PestFacts WA

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Monitor canola for diamondback moth caterpillars

- Locations ranging from Ogilvie to Howick

An adult diamondback moth. Photo courtesy of DPIRD.

Growers are encouraged to sweep their canola crops to check for diamondback moth (DBM) caterpillars after moths were recently captured in the Department of Primary

Industry and Regional Development's (DPIRD's) pheromone traps at locations ranging from Ogilvie in the north to Howick in the south of the West Australian grainbelt.

Over a two-week period, the highest moth numbers were captured in traps at Cascade (242 moths), Northam (207), Bolgart (202), Dale (117), Howick (87), Gibson (78), York (62) and Narrogin (53). Lower moth numbers were also trapped at Wongan Hills (30 moths), Katanning (25), Kojaneerup (19), Nabawa (18), Ogilvie (11), Woogenellup (8), Amelup (5), Moonyoonooka (2), Mingenew (3) and Yardarino (2).

Low numbers of DBM caterpillars were also present in the surrounding canola crops at Ogilvie, Nabawa, Wongan Hills, Bolgart, Northam, York, Dale and Cascade.

Caterpillar activity typically slows in cold, wet weather and increases in spring as warmer temperatures shorten the DBM lifecycle. For example, at 12°C the DBM life cycle takes over 100 days, while at 28°C it can be completed in just 14 days. With pheromone trap catches signalling the presence of adult DBM in the landscape, and the Bureau of Meteorology forecasting warmer-than-average maximum daytime temperatures for August to October, growers are urged to check their canola crops in the coming weeks, as most larval feeding damage occurs during spring.

For more climate information, refer to DPIRD's latest Seasonal Climate Outlook newsletter.

Identifying diamondback moth caterpillars and their damage

Diamondback moth larvae. Photo courtesy of DPIRD.

DBM caterpillars are pale green, cigar-shaped and up to 12 mm long. They wriggle actively when disturbed and may drop down on a fine thread.

Damage caused by these caterpillars appears as chewed leaves, buds and flowers, with leaf chewing ranging from irregular holes in leaves to extensive leaf damage.

If you need help with identifying moths or caterpillars, take photos and submit an identification request through the PestFacts WA Reporter app.

Management

Previous Grains Research and Development Corporation (GRDC)-funded research conducted by DPIRD found that early monitoring for larvae is essential when deciding whether chemical control is required. At least four estimates of larval density over 12 days will determine whether caterpillar numbers are increasing or decreasing. On each occasion, five 10-sweep samples should be taken throughout the crop. Sweep netting provides the most precise estimate of caterpillar densities in the shortest time compared to plant sampling or area counts.

If DBM larval numbers are found to be increasing over the 12-day monitoring period, insecticide application may be beneficial. However, more than one spray may be required. Research by DPIRD and GRDC in the 2000s revealed that a single spray in mid-August had little impact on reducing DBM across all life stages. In contrast, an early program of 2 spray applications, 3 days apart, resulted in significantly better caterpillar control and reduced yield loss. This two-spray strategy ensures that DBM eggs that survive and hatch after the first application are also controlled. Sweep net sampling of the crop about 3 days after the first spray should be conducted to assess the spray's effectiveness and determine the number of surviving caterpillars before the second spray is applied.

More recent research funded by DPIRD and GRDC showed that more than 100 moths need to be captured in a pheromone trap in a fortnightly period before reliable increases in larvae detections in crops are observed.

Diamondback moth infestations in canola crops are often sporadic and difficult to predict, making pre-emptive spraying for this pest ineffective and not cost-effective.

While activity is expected to ramp up as spring approaches, DBM caterpillars do not always build up to threshold levels in every region and in every year. Sometimes DBM populations decline naturally as a result of fungal infection (especially with a moist canopy) or due to other natural enemies, such as parasitoid wasps.

Thresholds for control are:

- pre-flowering (stressed crop): 30 or more caterpillars per 10 sweeps
- pre-flowering (no stress): 50 per 10 sweeps
- early-mid flowering: 50 or more per 10 sweeps
- mid-late flowering: 100 or more per 10 sweeps.

Diamondback moth is difficult to control because the species is resistant to many insecticides, including synthetic pyrethroids and organophosphates. If spraying is required, keep in mind that insecticide sprays have limited coverage in dense canola canopies, and products effective against DBM can only be applied twice per season.

If numbers warrant spraying, growers and consultants can refer to DPIRD's 2026 Winter Spring Insecticide Guide.

Growers should consider insecticide options that are less harmful to predator insects. For a list of insecticides and their toxicity to beneficial insects, refer to Cesar Australia's Beneficials Chemical Toxicity Table.

Please use the PestFacts WA Reporter app to report and share both sweep net counts of DBM caterpillars in crops and any visual observations of changes in caterpillar or moth numbers.

Further information

For information on earlier DBM activity this season, refer to the 2026 PestFacts WA Issue 7 article Caterpillars are active.

For more DBM information, refer to:

- DPIRD's Diamondback moth and its management in canola and crop weeds factsheet
- GRDC's Diamondback moth best practice management guide - southern factsheet
- GRDC's Managing diamondback moth video.

For more DBM information contact Senior Research Scientists Dustin Severtson in Northam on +61 8 9690 2160 or Svetlana Micic in Albany on +61 8 9892 8591.

