



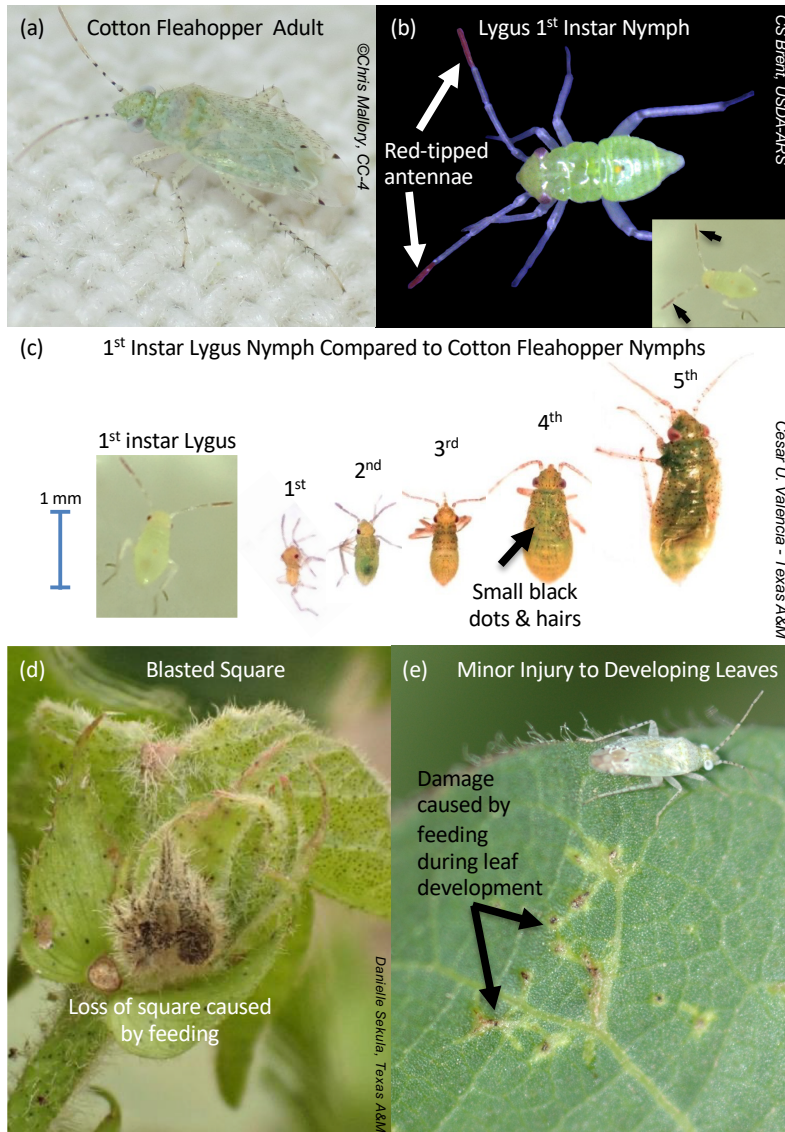
### Cotton Fleahoppers in Cotton

Naomi Pier<sup>1</sup> and Peter C. Ellsworth<sup>2</sup>

University of Arizona, <sup>1</sup>Assistant in Extension, <sup>2</sup>IPM Specialist

Cotton fleahoppers (CFH) (*Pseudatomoscelis seriatus*) are present in cotton during early squaring but rarely require chemical control. Adults are light green with a peppered appearance (Fig. 1a). First instar CFH nymphs are smaller than Lygus 1<sup>st</sup> nymphs and lack the red-tipped antennae (Fig. 1b). Eggs are laid in the stems of cotton.

CFH overwinter as eggs in weeds, such as silverleaf nightshade. Adult travel to cotton is fueled by weed dry down. CFHs dwell in the upper portions of cotton. These piercing-sucking pests feed on small squares and new terminal growth. Cotton at early squaring is at risk for losing fruiting sites due to blasting of small squares (Fig. 1d), which can delay timeliness of fruiting, however, yield loss is rare. Stippling of leaves (Fig. 1e) from feeding during early leaf development is of no economic consequence.



**Figure 1.** (a) Cotton fleahopper adult with the distinctive peppered. (b) A Lygus 1<sup>st</sup> instar nymph with characteristic red-tipped antennae that CFH nymphs lack. (c) CFH nymphs are smaller than Lygus with a 3<sup>rd</sup> instar CFH about the size of a 1<sup>st</sup> instar Lygus, and CFH have small peppery dots and fine hairs. A blasted square (d) and leaf stippling (e) caused by CFH feeding on these tissues early in development.

Product	Common Name	IRAC No.	Efficacy
Carbine	flonicamid	29	★★★
Courier	buprofezin	16	None
Oberon	spiromesifen	23	None
PQZ	pyrifluquinazon	9B	★★★
Sivanto prime	flupyradifurone	4D	★★★
Transform	sulfoxaflor	4C	★★★
Assail	acetamiprid	4A	★★★★
Belay	clothianidin <sup>1</sup>	4A	★★★★
Venom	dinotefuran	4A	★★★★
Agri-Mek	abamectin	6	★★★
Athena	bifenthrin + avermectin	3A + 6	None
Diamond	novaluron	15	None
Endigo ZC	thiamethoxam <sup>1</sup> + lambda cyhalothrin	4A + 3A	★★★★
Hero	bifenthrin + zeta-cypermethrin <sup>2</sup>	3A	★★★★
Leverage 360	imidacloprid + beta-cyfluthrin <sup>2</sup>	4A + 3A	★★★★
Orthene97	acephate	1B	★★★★
Torac	tolfenpyrad	21A	*
Vydate C-LV	oxamyl <sup>2</sup>	1A	★★★

**Figure 2.** Efficacy and selectivity (i.e., safety to beneficials) of cotton insecticides against cotton fleahoppers. ★★★★★, Excellent control; ★★★, Good control; ★★, Fair control; \*, Suppression only; <sup>1</sup>This material can significantly affect bee populations, pollinators and birds, & persist in soils; seek alternatives. <sup>2</sup>Considered highly hazardous by the World Health Organization; avoid when possible.

Scouting includes observations of plant stage, square loss and CFH abundance. A provisional threshold of 40–60 total CFHs per 100 sweeps, mini-sweeps across the row of young cotton, with associated square blasting indicate the potential need for chemical control, usually only from first squaring to first flower.

Cultural control is the most effective way to manage CFH. This includes weed eradication prior to squaring. Late control of weeds may flush adults to squaring cotton.

Cotton fleahoppers are not difficult to control with insecticides. Many good options exist for control with one spray. Some partially selective and broad-spectrum options (Fig. 2, yellow & red boxes) provide excellent control, but are associated with CFH resurgence (e.g., Hero), increased risks of secondary outbreaks (e.g., mites & whiteflies) and hazards to pollinators and non-target beneficials. **When chemical control is needed, every effort should be made to select materials that are effective against CFH, yet safe to non-target beneficials, human health and the environment (Fig. 2, green box).**

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A PDF of this publication is available on-line at:

<https://acis.cals.arizona.edu/docs/default-source/ipm-shorts/CFHcotton>

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