and cereal roots with more advanced nematode damage (right). Photos courtesy of: DPIRD.

Below-ground symptoms often include poor root systems with sloughing of the root cortex, fewer lateral roots or root hairs compared to nearby healthy plants. Brown or dark coloured lesions along the roots are also common.

Unfortunately, common crop rotations in WA are dominated by susceptible crops. Many growers are reducing the frequency of break crops (such as lupins and field peas) and instead are growing predominantly cereal-canola rotations. Canola, wheat, barley and oats

are susceptible to RLN. This can cause plant parasitic nematode numbers to accumulate to high levels, resulting in significant yield losses.

Four species of RLN are commonly found in Western Australia: *Pratylenchus neglectus*, *P. quasitereoides*, *P. thornei,*and *P. penetrans*. Other plant parasitic nematodes that have the potential to cause yield loss in WA include the cereal cyst nematode and the burrowing nematode. Correct identification of nematode type and species is important, as different RLN species have different crop-feeding preferences. Therefore, selecting a suitable crop and variety to mitigate future crop damage depends on knowing which plant parasitic nematode species are present.

Management relies on reducing nematode numbers by growing less susceptible crop varieties, resistant break crops, early sowing, in crop weed management or a weed free fallow. Where nematode populations are high, a break of more than one season may be needed.

Refer to DPIRD's 2025 WA Crop Sowing Guide for nematode resistance classifications for different cereal varieties.

Common WA weeds and some pastures can also be susceptible to nematodes. Controlling summer weeds and keeping in-season weeds under control in infested paddocks are important management practices.

For more information on nematodes refer to DPIRD's Root lesion and burrowing nematodes and their management factsheet and GRDC's Root lesion nematode – West Australia YouTube video.

Root disease diagnostics

Patches caused by rhizoctonia or RLN are difficult to distinguish from each other without close inspection of the plant roots. Further laboratory testing is often required to identify the primary cause of the issue.

In some cases, a combination of diseases and nematodes are responsible.

There is nothing that can be done in-season to control root diseases but knowing what they are in the current season can help growers prepare for the next season.

How to send plants to be diagnosed

For diagnosis of root disease or nematode problems in-crop, growers and consultants can carefully dig up symptomatic plants from the edge of the patch (not the centre) as well as healthy plants from outside the patches. The department's YouTube video How to take a plant sample shows the correct method to use.

The DPIRD Diagnostic and Laboratory Services (DDLS) continue to have some services impacted by the South Perth site. For all testing enquiries and to submit plant specimens for testing to DDLS, please email DDLS@dpird.wa.gov.au or phone +61 8 9368 3351.

More information

For more information contact Senior Research Scientists Daniel Hüberli in Perth on +61 8 9368 3836, Sarah Collins in Perth on +61 404 488 113 or Research Scientist Carla Wilkinson in Perth on +61 8 9368 3862.

Article authors: Cindy Webster (DPIRD Narrogin), Sarah Collins (DPIRD Perth), Zia Hoque (DPIRD Perth), Daniel Huberli (DPIRD South Perth), Carla Wilkinson (DPIRD Perth) and Kylie Chambers (DPIRD Northam).

Wheat streak mosaic virus

- Dalwallinu
- Cascade

Wheat leaves infected with wheat streak mosaic virus. Photo courtesy of DPIRD.

Wheat streak mosaic virus (WSMV) is a seed and mite-borne virus that causes significant disease in wheat. It is spread by the only known vector of WSMV, the wheat curl mite (WCM).

In mid-September, WSMV-like symptoms were reported in a wheat crop growing in Dalwallinu by Travis Hollins (Dalwallinu Traders). At the time, disease levels were estimated to be approximately 40%. Laboratory testing conducted by the Department of Primary Industries and Regional Development's (DPIRD's) Grains Virology team confirmed the presence of WSMV in the infected samples.

WSMV was also detected at low levels (1-2%) in a wheat crop near Cascade in the Esperance region. This crop was randomly sampled on 8 September as part of the virus surveillance program conducted under the Grains Research and Development Corporation project DAW2305-003RTX, Effective virus management in grain crops.

Wheat curl mite

The adult wheat curl mite. Photo courtesy of DPIRD.