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Yellow spot and septoria nodorum blotch in wheat

- Ogilvie
- Mingenew
- Neridup
- Condingup

Yellow spot or septoria nodorum blotch lesions on wheat plants. Photo courtesy of DPIRD.

Technical Officer Surya Dhakal (DPIRD) has recently reported finding yellow spot or Septoria nodorum blotch in wheat near Ogilvie and Mingenew.

An Agworld app user has also recently reported finding septoria nodorum blotch in wheat near Neridup and Condingup.

Yellow spot is caused by the fungus *Pyrenophora tritici-repentis* and septoria nodorum blotch is caused by *Parastagonospora nodorum*.

In Western Australia, nodorum blotch and yellow spot often occur together as a disease complex on wheat and are often difficult to visually distinguish in the paddock.

These pathogens are stubble-borne and are therefore high risk in wheat-on-wheat situations. Crop infection is favoured by warm, wet weather. Nodorum blotch is promoted by heavy splashing rain, while frequent showers or regular heavy dew can be sufficient for yellow spot spread.

Symptoms

Yellow spot or septoria nodorum blotch lesions on wheat leaves. Photo courtesy of DPIRD.

It is very difficult in the field to distinguish yellow spot from nodorum blotch on leaf symptoms alone, even for experienced plant pathologists who often rely on lab diagnostic techniques to confirm which pathogen is present.

Earlier in the season, distinguishing between the two is less important for control as both can usually be treated with the same registered foliar fungicides. However, after flag leaf emergence, when symptoms are moving up the leaf canopy, there is a risk of head infection (glume blotch) if the disease is nodorum blotch. Effective control of nodorum on leaves is important to reduce risk of infection of heads.

Yellow spot symptoms start as yellow-tan oval spots or lesions on leaves that become tan, brown in their centre with a yellow edge as lesions grow. Lesions expand, merge and produce large areas of yellow and necrotic diseased tissue.

Plant leaves infected with nodorum blotch have tan-brown, oval or irregularly shaped leaf blotches with yellow margins. Badly affected leaves die back from the tip as blotches converge. Later in the season, splash-dispersed spores can spread the disease from infected canopy leaves to the glumes when heads have emerged, resulting in glume blotch. In favourable environments, heavy infection can cause blotching across the entire grain head, resulting in shrivelled grain and losses in yield and grain quality.

Although both leaf and glume blotch are caused by the same pathogen, variety resistance to nodorum on leaves is not necessarily the same as nodorum glume blotch. Resistance ratings for both diseases are listed in DPIRD's 2026 Crop Sowing Guide – Wheat.

A correct diagnosis can be worthwhile, particularly as leaf spot symptoms may not be caused by fungal pathogens. Symptoms can also result from physiological disorders (often variety specific), herbicide damage or insect damage, none of which will respond to fungicide application.

Management

Wheat varieties differ in their susceptibility to nodorum blotch and yellow spot. To check the susceptibility ratings of different varieties, refer to DPIRD's 2026 Crop Sowing Guide – Wheat. Currently, a large proportion of WA varieties are rated moderately susceptible or better for both diseases and are unlikely to require fungicide protection except in high-risk paddocks or environments.

Greatest yield response to fungicide application for nodorum blotch or yellow spot in wheat canopy is generally achieved when applied at flag leaf emergence in crops with disease present and with disease conducive conditions in the weeks after fungicide application. However, an earlier application (e.g., at first node, Z31) may be warranted if a susceptible variety has been sown into wheat stubble. Earlier application may also be considered if disease pressure is high early. A second fungicide spray may be required at or after flag leaf emergence, as fungicides only protect leaves present at the time of application.

Growers should prioritise disease management of wheat sown on wheat stubble, especially early sown susceptible wheat crops and crops with nitrogen deficiency, as these are more vulnerable to disease development.

YellowSpotWM is a free decision support-tool that assists growers in making economically informed fungicide decisions for managing yellow spot in wheat. Users can enter paddock, variety, seasonal conditions, prices and management information to generate recommendations tailored their cropping situation. For more information, refer to DPIRD's YellowSpotWM page.

More information on registered fungicides can be found at DPIRD's Fungicides page.

Samples wanted

As part of the Grains Research and Development Corporation's (GRDC) National Grains Diagnostic and Surveillance Initiative (NGDSI), DPIRD has developed a rapid diagnostic test to detect both yellow spot and nodorum blotch from a single plant sample.

To support validation of this test, DPIRD are seeking leaf samples suspected of being infected with yellow spot or septoria nodorum blotch.

If you have suitable samples, please email Senior Research Scientist Kylie Chambers or Technical Officer Masood Anward. Samples need to be placed in a **paper bag (not plastic)** and mailed to Masood Anward or Kylie Chambers, DPIRD, 75 York Road or PO Box 483, Northam WA 6401. Please include your contact details, the closest town where the sample was collected, and the wheat variety.

Further information

Further information about this disease can be found in the department's Yellow spot and septoria nodorum blotch and their management in wheat factsheet and the Centre for Crop and Disease Management (CCDM) article Outwit, Outplay, Outlast: Yellow leaf spot versus septoria nodorum blotch.

You can also listen to the DPIRD Grains Convo podcast episode Early cereal disease: making the right call.

For more information on cereal diseases, contact Senior Research Scientists Kithsiri Jayasena in Albany on +61 (0)8 9892 8477, Andrea Hills in Esperance on +61 (0)8 9083

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