Insecticide use in cotton has been reduced following the success of transgenic Bt-cotton and boll weevil eradication (Allen 2008). These advances have likely released stink bugs and plant bugs (Hemiptera: Pentatomidae and Miridae) from indirect insecticide control (e.g., Lu et al. 2010). Along with damage reported by stink bugs in the southeast US, the verde plant bug, Creontiades signatus Distant (Hemiptera: Miridae), has emerged as a threat to cotton in South Texas. Armstrong et al. (2013) found that smaller bolls < 2.7 cm in diameter and < 12 days of age past bloom are more susceptible to damage than larger bolls. In commercial field surveys, up to 25% of open (mature) bolls showed boll damage when verde plant bug exceeded about 0.3 bugs per plant when scouting with a beat bucket during bloom (Brewer et al. 2012b). Here, we evaluated the opportunity to evaluate the plant damage—insect density relationship in a whole plant cage study at two growth stages (early and peak bloom) as a basis for setting an economic injury level, and to complement the current practice of inspecting green bolls for internal signs of injury.

**MATERIALS & METHODS**

Significantly reduced boll retention and boll load (Figs. 1 and 2) and increased boll damage (Fig 4) resulting in lint and seed yield decline (Fig. 3) occurred when verde plant bug infestations of 0.5 to 4 bugs per plant were present for one week during early bloom. Yield decline could not be detected at infestations as high as 2 to 4 bugs per plant when the majority of bolls were more mature at peak bloom. The yield decline when infestation occurred during early bloom matched previously conducted commercial field surveys where economic damage was detected when verde plant bug was detected at about 0.3 bugs per plant. The results were also consistent with previous findings that bolls > 2.7 cm in diameter and > 12 days of age past bloom are more susceptible to damage than smaller bolls. Based on this whole plant cage study and consistency with previous findings, we have set an economic injury level conservatively at 0.25 bugs per plant during early using a beat bucket. This insect-based and plant stage-based economic injury level should complement the current practice of inspecting green bolls for internal signs of injury, but may not be able to replace it because of the capacity of verde plant bug to readily move.

**MAJOR FINDINGS AND INTERPRETATION**

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