



False Chinch Bugs in Cotton

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Only nymphs of false chinch bugs contribute to significant early-season stand loss in cotton, not adults. False chinch bug (*Nysius raphanus*) adults are grey to brown in color, somewhat smaller in size than Lygus adults, and with superficial resemblance to important predators, big-eyed bugs (*Geocoris* spp.) (Figure 1). Adults lay eggs in loose or cracked soil around plants. Nymphs are mottled grey-brown with striping on the edges of the abdomen. Nymphs and adults have distinct four-segmented antennae that are thicker at the ends.

False chinch bugs often occur in fallow or wasteland areas where weeds are in abundance, preferring mustards like London rocket. They possess sucking mouthparts and are primarily seed feeders, but will feed on melon and cotton seedlings as nymphs.

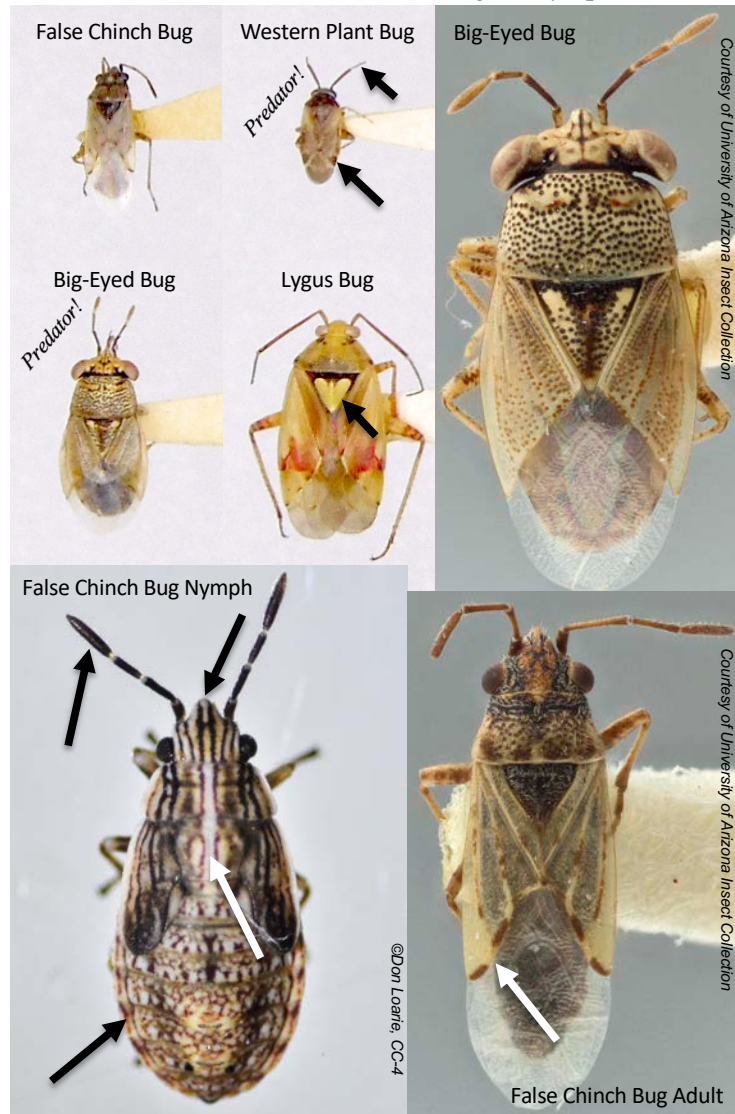


Figure 1. False chinch bug adults are smaller than Lygus, narrower than big-eyed bugs, and more parallel-sided than western plant bugs. Western plant bugs, *Rhinacloa forticornis*, are predators, and can be further distinguished by their pale-tipped antennae. Adult false chinch bug antennae have a thickened terminal segment; nymphs have the same antennae, a mottled body, and pointy “nose”.

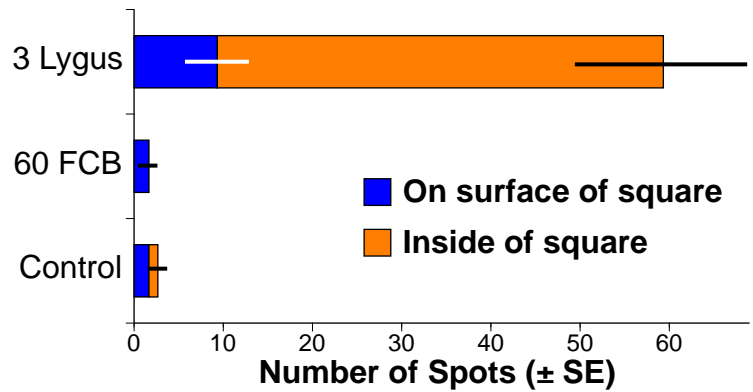


Figure 2. Cotton squares caged in the field with high numbers of false chinch bug adults (FCB) showed no significant damage after 7 days and produced uninjured flowers. Over this same period, 3 Lygus bugs, which are a known threat to cotton, caused considerable damage to cotton squares, as indicated by feeding injury (spots) to the developing floral parts. (Avila & Ellsworth, unpubl. data)

Nymphs can migrate to newly planted cotton fields in large numbers all at once during spring and early summer from drying out and dying weeds, due to hot weather, herbicides, or tillage. This migration occurs primarily when nymphs’ food sources decline in quality before they develop into adults. In large numbers, nymphs can kill young seedlings. As nymphs cannot fly, they enter by walking, posing more risk to field edges for stand loss. Young cotton up to pinhead square stage is most vulnerable.

Adults from this spring generation are non-feeding, at least when found on cotton. **Mass migrations of adults can occur mid-summer, arriving in alarming numbers, but research has shown these adults do not feed or damage cotton** (Figure 2).

Best management practices include timely removal of weeds from surrounding fallow or wasteland areas; reducing successful movement into fields (e.g., by removing board crossings from ditches, erecting barriers, or keeping ditches filled with water); and, very rarely, chemical control. Timely removal of weeds can eliminate critical food sources before nymphs develop. However, poorly timed removal by tillage or herbicides could force nymphs out of harborages and into newly planted cotton fields.

Chemical control of nymphs should only be considered during mass migrations when abundant false chinch bugs occur per plant, only where they are entering the field plus 50 feet further into the field, and usually only as a banded application over the crop. Nymphs enter fields by walking, so it is not necessary to treat the entire field. Regular monitoring for nymphs in adjacent habitat will help growers isolate controls to the source weeds at or near the points of entry. Adult false chinch bugs do not require chemical control in cotton. However, seed crops (e.g. vegetables, alfalfa) may be damaged by large numbers of migrating nymphs or adults during summer.

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A PDF of this publication is available on-line at:
<https://acis.cals.arizona.edu/docs/default-source/ipm-shorts/FCBcotton>