The WCM is tiny (less than 0.3 mm in length), cigar-shaped and cream-coloured. Due to its small size and ability to conceal itself under leaf sheaths and seed glumes, it can only be seen under a microscope.

These mites have a short lifespan of 7 to 10 days at temperatures between 24 to 27°C. WCM populations increase under warmer conditions (23-28°C) but decline rapidly in cold weather. Both WSMV and WCM persist between growing seasons on grass weeds or volunteer cereals that grow over summer. In seasons with high summer and early autumn rainfall, mites can develop large populations on summer weeds and subsequently spread to infest autumn-sown cereals, particularly wheat.

Plant symptoms

Yellow steaking on older wheat leaves is a typical symptom of wheat streak mosaic virus. Photo courtesy of DPIRD.

Symptoms of WSMV in wheat plants include:

- Pale green streaking on leaves
- Yellowing of the older leaves, particularly towards the tips
- Stunted, tufted plant growth.

A gradient of infected (yellow) plants can often be seen across a wheat crop, with the highest concentration near the volunteer wheat green bridge, diminishing with distance into the crop. Early infection (pre-flowering) can result in yield losses and shrivelled grain, whereas infection after flowering has minimal impact on yield or seed quality.

Management

There is no effective miticide available to spray against the disease vector, WCM, and no WSMV-resistant wheat varieties are currently available in Australia.

Management of the disease is highly dependent on reducing sources of WSMV and limiting the build-up of WCM populations.

Sow healthy seed

Seed transmission of WSMV is known to occur at low levels (less than 1%) and is one of the contributing factors to virus carry-over between seasons. Even seed infected with very low levels of the virus can cause significant yield losses, as infection can establish early in the season. Seed being kept for sowing next year should be sourced from WSMV-free crops. DPIRD Diagnostics and Laboratory Services (DDLS) can test seed lots for the presence of WSMV. For more information, refer to the DDLS Seed testing and certification page.

Control the green bridge

Destruction of volunteer cereal or grass host plants (green bridge) prior to sowing wheat is the most effective method of preventing WSMV transmission. These green bridge hosts act as a reservoir of infection and build-up the WCM vector population. Control measures should be applied across the entire paddock (including along fencelines) at least one month before sowing. This process needs to be thorough, involving grazing down to ground level or early application of herbicide. Neighbouring paddocks should be treated similarly, especially those upwind of the crop. This will help ensure the emerging crops are not exposed to early WSMV infection.

There are no management options available once transmission into a wheat crop has occurred.

More information

For further details on identifying and managing WSMV, refer to DPIRD's Wheat streak mosaic virus and wheat curl mite and their management factsheet.

For more information contact Senior Research Scientist Benjamin Congdon in Perth by e-mailing Benjamin.Congdon@dpird.wa.gov.au .

Article authors: Benjamin Congdon (DPIRD Perth) and Cindy Webster (DPIRD Narrogin).

Diamondback moth activity update

- Ogilvie to Howick

An adult diamondback moth. Photo courtesy of DPIRD.

