

EXOTIC PEST FACT SHEET 16

Fall Armyworm (*Spodoptera frugiperda*)



What are the main hosts?

The fall armyworm has a broad host range feeding on over 350 plant species, preferring Poaceae (grasses and cereals). Vegetable hosts include corn, asparagus, beans, peas, beetroot, Brassica, capsicum, cucurbits, eggplant, onions, kumara, lettuce, and tomatoes.

What do they look like?

Adults are 16-18 mm long, and a wingspan of 38 mm, with brown-grey forewings and cream-coloured hind wings (Fig 1). Male adults have more distinct patterns on their forewings. Fall armyworm appears similar to the closely related species *Spodoptera litura* (tropical armyworm) which is present in New Zealand.

Pupae are 13-17 mm long and shiny brown. Pupation occurs in soil, reproductive plant parts such as corn ears, or if larvae cannot burrow into the soil, cocoons are formed using plant debris.

Larvae change from green-brown to brown-black as they mature, to be almost black in the 'armyworm' phase, and is accompanied with marking changes (Fig 2). Eggs are small (0.4 mm) and laid on leaf surfaces in masses of 150-200, covered with a protective layer of scales from the female abdomen (Fig 2).

What should I look for?

Larvae feeding on stems and leaves causes crop damage. The larvae can skeletonise the leaves. Severe infestation can cause defoliation, particularly when larvae are in the 'armyworm' stage. On corn, larvae attack the ear, silks, cob and kernels (Fig 3, 4), reducing leaf mass, fruit, pods and seeds, and plant health.

Adult moths are nocturnal and most active during late summer and early autumn.

Why is it important?

Fall armyworm causes damage to a wide range of economically important crops, such as corn. In large numbers, larvae can cause rapid defoliation resulting in significant yield losses.

How do they spread?

Fall armyworm adults and larvae are highly mobile. Adults have a strong ability to fly and disperse during summer. Adults can migrate up to 500km before laying their eggs. Larvae can become windborne and land on other plants. Mature larvae can migrate when they reach the 'armyworm' stage, migrating to adjacent crops.

Movement over long distances can occur by trade in infested crop and plant material, contaminated commodities, or stowed on aircraft.

Where are they present?

Fall armyworm is native to the tropical and subtropical regions of the Americas. Since 2016, it has rapidly spread to Africa, Asia, Oceania, Australia and New Zealand.

In March 2022, an egg mass was detected in Tauranga. Larvae have been detected in many parts of New Zealand over the 2022-23 and 2023-24 summers. Fall armyworm currently remains a regulated organism.

How can I protect my industry?

Check your production sites frequently for the presence of new diseases and unusual symptoms. Make sure you are familiar with common pests and diseases of your industry so you can recognise something different.



Fig 3: Damage to corn caused by young (left) and older (right) larvae. Image: Plant and Food Research.



Fig 1. Adult Male Image: Robert J. Bauernfeind, Kansas State, Bugwood.org.



Fig 2. Fall armyworm larva (left), larvae hatching (middle) and egg mass (right). Image: Plant and Food Research



Fig 4. Larvae damage to a corn ear. Image: University of Georgia, Bugwood.org. Creative Commons 3.0.