Cooperative Extension

Community-Wide Lygus Action Plan

No. 7

The University of Arizona • College of Agriculture

June 30, 2000

Most seed alfalfa fields in our area are either dry or harvested. The remaining fields, however, are harboring large populations of Lygus. *These populations are dominated by nymphs, as developing adults appear to be exiting these fields in search of more favorable habitat. Cotton is squaring heavily, and growers should prepare to treat for* Lygus *as densities exceed threshold but no sooner.*

Crop Progress & *Lygus* Trends

The majority of seed alfalfa fields have been dried down or harvested by this past week (Fig. 1). This reduces the potential habitat for *Lygus* as long as re-growth is kept to a minimum. So fewer fields are contributing to the area's production of *Lygus*. Unfortunately, some unharvested fields continue to build in *Lygus* numbers (Fig. 2). On average, these seed alfalfa fields are harboring more *Lygus* than in previous weeks and more than for any other host monitored. Interestingly, adult numbers are declining in seed alfalfa. This trend could represent the dispersal of adults from these declining fields towards more suitable hosts. The challenge now is to complete all seed alfalfa production before the growing numbers of nymphs mature into dispersing adults.

Forage alfalfa continues to actively grow throughout the local community. As we move through this period of seed alfalfa decline and associated adult movement, it is important to maintain as many patches (fields, blocks, benches or strips) of actively growing and well-watered forage alfalfa at all times. These areas will serve to attract any locally dispersing *Lygus* to this crop which is unaffected by *Lygus* presence. At the same time, this will limit movement of *Lygus* to cotton fields.

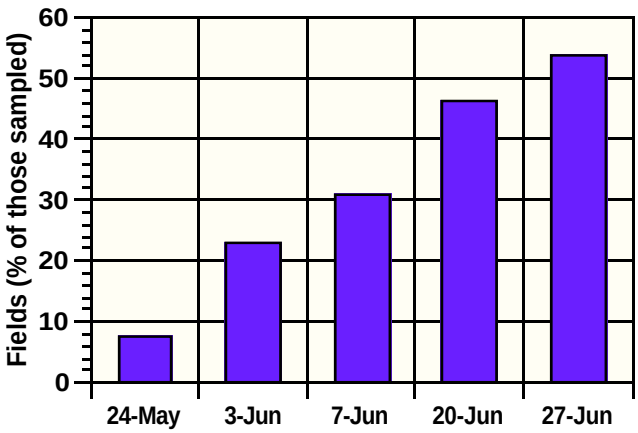
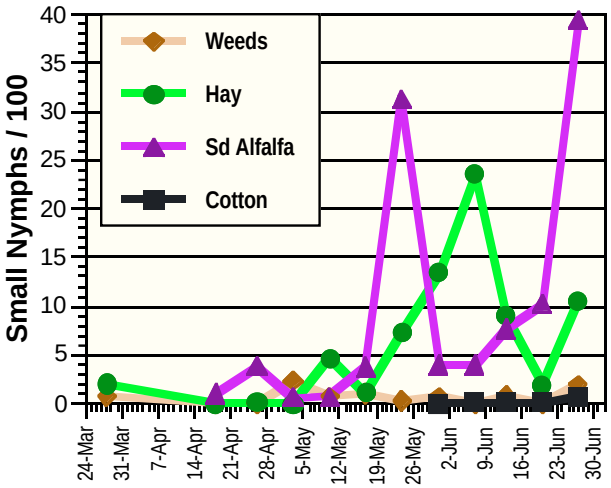


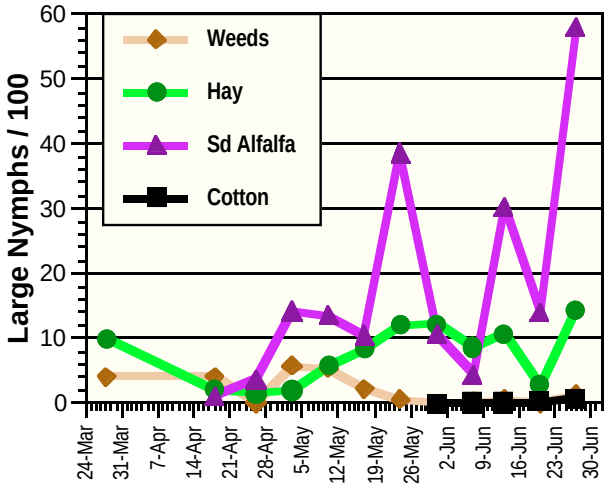
Figure 1: Percentage of seed alfalfa fields in the area (of those that we sample) that are unsuitable for Lygus *production (dry or harvested).*

