

Technical fact sheet

Tarnished plant bug

What is it?

The tarnished plant bug, *Lygus lineolaris*, was first described from North America in 1818. Other scientific names include *L. oblineatus*, *L. pratensis* and *L. pratensis* var. *rubidus*. The species has a very wide host range affecting at least 130 species of economic importance, including cotton. It is not present in Australia.

What does it look like?

Adults are approximately 0.6 cm in length, and although they are true bugs, they have a flat, 'beetle-like' appearance (see Figure 1A). They fly readily when disturbed. Colour patterns vary considerably, ranging from greenish-yellow to brown. Males are generally darker than females. The body is marked with white, yellowish-brown, reddish-brown and black splotches. Adults lay eggs into plant tissues. The eggs are white in colour and curved. The eggs hatch into nymphs (see Figure 1B). There are five instars or nymphal stages with nymphs gradually becoming more like adults in appearance at each moult. Nymphs are yellow to green in colour, and can be recognized by the extensive and variable dark-red, red-brown or brown markings of instars 4 and 5. Larger nymphs (instars 4 and 5) can be recognized by a distinctive pattern of four black dots on the thorax (arranged in pairs on either side of the dorsal midline) and one black dot on the abdomen (along the dorsal midline). Wing pads are conspicuous in the final instar. Maximum lengths of instars 1-5 are 1.07-1.22; 1.65-1.80; 2.09-2.47; 2.05-3.36; and 3.42-4.95 mm, respectively.

What should I look for?

L. lineolaris infest the leaves and fruiting structures (squares, bolls and blooms) of cotton, where they can cause considerable yield losses. Economic damage to cotton occurs during the period from first square through to early bloom. The damage is caused primarily by feeding on small squares, which are preferred to larger squares or bolls, causing them to abort ('blasted squares') within a few days, leaving an abscission scar.



Figure 1A. Tarnished plant bug adult



Figure 1B. Tarnished plant bug nymph



Compiled by Robert Mensah
Department of Industry and Investment



Figure 2A. Tarnished plant bug-damaged cotton terminal

Rate of square shedding is within the range of 0.6 to 2.1 squares per bug per day. High *L. lineolaris* populations can further reduce yields by delaying maturity and altering fruiting patterns, while the injection of salivary enzymes also disrupts the growth of plant tissue. Feeding on larger squares at the bloom stage can damage developing anthers. Feeding on the bolls themselves may cause seed damage (Figure 2B), discoloration of lint and decreased lint weight. Although pre-squaring cotton is not particularly attractive to *L. lineolaris*, heavy infestations can sometimes occur that kill terminal shoots (Figure 2A), leading to a loss of apical dominance and the development of numerous secondary terminals ('crazy cotton') (Figure 2C). This is generally of limited economic importance, but can delay fruiting and boll maturity.



Figure 2B. Tarnished plant bug-damaged cotton bolls

How does it spread?

The tarnished plant bug is found in early successional habitats, most commonly on weeds that are in flower, or weeds that are close to flowering. Abandoned crop fields and roadsides are favourite breeding habitats, although it can also breed in many crops. From these host plants, adults can fly and infest cotton fields. Their flight is aided by wind and severe infestation can occur after storms.



Figure 2C. Crazy cotton

Where is it now?

The tarnished plant bug has not been recorded in Australia. It is found in Alaska, all provinces of Canada, all 48 states of continental USA and throughout most of Mexico. In western North America, *L. lineolaris* is displaced by *L. hesperus*, the western tarnished plant bug, on lucerne and cotton. The tarnished plant bug is found on a wide range of hosts throughout the USA, Canada, and Mexico.

How can I protect my farm from Tarnished plant bug?

In Australia, the sprays applied to control green and brown mirids and other sap sucking pests in cotton should control the tarnished plant bug in commercial cotton however if you suspect you've seen this pest, notify your nearest State Department of Primary Industries or call the Exotic Plant Pest Hotline.

Check your farm frequently for the presence of new pests and unusual symptoms. Make sure you are familiar with common cotton pests so you can tell if you see something different.

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



Disclaimer: The material in this publication is for general information only and no person should act, or fail to act on the basis of this material without first obtaining professional advice. Plant Health Australia and all persons acting for Plant Health Australia expressly disclaim liability with respect to anything done in reliance on this publication.