

# New Pest Alert: Fall armyworm

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Plant Biosecurity & Product Integrity, Orange

Fall armyworm (*Spodoptera frugiperda*) is a new plant pest that has been detected in NSW.

This insect pest is a serious threat to Australia's **grain, cotton, horticultural and sugar industries**

Please report suspect detections in NSW promptly to the **Exotic Plant Pest Hotline** on **1800 084 881**

## Fall armyworm

Fall armyworm is a major insect pest in a wide range of crops including cotton, maize, rice, sorghum, sugarcane and vegetables.

Fall armyworm was detected in northern Queensland in February 2020 and NSW in October 2020.

## Description

Fall armyworm is the name commonly attributed to the larval stage of the moth *Spodoptera frugiperda*. Other *Spodoptera* species already found in Australia include the lawn armyworm and the dayfeeding armyworm.



Figure 1 Fall armyworm eggs under cotton leaves.



Figure 2 Small armyworm caterpillars and leaf "windows" on an infested host plant.



Figure 3 Large fall armyworm caterpillar.



Figure 4 Male fall armyworm moth.

The fall armyworm life cycle has an egg stage, 5 to 6 caterpillar (larval) stages, a pupal stage and an adult moth stage. The larval life cycle stages cause widespread damage to crops through feeding.

Fall armyworm eggs are usually laid on the under surface of leaves in clustered masses of 100-200, covered with a 'felt like' layer of scales (Figure 1). The eggs are pale yellow.

Small fall armyworm larvae are usually light green to brown, with a dark head capsule. Evidence of crop damage, such as the skeletonising of leaves (or "windows") is often more readily visible than the presence of larvae (Figure 2).

Large fall armyworm larvae grow to 3-4 cm, becoming darker as they mature, with pale white stripes along the length of the body (Figure 3). The large caterpillars have a pale inverted "Y" shape between the eyes. Two dark spots with dark spines occur on each body segment on the upper body surface, with 4 black spots arranged in a square on the last abdominal segment.

Fall armyworm larvae normally pupate in the soil. The pupae are shiny brown and between 1.3 and 1.7 cm long.

Adult fall armyworm moths measure 3-4 cm from wingtip to wingtip. Female moths

are slightly larger than males, although both sexes have a white hindwing with a dark-brown margin. Male moths are more patterned and have distinct triangular white spots at the tip and near the centre of each forewing (Figure 4).

## Damage

Fall armyworm damage in many crops has similar symptoms to that caused by other larvae. If you find crop damage symptoms, carefully examine the plants for larvae to identify which species are present.

## Life cycle

Fall armyworm can complete its life cycle within 23-27 days (from egg laying to the emergence of adult moths), when suitable temperatures and host plants are present.

The eggs hatch within 2-4 days after being laid on the lower leaf surfaces. After hatching, fall armyworm larvae complete 5 to 6 growth stages within 14-22 days of hatching to reach maturity. Once mature, larvae drop to the ground, where they pupate for around 8-9 days in warmer months and 20-30 days in cooler areas.

Female moths lay most of their eggs within 4-5 days of mating, but can continue laying for up to 2 weeks. As fall armyworm does not diapause (suspend development) during the pupal stage, populations are unlikely to establish in areas where temperatures fall below 9-12°C and where frosts occur.

## Host range

Fall armyworm larvae feed on more than 350 plant species, with a preference for grasses. Key hosts include cotton, maize,

rice, sorghum, sugarcane, wheat and vegetable crops like sweet corn.

The current strain in Queensland has been observed causing damage to maize. It is not currently known how many other plant species will be preferred food sources for this new pest.

## Spread

Adult fall armyworm moths are strong flyers and will travel hundreds of kilometres on storm fronts. The larvae can also be spread in cut flower, fruit and vegetable consignments.

## Distribution

Fall armyworm is native to the tropical and sub-tropical regions of the Americas. In early 2016 it was detected in Central and Western Africa and quickly spread across sub-Saharan Africa. By December 2018, it was found in the Indian subcontinent. In June 2019 fall armyworm was reported in China and Southeast Asia.

## Actions to minimise risks

Put in place biosecurity best practice actions to prevent the entry, establishment and spread of pests and diseases:

- practice “Come clean, Go clean”
- control weeds and volunteer plants in fallow paddocks, along fence lines and around buildings to reduce the number of pest hosts
- monitor crops regularly for signs of armyworm damage
- report anything unusual to 1800 084 881
- keep records

## Reporting

If you suspect fall armyworm:

Call the Exotic Plant Pest Hotline on  
**1800 084 881**

Email clear photos with a brief explanation and contact details to [biosecurity@dpi.nsw.gov.au](mailto:biosecurity@dpi.nsw.gov.au)

## Acknowledgments

Figure 1 Courtesy of Ronald Smith, Auburn University, Bugwood.org.

Figure 2 Courtesy of Dr Melina Miles, QDAF.

Figure 3 Courtesy of Clemson University, USDA Cooperative Extension Slide Series, Bugwood.org.

Figure 4 Courtesy of Lyle Buss, University of Florida, Bugwood.org.

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