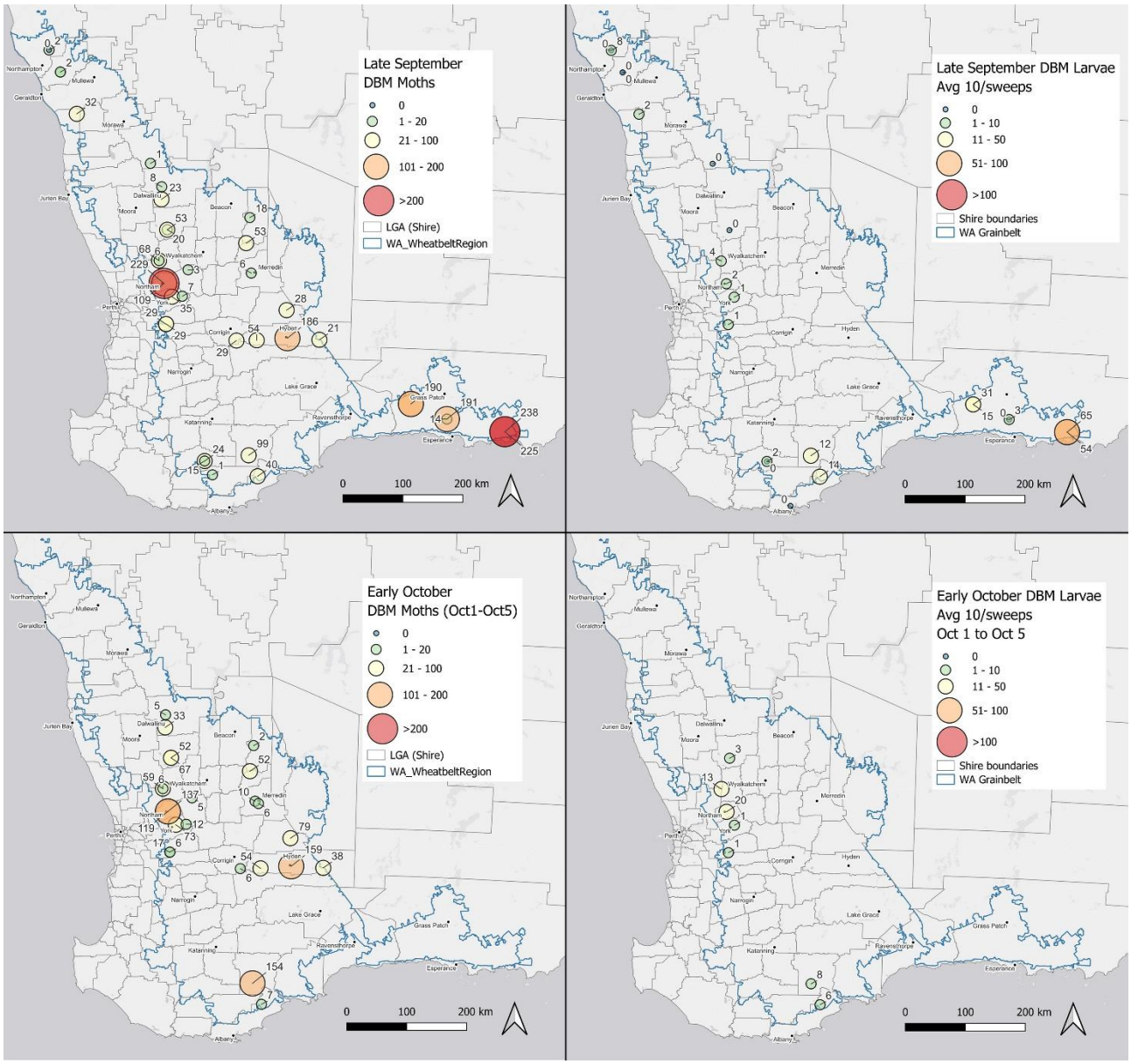
Department of Primary Industries and Regional Development (DPIRD) surveillance staff have recently recorded diamondback moth (DBM) activity – both moths and caterpillars - at canola monitoring sites across the Western Australian (WA) grainbelt, ranging from Ogilvie to Howick. DBM moth numbers have been recorded in pheromone traps, checked fortnightly by staff, and automated TrapView DBM traps. The canola crops at these surveillance sites were at either the late flowering or pod maturation stage. In the Esperance port zone, pheromone traps have been removed as the crops are being swathed or harvested in the near future.

The pheromone trap surveillance site at Howick, east of Esperance, recently recorded reasonably high moth and caterpillar pressure, with 238 moths trapped last week and an average of 64.2 DBM caterpillars per 10 sweeps recorded. Two weeks earlier, 225 moths were trapped at this site, with an average of 53.2 caterpillars per 10 sweeps. The canola plants were at the pod ripening growth stage, so these caterpillar numbers remain below the recommended control threshold of 100 or more caterpillars per 10 sweeps.

The other canola surveillance sites have recorded lower moth numbers in the past week - 191 at Gibson, 190 at Cascade (Esperance shire) 154 at Amelup (Gnowangerup shire), 137 at Northam. Average DBM caterpillar numbers per 10 sweeps were also lower: 31 at Cascade, 19.4 at Northam, 12.8 at Bolgart (Victoria Plains), and fewer than 10 at Ogilvie (Northampton), Wongan Hills, York, Dale (Beverley), Cranbrook, Amelup, Kojaneerup (Albany) and Gibson (Esperance). No caterpillars were sweep netted at Nabawa (Geraldton).

