

Plant biosecurity: ENT-16

Fall armyworm

Fall armyworm (*Spodoptera frugiperda*) is a caterpillar pest that feeds in large numbers on a wide host range of more than 350 species of plants, including sugarcane, millet, rice, maize, sorghum, cotton, wheat, vegetables and fruit crops. The adults are capable of flying long distances of up to 100 kilometres in a night. They can also spread by movement of infested produce by air, road or sea.

Fall armyworm can cause significant economic damage in a short space of time and produce several generations in a season.

Distribution

Fall armyworm is native to tropical and sub-tropical America. It was detected in Africa in 2016 and then spread through more than 30 countries, recently (late 2019) moving through South East Asia towards Australia. In early 2020, it was found in the northern Torres Strait Islands and has subsequently established at many sites in north Queensland. At the end of March 2020 its presence was confirmed at several locations in the Northern Territory.



Fall armyworm adult male in resting position
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Appearance and life cycle

Adult females lay eggs onto the under surface of the lower leaves. The female deposits most of her eggs during the first four to five days of life, but some oviposition may occur for up to three weeks after. Eggs are circular, 4mm in diameter, cream in colour when first laid but turning light brown prior to hatching. Eggs are laid in single rows of 100-200 and covered with 'furry' scales. Each female can lay up to 2,000 eggs in a lifetime. On hatching, the larvae are green with black longitudinal lines and spots.

As they mature they can be either green or a brown colour with black longitudinal lines along the body and around the spiracles. They also have numerous black hairs. The sixth larval stage (instar) can grow to 45mm in length, with a noticeable upside down Y-shaped yellow pattern on the head and four black spots in a square shape on the last abdominal segment. There is also a green form of the larva which has pale spots.



Fall armyworm egg mass on cotton
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Fall armyworm larva on cotton
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Fall armyworm pupae are approximately 13-17 mm in length, reddish-brown and shiny. They are usually found in the soil under plants. If the soil is too hard, the larvae may pupate amongst leaf debris.

Adult males have mottled light brown or grey forewings with a cream coloured spot near the centre of the wing and on the tip. They have a wingspan of 32-40 mm. Female moths have greyish-brown forewings with markings of grey and brown but do not have the distinctive markings of the male. The female wingspan is 32-40 mm. The hindwings of both males and females are pearlescent-white in colour with a brown border.

Adults are nocturnal, and are most active during warm, humid evenings. Adults can live for between seven and 21 days depending on temperature and climate.



Male fall armyworm adult
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Female fall armyworm adult
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Damage

Larvae are nocturnal, during the day they are concealed in the foliage or at the base of plants. At night they chew on leaves and may also damage flowers and developing seed heads. Young plants may be cut off at ground level. Larvae prefer to feed on grasses like sorghum and corn but will also feed on a wide variety of other hosts including apple, papaya, cotton, millet and peanut. Young larvae feed on the epidermis of the leaf. As they mature they begin to chew holes and consume the leaves from the edges inwards.

Mature larvae may defoliate plants giving the leaves a ragged appearance. Excrement (frass) left by larvae will be present. Larvae also feed on the growing tips and fruiting bodies. When food is scarce, mature larvae will move in large numbers like an 'army' in search of food.



Larval damage sorghum
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Larval damage to cotton boll
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Larval damage in maize whorl
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If you suspect your property has fall armyworm please call the Exotic Plant Pest Hotline on 1800 084 881.

Control measures are already available for other caterpillars on crops in the NT. These include Integrated Pest Management techniques, based on cultural, biological and chemical control. These should also work on fall armyworm. Details on these can be obtained from DPIR Entomology on (08) 8999 2258 or email insectinfo@nt.gov.au

All pesticides should be used in accordance with label instructions and the NT Control of Use legislation. For advice on pesticide use contact DPIR by email at chemicals@nt.gov.au or phone (08) 8999 2344.

This factsheet was prepared by Haidee Brown, DPIR Plant Entomology. For further information, contact DPIR Entomology at insectinfo@nt.gov.au.

Agnotes or factsheets on other pests are available from <http://pestinfo.nt.gov.au/> or <https://dpiir.nt.gov.au/primary-industry/primary-industry-publications>

References

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