Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA
Protect Grow Innovate

PestFacts WA

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Fall armyworm caterpillar found at Cuballing

- Cuballing

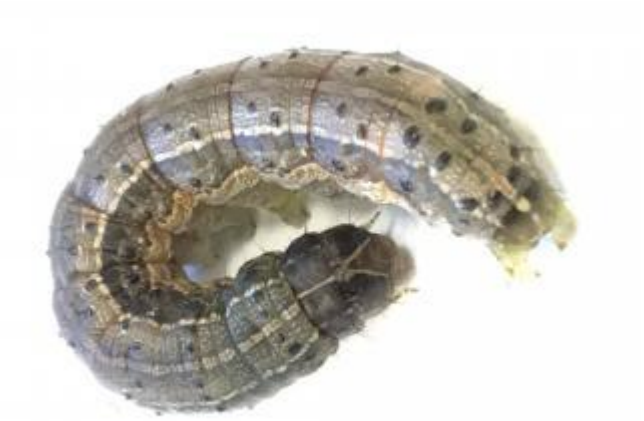

Image 1: A fall armyworm caterpillar. Photo courtesy of: Helen Spafford (DPIRD).

Growers are urged to inspect their crops and sweep the canopy for caterpillars following the first detection of fall armyworm (FAW) larva in a grain crop in the Western Australia (WA) grainbelt.

Agronomists Trent Butcher and Gray Yates (ConsultAg) found unusual looking caterpillars while monitoring a faba bean crop near Cuballing. They submitted caterpillars to the Department of Primary Industries and Regional Development (DPIRD) which were identified by taxonomists. One was identified as fall armyworm (FAW). They noted that

only one FAW larva could be found, however it was observed damaging the plants it was found on.

This is the most southerly detection of FAW in WA since the incursion in 2020. Other than the well-established year round population in the Kimberley and Pilbara, there have been previous detections of moths and larvae in irrigated corn crops near Gingin, detections of moths in traps near Geraldton, and 2 FAW moths but no larvae in sorghum at Northam. In addition, other large caterpillars from the faba bean crop at Cuballing were confirmed to be native budworm, indicating that the initial budworm moth migrations have occurred very early this year, probably during June. It is possible the FAW migrated on the same weather events/patterns as the budworm.

The presence and large size of budworm caterpillars at this time of year is cause for concern, particularly because:

1. larger caterpillars cause much more damage than smaller instars
2. native budworm can strip plants of buds and flowers before plants have even had a chance to produce pods.

In this case, seeing a lack of chewing damage to leaves, especially in pulse and canola crops, can be very misleading when monitoring crops. For this reason, it is important to sweep net crops to better sample larvae hiding in the canopy.

Pulse and canola crops are major hosts of native budworm and very susceptible to damage.

These crop types are considered secondary hosts of fall armyworm which to date prefer sweet corn, maize and sorghum and some forage grass crops in WA. Cereal crops are also secondary hosts of FAW, so growers should be vigilant about the possibility of FAW being in any crop type. There were reports of FAW in oats in the Darling Downs in Queensland earlier this year.

Background

FAW is a moth native to the American tropics. It has since become a worldwide pest and was first recorded in Australia in January in 2020 in Torres Strait islands, followed by discoveries in Queensland in February 2020, and the Northern Territory in March 2020. FAW was first detected in WA in Kununurra in March 2020.

FAW do not diapause (suspend development) during any stage. They live year-round in places where there are available hosts and favourable temperatures. The ideal range for development is 23ºC to 30ºC. The insect can continue to develop slowly below this range but do not survive year-round where temperatures fall below 9ºC to 12ºC and where frosts occur.

Identifying fall armyworm caterpillars

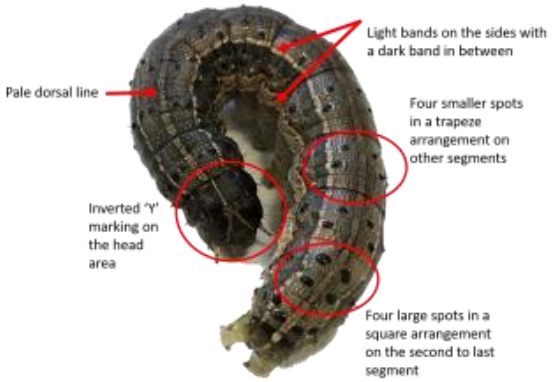

Image 2: Defining characteristics of the fall armyworm caterpillar. Photo courtesy of: DPIRD.

FAW larvae look similar to other caterpillars already present in the grainbelt. When they are young, FAW larvae are a light green colour with a larger darker head. They have dark spots and short spines along the body. As they develop, they become darker and develop white lengthwise stripes. As they mature, FAW larvae can be quite variable in colour. Larger FAW larvae can be identified by the presence of an inverted 'Y' shape on the head. The pattern of the spots along the body is important and helps with identification.

It is important that growers and consultants are able to distinguish fall armyworm caterpillars from other common caterpillars that are similar in appearance. For example, native budworm caterpillars that are commonly found in the grainbelt can appear in variable colours, similar to the FAW caterpillar, especially when the caterpillars are young (less than 25 mm in length).

For more tips on identifying FAW refer to:

- 2020 PestFacts WA Issue 14 How to distinguish Fall armyworm caterpillars from other endemic caterpillars article
- Fall armyworm larval identification guide factsheet
- How to identify fall armyworm video.

What should you do if you suspect you have found fall armyworm?

If you find a caterpillar that you suspect to be FAW and want confirmation, please collect a sample. Place the caterpillar into boiling water for approximately 5 minutes, as this denatures enzyme activity. Then place the caterpillar into 70% ethanol or methylated spirits and contact DPIRD Entomologist Dusty Severtson on +61 (0)427 196 656 to arrange for identification.

You can also take clear close-up photos of the caterpillar and plant damage and submit a report using the PestFacts WA Reporter app. Samples may then be requested, as the only way to make a definitive identification for FAW is from examining a physical specimen

under a microscope. DPIRD entomologists cannot make a definitive identification from images, but they do help to narrow it down and rule them out as other species.

Managing fall armyworm

Thresholds for FAW in cereals and canola are not well-established. If FAW are found to be damaging crops, information about calculating thresholds, insecticide permits and integrated pest management options can be found at DPIRD's Fall armyworm in Western Australia page.

New research indicates there may be variable levels of sensitivity to some insecticides between populations of FAW in different geographical areas of Australia. For more information, refer to GRDC's Groundcover article Differences in insecticide sensitivity shown in fall armyworm.

Further information

For more information on FAW refer to:

- DPIRD's Fall Armyworm in Western Australia page
- DPIRD's Fall armyworm larval identification guide fact sheet
- GRDC's Fall armyworm portal

For more information, contact Research Scientist Dustin Severtson, Northam on +61(0)8 9690 2160 or +61 (0)427 196 656.

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Important Disclaimer