In the last weeks of September, automated TrapView DBM traps recorded 186 DBM moths at Hyden and 229 at Northam. All other automated traps in the central grainbelt recorded low numbers, ranging from 54 to 3 moths over the past fortnight. Numbers remained high in the first week of October, with the Hyden trap catching 159 moths in 7 days and Northam 119.

The DBM adult and caterpillar findings for late September and the first week of October are summarised in the maps below.



DBM moths caught in traps in late September (top left) and early October 2025 (bottom left).The average DBM larvae per 10 sweeps is represented for late September (top right) and early October 2025 (bottom right) Maps courtesy of DPIRD.

DPIRD research has shown that if more than 100 moths are caught in a fortnight, there is approximately a 50% chance that DBM caterpillars will appear in canola within two weeks. Therefore, there may be some late caterpillar pressure on canola crops near Northam, Hyden, Amelup, Gibson, Cascade, and Howick. However, canola crops in these areas are expected to be at advanced growth stages and approaching swathing, making them less vulnerable to caterpillar damage.

Monitoring and management

Caterpillar numbers can vary significantly from week to week within crops. Growers and agronomists are encouraged to inspect canola crops using an insect sweep net and to be prepared to act if numbers have reached thresholds that could lead to economic damage.

DBM have less impact on yield once canola crops stop flowering. Visual surface grazing and scarring of pod walls and stems from late-season DBM caterpillar feeding may result in a minor reduction in grain filling capacity, depending on grub numbers, soil moisture levels and time to harvest.

The DBM control thresholds are:

- 100 or more caterpillars per 10 sweeps at late flowering (without moisture stress)
- 150 to 200 caterpillars per 10 sweeps at pod maturation.

Moisture-stressed crops are more susceptible to insect damage, so a lower threshold may be appropriate during extended dry periods.

Growers and agronomists can use the free MyPestGuide CropScout application and enter their results into the sweep net module to quickly calculate insect spray thresholds in the field.

DPIRD research trials have shown that late season insecticide applications - especially multiple sprays - against DBM are less likely to result in a profitable outcome compared to early and mid-season pest control.

Growers are reminded to abide by label withholding periods for swathing or harvesting canola if applying a registered insecticide to control DBM. For more information on insecticides, refer to DPIRD's 2025 Winter Spring Insecticide Guide.

Growers should also consider insecticide options that are soft on predator insects. For more information, refer to Cesar Australia's Beneficials Chemical Toxicity Table.

Further information

For details on DBM biology and earlier activity this season, refer to the 2025 PestFacts WA articles in Issue 12 Diamondback moth activity is increasing and Issue 8 Diamondback moths in canola.

For more DBM information, refer to:

- DPIRD's Diamondback moth and its management in canola and crop weeds factsheet.
- Grains Research and Development Corporation's (GRDC's) Diamondback moth best practice management guide - southern
- GRDC's Managing diamondback moth video.

For more DBM information contact Senior Research Scientist Svetlana Micic in Albany on +61 8 9892 8591.

Article authors: Cindy Webster (DPIRD Narrogin) and Bec Severtson (DPIRD Northam).

Article input: Christiaan Valentine (DPIRD Northam).

Green peach aphid numbers are increasing

Green peach aphids

- Ogilvie to Gibson

Winged and non-winged green peach aphids on a canola leaf. Photo courtesy of DPIRD.

Department of Primary Industries and Regional Development (DPIRD) surveillance staff and growers have reported increasing numbers of green peach aphid (GPA) in canola crops across the grainbelt, from Ogilvie in the north to Gibson in the south-east. The affected canola crops range in growth stage from late flowering to podding.

In addition, high numbers of GPA were reported in a time of sowing establishment trial near Merredin.

