

Influence of Cotton Cultivar and Planting Date on *Lygus* Populations (Field5A)

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Objective: Monitor seasonal abundance and activity patterns of *Lygus* as affected by cotton cultivar and planting date window.

Methodology: The treatments consisted of four commercial cotton cultivars and two planting dates in a randomized complete block design with four replications for a total of 32 plots (Fig. 1). Cotton cultivars included Stoneville 2454R, Paymaster 2324RR, Paymaster 2145RR, and Paymaster 2167RR. Planting date treatments included a timely planting (within the optimum planting date window recommended for the southern High Plains), and a late planting date that coincided with the replanting cut-off date for the region. Timely planting and late planting dates for this study were May 11 and June 9, respectively. *Lygus* sampling began on July 2 and continued through the growing season on a weekly basis. A whole-plant visual observation of 10 plants per plot and a beat bucket sampling of 12 plants per plot were used to monitor arthropod activity, but the sample counts were converted to numbers per acre.

Results/Summary: Beat bucket captured significantly higher number (47% more) of *Lygus* than visual sampling. The *Lygus* activity began in early July and continued through late August. Although the seasonal average abundance of *Lygus* was similar across cultivars, the abundance during mid July was significantly higher in PM 2326RR compared with other cultivars (Fig. 2). Also, *Lygus* reproduction in cotton increased in late August as evidenced by increased nymphal abundance. Nymphal abundance was significantly higher in PM 2145RR compared with other cultivars.

Planting date affected the seasonal activity patterns of *Lygus* (Fig. 3). The timely planted cotton was at peak bloom while late planted cotton was squaring. As a result, during late July-mid August, *Lygus* activity was higher in timely planted cotton while late planted cotton attracted more *Lygus* in late August.



Fig. 1. Timely and late planted cotton under center pivot at Helms farm.

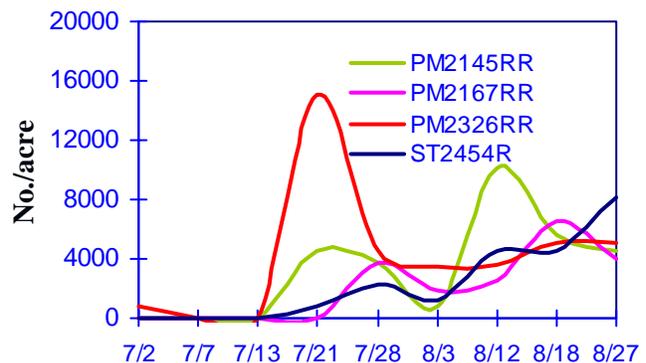


Fig. 2. Seasonal abundance of *Lygus* bugs in four cultivars at Helms Farm, 2004.

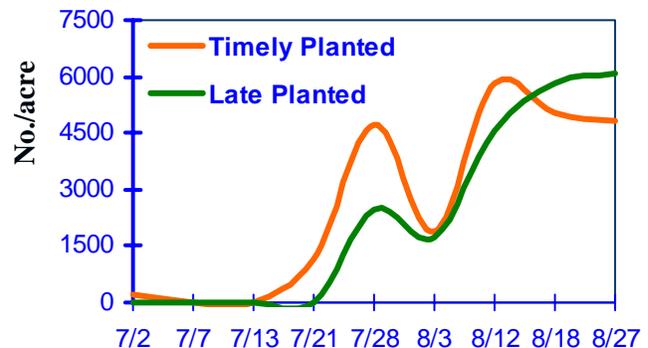


Fig. 3. Seasonal abundance of *Lygus* affected by planting date at Helms Farm, 2004.