

Spotted stem borer



GRAINS FARM
BIOSECURITY
PROGRAM

EXOTIC PEST – CALL THE EXOTIC PLANT PEST HOTLINE IF SUSPECTED

What is a spotted stem borer?

Spotted stem borer (*Chilo partellus*) is a moth that is a serious pest of cultivated cereals in overseas countries. Main hosts include sorghum, maize and millet. Other hosts include grasses, sugarcane and rice.

Spotted stem borers can develop continuously all year round in regions where there is sufficient water and an abundance of host plants. They are known to cause up to 50% yield loss in infested maize and sorghum crops in South Africa. In the absence of suitable hosts, it is able to enter dormancy by diapausing over winter and aestivating over summer in the dry stalks, often beneath the soil.

What does it look like?

Caterpillars

Fully grown caterpillars can reach up to 25 mm long. They have a creamy-white to yellow-brown body, a dark red-brown head and dark brown spots along the back. Once they reach their final instar, they pupate and remain inside of the stem, until the adult moths emerge 1 to 2 weeks later.

Adult moths

Adult moths are relatively small, about 7–17 mm long, with a wingspan of 20–25 mm. They have light yellow-brown forewings with dark horizontal patterns and white hindwings.

They also have a feathery projection on the front of their head, giving it a conical shape. Eggs are approximately 0.8 mm long, creamy white and are laid in overlapping batches on the underside of leaf surfaces.

What should I look for?

Spotted stem borer larvae can cause plant stunting, broken stalks, lodging and delayed crop maturity. Infested plant stalks are also easily broken by wind and damage to flower heads may interfere with grain formation, causing 'chaffy heads', without grain.

Affected leaves can show irregular scars, holes and windows caused by feeding larvae.

Seriously affected plants, especially young plants, can dry up showing the 'dead heart' symptom (the youngest, still unfolded leaves wilt and die).

An important behavioural characteristic to look for is the occurrence of large numbers of larvae behind leaf sheaths of the plant, where they feed between the sheath and stem. This is the case with both maize and sorghum.

How does it spread?

Spotted stem borers are most likely to be introduced via human-mediated movements of plant matter while they are in their egg stage or in their cryptic larval and pupal stage inside of host plant stems like sugarcane, sweet sorghum or grain sorghum. They can then move from farm to farm in infested planting material, machinery and vehicles. They are also able to disperse naturally, with adult moths able to fly between host plants.

Under the right conditions, they can survive between seasons on host grasses or by undergoing diapause.

Where is it now?

Spotted stem borer is native to Asia and can be found throughout Asia and Africa, as well as in the Mediterranean region in Türkiye and Israel. This species is not currently present in Australia.



Spotted stem borer (*Chilo partellus*) larva

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How can I protect my farm?

Establish good farm biosecurity practices including:

- controlling volunteer plants/green bridge management
- practicing good farm hygiene including cleaning of vehicles and clothing
- ensuring you monitor your crop regularly for anything unusual
- keeping good records of farm inputs and visitors.



Stem damage from larval feeding



Spotted stem borer (*C. partellus*) adult



C. partellus pupa located inside a tunnel it bore in a host plant stem



C. partellus larvae (left). The appearance of leaf feeding and stalk boring damage (right).



Dead hearts caused by *C. partellus* larvae (left). *C. partellus* larva feeding in stalk tunnel and its entry hole in maize (right).

If you see anything unusual, call the **Exotic Plant Pest Hotline on 1800 084 881**.

Visit grainsbiosecurity.com.au for more resources to implement practical biosecurity measures or contact your state Grains Biosecurity Officer, by visiting grainsbiosecurity.com.au/contact

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