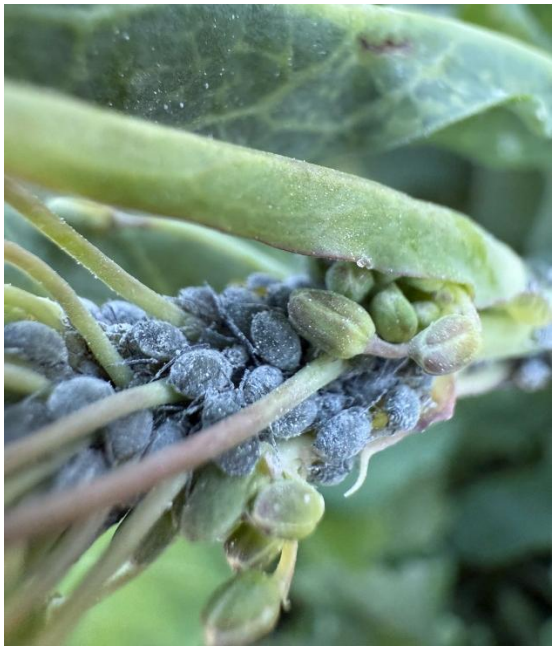
GPA typically cause yield loss due to the transmission of turnip yellows virus when plants are young. However, as most crops have finished flowering or are nearing the end of flowering, current GPA numbers are unlikely to cause significant damage.

DPIRD's grains virology team has been surveying for GPA and turnip yellows virus this season. To read more about their findings, refer to the 2025 PestFacts WA Issue 17 article Turnip yellows virus infection levels vary across the grainbelt.

Cabbage aphids and turnip aphids

- Bolgart
- Northam
- York
- Dale
- Amelup

- Howick



A cluster of cabbage aphids on canola. Photo courtesy of DPIRD.

Cabbage aphids have also recently been found in canola at Bolgart, Northam, York, Dale, Amelup and Howick.

Turnip aphids on wild radish. Photo courtesy of DPIRD.

Turnip aphids have been found in low numbers at Bolgart, Northam and Amelup.

Cabbage and turnip aphids can cause yield loss in canola during spring through feeding damage, especially in areas where plants are already moisture stressed and aborting flowers or pods due to plant limitations. In moisture-stressed canola crops at the fully

podded stage, aphid infestations can result in lower seed production or shrivelled seed, as aphids interfere with seed fill.

Management

It is common for multiple aphid species to colonise canola at the same time. Growers and consultants can use the PestFacts WA Reporter app to request identification of aphids found in their crops.

DPIRD research has shown that GPA does not cause yield loss in flowering canola, and spraying insecticide offers little benefit. GPA is also highly resistant to insecticides, so spraying should be avoided where possible. For information on GPA control, refer to the Grains Research and Development Corporation (GRDC) Green peach aphid - best management practice guide.

If more than 20% of canola plants are infested with colonies of cabbage or turnip aphids, control measures should be considered to avoid yield losses. The risk of economic damage increases if crops are already under moisture stress or experiencing poor finishing rains. Cabbage aphids are often aggregated along crop edges, so it is important to carefully monitor and avoid overestimating infestations based on isolated hotspots. If spraying is required, a border spray may suffice for cabbage aphids. DPIRD's MyPestGuide CropScout app can be used by growers and consultants to enter counts of cabbage aphid infested racemes, calculate spray thresholds and map aphid abundance.

Beneficial insects such as ladybird beetles, parasitoid wasps and lacewings have been observed by DPIRD staff in canola crops across the grainbelt and will help suppress aphid populations. Growers are encouraged to consider insecticide options that are soft on predator insects. For more information, refer to Cesar Australia's Beneficials Chemical Toxicity Table. For help identifying beneficial insects, see the GRDC Beneficial insects - back pocket guide.

For registered insecticide information, refer to DPIRD's 2025 Winter Spring Insecticide Guide.

More information

For more information on canola aphids, refer to the GRDC Crop aphids – the back pocket guide.

For more information on canola aphids, contact Senior Research Scientist Svetlana Micic in Albany on +61 8 9892 8591 and Research Scientist Andrew Phillips in Geraldton on +61 8 9956 8567.

For further information on turnip yellows virus, contact Senior Research Scientist Benjamin Congdon in Perth by e-mailing Benjamin.Congdon@dpird.wa.gov.au.

Article authors: Andrew Phillips (DPIRD Geraldton) and Cindy Webster (DPIRD Narrogin).

Article input: Amber Balfour-Cunningham (DPIRD Northam) and Benjamin Congdon (DPIRD Perth)

Important Disclaimer

The Chief Executive Officer of the Department of Primary Industries and Regional Development and the State of Western Australia accept no liability whatsoever by reason of negligence or otherwise arising from the use or release of this information or any part of it.