Potential impact of fall armyworm on vegetable crops, other than sweet corn

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 has a preference for maize, sweet corn, sorghum, rice and grass crops. Under high pest pressure, broadleaf vegetable crops can also be infested, and may be damaged.

Sweet corn is a preferred host of fall armyworm with a high risk of significant crop losses. Important information for this crop is available in the *Potential impact of fall armyworm on sweet corn* factsheet.

Fall armyworm can infest vegetable crops including capsicum, chilli, tomato, pumpkins, cucumber, beans, eggplant and other vegetables. The potential for damage to these crops in Australian farming systems is unclear.

Overseas, fall armyworm has rapidly developed pesticide resistance 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℃.

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 and leaf damage such as windowing, tattered leaf margins, skeletisation, defoliation, and chewing damage to flowers and fruits. Fall armyworm damage may be confused with damage caused by other pests. Correct identification is vital to determining the risk and response.

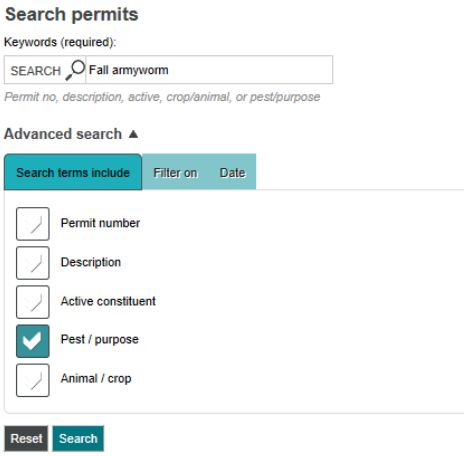
How can I manage an outbreak?

Early detection is essential. Regularly check your crops for insect activity and damage. Pheromone traps may assist in detecting local fall armyworm activity.

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 are considered (e.g. *Helicoverpa,* aphids, silverleaf whitefly, mites*)*, and the potential impact on natural enemies.

The APVMA is currently assessing, as a priority, applications for permits for the use of chemicals against fall armyworm. 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.



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