

Potential impact of fall armyworm on wheat

Fall armyworm (*Spodoptera frugiperda*) is an exotic pest that has been detected in Queensland.

Based on overseas experience, fall armyworm larvae can cause significant crop damage if left unchecked.

Adults can fly long distances and migrate quickly, particularly with the aid of weather patterns and jet streams. Check crops regularly to detect the early stages of infestation.

Pest risk

Fall armyworm populations are unable to persist in regions where temperatures drop below 10°C. However, southerly migrations of fall armyworm from early autumn into winter cereal-growing regions, may occur. In the event of such migrations, early-sown winter cereals may be at risk of fall armyworm infestation in some seasons.

Overseas, fall armyworm has rapidly developed pesticide resistance where subjected to repeated and prolonged use of insecticides.

Appearance

Eggs



Eggs are pale yellow and 0.4 mm in diameter and 0.3 mm high. They are laid in furry 'egg masses', which stick to foliage. There are 100–200 eggs in a mass.

Image 1 – Egg mass

Larvae



Image 2 – Larvae emerging from egg mass



Image 3 – Older larvae with 'Y' shape on head

The larvae are light green to brown with a larger darker head. As they develop, they become darker with white lengthwise stripes and dark spots with spines. Older larvae (30–36 mm) have a distinctive pattern of four spots on the second to last body segment and an inverted 'Y' shape pattern on their heads.

Pupa

The pupa is red-brown, 14–18 mm long and approximately 4.5 mm wide. Pupation mostly occurs in soil under the host plant, occasionally in host vegetation. Fall armyworm do not hibernate during winter and cannot survive temperatures below 10°C.

Adult



Image 4 – Female moth



Image 5 – Male moth

The adult moths have a brown or grey forewing and a white hindwing, and a wingspan of 32–40 mm. Male fall armyworms have more patterns and a distinct white spot on each forewing. Cotton Info's [Insect ID Guide](#) provides a detailed guide to identifying fall armyworm.

What should I look for?

Look for small larvae 'windowing' in the leaves of establishing plants. Small larvae will be difficult to detect and may shelter on the ground around the base of the seedlings during the day. Regular crop checking is essential because larger larvae will quickly defoliate seedlings within a few days.

Larvae will continue to actively feed and defoliate plants until they complete their development, or cool conditions slow their activity. A severe frost can kill larvae.

Flea beetles and *Spodoptera exigua* can cause similar leaf damage. In southern regions, a suite of establishment pests can also cause similar leaf damage (e.g. common armyworm, pasture looper, slugs, lucerne flea). Correct identification of the cause of damage is critical.

How can I manage an outbreak?

Early detection is essential to prevent seedling loss. Regularly check your crops for insect activity and damage.

Pheromone traps will be useful in identifying seasons and winter cereal-growing regions affected by fall armyworm migrations in late summer to autumn.

Key to the control of any pest is an integrated pest management approach. The Department, in collaboration with industry, is working to identify strategies and tactics for the medium to long-term response.

It is essential with any pesticide use for fall armyworm control that the implications for chemical resistance development in other pests that may be exposed (e.g. earthmites) and the potential impact on natural enemies are considered.

Currently, the Australian Pesticide and Veterinary Medicine Authority (APVMA) has issued permit [PER88638](#) for the use of certain chemicals for the control of fall armyworm in a range of grain crops (including wheat). It is important that the permit be read in full.

The APVMA is currently assessing, as a priority, applications for permits for the use of chemicals against fall armyworm in other crops. To check for the latest chemical permits applying to fall armyworm using the [APVMA's permit portal](#)—search for 'fall armyworm' and check the 'pest/purpose' button.

Advanced search ▲

Search terms include	Filter on	Date
<input type="checkbox"/>	Permit number	
<input type="checkbox"/>	Description	
<input type="checkbox"/>	Active constituent	
<input checked="" type="checkbox"/>	Pest / purpose	
<input type="checkbox"/>	Animal / crop	

You should already have strong on-farm biosecurity measures to protect your crops from pest and diseases and should implement good farm hygiene for weed control to remove hosts that could build populations. More information is available at farmbiosecurity.com.au.

What should I do?

Be on the lookout and if you suspect fall armyworm, report immediately to the Queensland Department of Agriculture and Fisheries on **13 25 23**.

More information

For more information, call **13 25 23** or visit business.qld.gov.au/fallarmyworm.

*Images 1–2, 4–5 by James Castner, University of Florida
Image 3 by D. Balaraju, Krishi Vigyan Kendra*