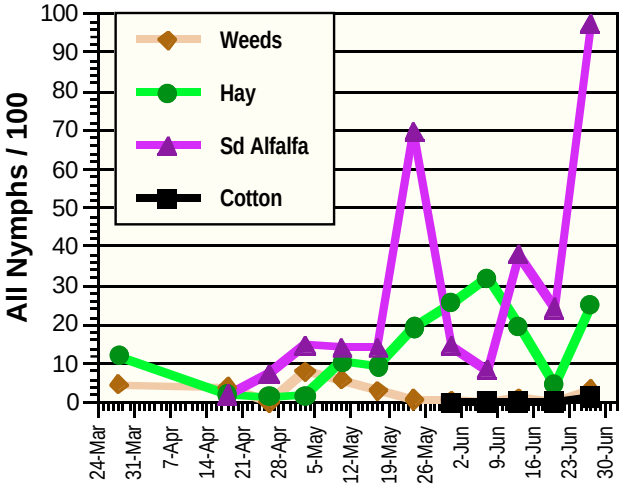
Cotton continues to grow quickly and most fields are in early to peak bloom, a period that is very sensitive to *Lygus* damage. *Lygus* numbers remain low in cotton, and there have been no reports of sprays for *Lygus* so far. Timing of *Lygus* sprays can be critical for yield and quality protection. Furthermore, a *Lygus* spray may be the first insecticide application made in many fields this year. Because of this and the broad spectrum nature of our *Lygus* control arsenal, it is important to reserve use until absolutely necessary. This will help conserve the rather diverse and generous supply of natural enemies needed to keep *Lygus* and other pests in check. *Lygus* sprays can typically serve to release whiteflies, mites, or armyworms from stable natural controls.

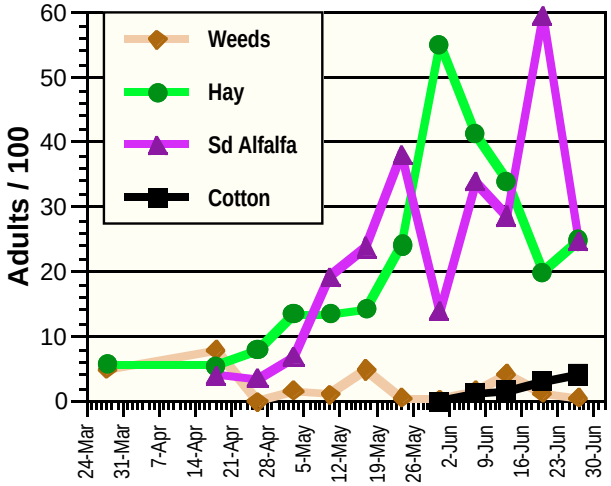
Timing *Lygus* Sprays in Cotton

Lygus chemical controls in cotton should be used once *there are at least 15 total* Lygus ***with*** *4 nymphs per 100 sweeps*. Sprays sooner than this or for adults only have resulted in less than maximum yields and lower economic returns in recent research (Ellsworth, 2000). Infestations will typically begin as adult-biased populations, sometimes far exceeding the '15' level before nymphs are detected. The '15:4' threshold requires the presence of at least 4 nymphs per 100 sweeps before spraying. Adults are not readily killed by our insecticides. Fortunately, yield protection is largely related to control of the nymphs. A large beneficial insect community may enable growers to postpone control even longer.









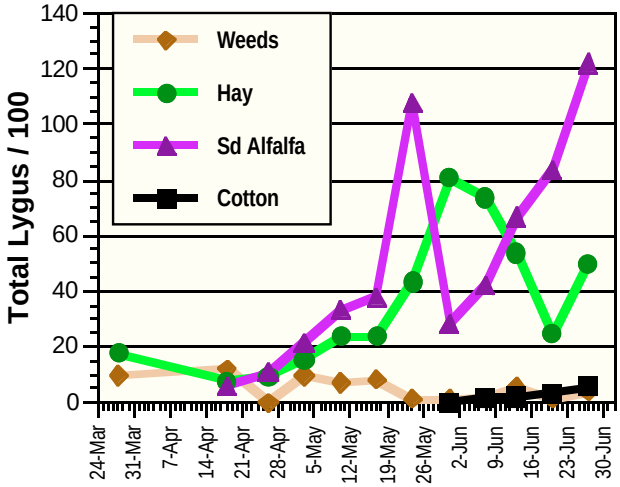


Figure 2: Number of Lygus *per 100 'cotton-style' sweeps in various crops in the western Pinal County area. Each chart represents an average of multiple sites in multiple fields each week. Due to differences in the number of sites each week, these numbers are for general information only. No sample was taken from seed-alfalfa on 28 March. Each site is re-sampled each week unless it has been recently sprayed, cut or otherwise removed, or watered. Each chart shows the results for the entitled life stage.* Small Nymphs *are instars 1–3;* Large Nymphs *are instars 4–5;* All Nymphs *is the sum of these 2 nymphal categories;* Total Lygus *is the sum of all stages of* Lygus *including adults.*

Internet Access to Newsletters & Cotton Info

Did you know that you can download, print, and read (in color) each of these newsletters directly from the internet! Each issue is placed on the Arizona Cotton Information Site, a series of Web pages that house all cotton production and protection information for Arizona growers. Point your browser at: **http://ag.arizona.edu/cotton** for our home page and **http://ag.arizona.edu/cotton/ipm.html** for this and prior issues of our newsletter.

References

Ellsworth, P.C. 2000. *Lygus* control decision aids for Arizona cotton. *In* J.C. Silvertooth, [ed.], Cotton, A College of Agriculture Report. Series P-121, Publ. No. AZ1170. University of Arizona, College of Agriculture, Tucson, AZ. pp. 269-280.

Peter Ellsworth, IPM Specialist[1]
Steve Husman, Area Extension Agent[2]
Dave Langston, MAC Farm Superintendent[1]

[1]*Department of Entomology, Maricopa Agricultural Center, Maricopa, AZ*
[2]*Pinal County Cooperative Extension Office, Casa Grande, AZ*

Any products, services, or organizations that are mentioned, shown, or indirectly implied in this publication do not imply endorsement by The University of Arizona or the USDA.