Technical fact sheet

Indian green jassid

What is it?

Amrasca devastans (Distant) is commonly known as the Green or Indian cotton jassid (or leafhopper). Other scientific names are *Amrasca biguttula, Chlorita biguttula, Chlorita biguttula biguttula, Empoasca biguttula, Empoasca devastans, Sundapteryx biguttula, Sundapteryx biguttula biguttula, Amrasca splendens, Jacobsiana distinguenda* and *J. formosana*. All these species can be mistaken for Indian cotton jassid as all are leafhoppers are similar in size and colour. The study of male genitalia is necessary to identify species of leafhoppers.

Figure 1. Green jassid adult

What does it look like?

Indian cotton jassid lays yellowish white eggs, 0.73 mm long and 0.24 mm broad within the leaf tissues. The eggs can be seen within the leaf tissue by using a staining method or by dissecting the plant tissue under a binocular microscope. Preoviposition and oviposition periods range from 2-4 and 4-9 days, respectively. The female lays 17-38 eggs in the leaf lamina and the incubation period is 8-10 days.

Figure 2. Leaf damage

Nymphs

There are five instars. The nymphs are greenish-yellow with bluish legs. The first, second, third, fourth and fifth instars measure 0.6, 1.03, 1.23, 1.5 and 2.18 mm, respectively. The duration of each instar increases from 1st to 5th instar and ranges between 3-5 days. Rainfall is the key mortality factor for the nymphs and adults. Reduction in leafhopper population is also associated with low mean temperature (< 29°C), high humidity (> 78%) and less than 6.4 hours of sunshine. In cotton, the leafhopper population is positively correlated with plant height and negatively correlated with the number of leaves and the internodal length.

Adults

Adults have prominent black spots on both sides of the median line on the vertex of the head, and another on the apical area of the forewing. Forewing coloration varies from yellowish-green to yellow during the summer. The longevity of adults is 11 days. Both nymphs and adults follow an aggregated distribution. In Northern India and parts of South India peak populations of *A. devastans* are attained between June and August. Cotton, okra and aubergine, sown in May, suffer most damage in these regions. During winter, the adults develop a reddish-brown colour with dark-violet eyes. The forewings have a brownish tinge and the legs are green. Indian cotton jassid is not known to transmit any virus or mycoplasma diseases.

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Compiled by Robert Mensah
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Figure 3. Leaf damage

What should I look for?

Large numbers of jassids can cause leaf damage especially lower in the cotton canopy. The initial symptoms of leafhopper damage in all crops are yellowing of leaves, followed by crinkling around the margins and upward curling of leaves (Figures 2 & 3). The leaf tips and margins develop necrotic areas. At later stages, bronzing of entire leaves can be seen. Damage may seem worse some days after it first occurs. Reddening of the leaves (Figure 3) can occur from the margins inwards. This may or may not be associated with leaf fall. Severely affected plants have stunted growth.

How does it spread?

Thermal convection may disperse flying adult leafhoppers for long distances, especially in agricultural areas. In trade, green jassids may be carried with cotton seeds or bolls as eggs or nymphs with raw cotton and various cotton products.

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

EXOTIC PLANT PEST HOTLINE
1800 084 881

Where is it now?

Indian cotton jassid is widespread in the Indian subcontinent, covering Bangladesh, India, Nepal and Pakistan. It is also recorded in Afghanistan, Vietnam, Japan, China, Taiwan and in the Pacific island of Guam.

It is believed Indian cotton jassid will establish very well in the cotton growing regions of Australia as well as areas where soybean, sunflower, mungbean, pigeon pea, tomato, maize are grown.

What does it attack?

Major hosts

Abelmoschus esculentus (okra), *Arachis hypogaea* (groundnut), *Corchorus* (jutes), *Glycine max* (soyabean), *Gossypium* (cotton), *Guizotia abyssinica* (niger), *Helianthus annuus* (sunflower), *Solanum melongena* (eggplant), *Solanum tuberosum* (potato), *Vigna radiata* (mung bean), *Vigna unguiculata* (cowpea).

Minor hosts

Amaranthus (grain amaranth), *Beta vulgaris* var. *saccharifera* (sugarbeet), *Cajanus cajan* (pigeon pea), *Calendula* (marigolds), *Cassia* (sennas), *Chloris gayana* (rhodes grass), *Hibiscus cannabinus* (kenaf), *Hibiscus sabdariffa* (Jamaica sorrel), *Lycopersicon esculentum* (tomato), *Morus alba* (mora), *Phaseolus vulgaris* (common bean), *Raphanus sativus* (radish), *Sorghum bicolor* (sorghum), *Zea mays* (maize).

How can I protect my farm from Indian green jassid?

In Australia, jassids would probably be controlled by sprays applied for helicoverpa and other pests however, if you suspect you've seen this pest, notify your nearest State Department of Primary Industries or call the Exotic Plant Pest Hotline before spraying.

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.