

Potential impact of fall armyworm on sweetpotato

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

Based on overseas experience, fall armyworm larvae can cause significant and sudden crop damage to preferred hosts if left unchecked.

Adults have been known to fly long distances and migrate quickly, particularly with strong wind. Check crops regularly to detect the early stages of infestation.

Pest risk

Fall armyworm has a strong preference for maize, sweet corn, sorghum, rice and grass crops. Under high pest pressure, sweetpotato crops can be infested, and defoliation may occur.

Sweetpotato is not a preferred host of fall armyworm, so the potential for damage to sweetpotato crops is unclear. Some rotation crops used in sweetpotato farming systems may be greatly affected. Sorghum, corn and some tropical and subtropical grasses are known hosts, while sugarcane may suffer damage under high fall armyworm pressure.

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

Appearance

Eggs



Image 1 – Egg mass

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'.

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 egg masses and small and large larvae. Leaf damage can be windowing, tattered leaf margins, skeletisation, or defoliation of leaves. Fall armyworm damage may be confused with damage caused by other caterpillars. There are already species of armyworm that look similar to fall armyworm present in Australia, so correct identification is important in determining the risk and response.

How can I manage an outbreak?

Early detection is essential. Regularly check your crops for egg masses, larvae and damage. Pay particular attention to sweetpotato nursery beds for pest damage and to ensure you do not transfer the pest to newly planted crops.

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.

Some insecticides used for the control of *Helicoverpa armigera*, other armyworms and caterpillar pests may provide some level of control of fall armyworm.

Overseas, fall armyworm populations have developed resistance to insecticides when similar group of chemistries are frequently sprayed in crops. It is essential to consider the potential impact of insecticides on natural enemies and the implications for development of chemical resistance when developing spray programs.

The APVMA is currently assessing insecticide permit applications to use against fall armyworm in various 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.

Search permits

Keywords (required):

SEARCH

Permit no, description, active, crop/animal, or pest/purpose

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, contact the Queensland Department of Agriculture and Fisheries on **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, India*