



Industry update #5 – fall armyworm

27 August 2020

Situation update

Pesticide resistance genes have been detected in Western Australia's fall armyworm (*Spodoptera frugiperda*) population.

Samples of fall armyworm larvae from Kununurra and Broome were sent by DPIRD to the Insecticide Resistance Unit at New South Wales Department of Primary Industries (NSW DPI) for analysis. Larvae were tested for the presence of genes that are linked to resistance to Group 1 insecticides.

Fall armyworm larvae that carry two copies of a resistance gene are considered likely to survive an application of an insecticide from Group 1.

All of the larvae from both locations carried at least one copy of a resistance gene. 50% of the larvae from Kununurra had two copies of the gene and 60% of the larvae from Broome had two copies of the gene.

Further testing is necessary to determine the distribution of the genes in other locations across Western Australia and validate the preliminary research results.

Although these are early findings, DPIRD and NSW DPI are sharing the research outcomes with stakeholders to encourage regional grower groups and cooperatives to develop area-wide resistance management plans.

These findings highlight the need for careful management of Group 1 pesticides - which include organophosphates and carbamates, to slow the rate at which these genes become established in the State's fall armyworm population.

Growers are encouraged to judiciously select any pesticides to be used, and ensure insecticides are rotated to reduce selection pressure.

Elsewhere around the world, fall armyworm is known to be resistant to other pesticide groups, making management of this pest through the sole use of insecticides very challenging. The presence of genes for resistance to these other insecticides has not been tested.

It is likely that fall armyworm entered Australia carrying the genes and that the traits will spread as fall armyworm migrates throughout the State. There is also the possibility that new resistance genes will develop in Australia.

Continual monitoring for resistance mutations, and careful evaluation of pesticide efficacy over time will be important in the ongoing management of this pest.

WA activity

DPIRD has deployed approximately 50 pheromone (lure) traps throughout northern Western Australia, including Kununurra, Broome, the Pilbara, Carnarvon, and Geraldton. These complement existing traps in Kununurra, which have operated since October 2019.

In addition, DPIRD has established, in collaboration with local grower groups, an extensive trapping program of approximately 45 traps spread throughout the Grainbelt. There have been no detections to date in the Grainbelt traps.

These surveillance trapping networks assist in providing early warning advice to industry about the presence of fall armyworm as it potentially migrates further south.

Natural enemies have been successful in suppressing fall armyworm populations elsewhere in the world. DPIRD is also surveying for natural enemies in Western Australia that will reduce fall armyworm populations.

DPIRD continues to liaise with the Australian Government, state and territory governments and industry groups which are collaborating to assist in preparing for and minimising the impact of fall armyworm as it becomes more broadly established.

Chemical permits

The Australian Pesticide and Veterinary Medicine Authority (APVMA) has issued a number of permits for the use of certain chemicals for the control of fall armyworm.

More information is available from the [APVMA Online Portal](https://portal.apvma.gov.au/permits) at <https://portal.apvma.gov.au/permits>. Search for 'fall armyworm'.

The permits should be read in conjunction with the relevant product label for information on withholding periods and other critical comments.

Biosecurity and reporting

Horticultural and grain growers are encouraged to regularly monitor their crops for the presence of fall armyworm larvae.

Young fall armyworm larvae are light coloured with a darker head. As they develop, the body darkens, becoming more brown with white lengthwise stripes. They also develop dark spots with spines.

The pattern of the spots is important - on the second to last section of the caterpillar, the four spots are arranged in a square pattern while on all other sections the spots are arranged in a trapezoid shape.

Useful photos are available on the [fall armyworm factsheet](#).

On-farm biosecurity measures should be in place to protect crops from pests and diseases. More information is available at farmbiosecurity.com.au.

Growers and agronomists are encouraged to report suspect caterpillars or unexpected symptoms in the field to DPIRD via the [Pest and Disease Information Service](#) (PaDIS) or via the [MyPestGuide™ Reporter app](#).

Further information and enquiries

More information is available on the [DPIRD website](#) at agric.wa.gov.au. Search for 'fall armyworm in Western Australia'.

General enquiries or suspect reports can be made to PaDIS.
Call +61 (0)8 9368 3080 or email padis@dpird.wa.gov.au

WA industry enquiries can be directed to:

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