

Current Pest Update and Preparing for Mid- and Late-Season Insect Pests in Cotton

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Currently, the most common cotton pest that is being reported is fleahoppers (Fig. 1). Controlling this pest is important for fruit retention. Cotton fleahoppers will feed on small squares which can lead them to turn brown and appear “blasted.” These squares will eventually fall off leaving empty positions. If a broad-spectrum insecticide is used to control these pests be sure to scout regularly for “flare ups” of other pests.



Figure 1. Fleahopper

Photo credit: Texas A&M University Extension Entomology

As cotton transitions into flowering, a new list of insect pests need to be monitored. Bollworms, aphids, and stinkbugs are potential pests and can pose a risk for potential crop damage if left uncontrolled. Scouting fields regularly is important during reproductive growth to avoid yield and quality losses due to insect pests.

Cotton bollworm and tobacco budworm

Cotton bollworm (Corn earworm) (Fig. 2) and tobacco budworm moths are attracted to and lay eggs in new growth of cotton plants. Bollworm larvae (Fig. 3) will feed on tender tissues for a few days after hatching then begin to feed on squares and bolls which can lead to yield reductions. Transgenic *Bt* cotton can be used to control this pest, but it is important to scout fields regularly whether you have 2-gene (e.g. Bollguard II, TwinLink, Widestrike) or 3-gene (e.g. Bollguard III, TwinLink Plus, Widestrike 3) cotton in case an overspray is needed. Be sure to inspect all parts of the plant for larvae and eggs. Before first bloom, action should be taken when 8 or more surviving larvae (1/4 inch or longer) are present per 100 plants, or when populations threaten to reduce square retention to below 80%. After first bloom, action should be taken when square and boll sampling shows 6% or more injury and worms are present (Vyavhare et al. 2019). When action is required, use an insecticide labelled for controlling bollworms in cotton.



Figure 2. Cotton Bollworm Moth
Photo Credit: Kansas State University Entomology



Figure 3. Bollworm larvae on boll
Photo Credit: Kansas State University Entomology

Stinkbugs

Several types of stinkbugs (Fig. 4) can feed on cotton. Stinkbugs have piercing-sucking mouthparts that they use to feed on cotton bolls by piercing them and feeding on developing seeds. Stinkbug feeding on cotton can lead to decreases in yield and fiber quality. Stink bug feeding can result in warts on the inside of the boll and stain fibers. Feeding by stinkbugs can also transmit pathogens that cause boll rot. Action thresholds are based on injury and not by insect counts. After collecting bolls from multiple areas in the field and examining internal damage to bolls, action decisions can be made based on percent of bolls injured. Action thresholds are 10-15 percent boll injury during weeks 3-5 of bloom, 20 percent during weeks 2 and 6, and 30 percent or more 7 or more weeks after bloom (Vyavhare et al. 2019). When action is required, use an insecticide labelled for controlling stinkbugs in cotton.



Figure 4. Stinkbug
Photo credit: NC State Extension

Aphids

Several types of aphids (Fig. 5) can be found in cotton. Aphids feed on the sugars travelling through the phloem of cotton plants. These sugars would otherwise be used for plant development. Cotton aphids excrete “honeydew” which causes cotton leaves to appear shiny and sticky. Once bolls begin to open this “honeydew” can get on the cotton fibers causing issues with harvest, ginning, and spinning. Action thresholds for cotton aphids should be used to determine when it is appropriate to spray for this pest. Before first cracked boll, action should be taken when 40-70 aphids per leaf are present. Lower thresholds may be appropriate when trying to achieve high yields. After first cracked boll, action should be taken when 10 aphids are present per leaf (Vyavhare et al. 2019). After first cracked boll, it is important to control aphids if rain is not likely in the forecast to wash “honeydew” off the leaves. If it is determined that action is appropriate, use an insecticide labelled for aphid control in cotton. Beneficial insects can also be effective at managing aphid populations so be sure to scout for beneficial insects when scouting fields.



Figure 5. Aphids on cotton leaf

Photo credit: University of Tennessee Institute of Agriculture

When using control measures to manage the pests mentioned earlier it is important to consider the insecticide that you are using as many broad-spectrum insecticides used to control the pests above can lead to “flare ups” of other pests. Beneficial insects are an important tool of cotton IPM programs; therefore, using insecticides that control your target pest and not beneficial insects may be a better option than using a broad-spectrum herbicide.

References:

Vyavhare, S.S., Kerns, D., Allen, C., Bowling, R., Brewer, M. & Parajulee, M. 2019. Managing Cotton Insects in Texas. Texas A&M AgriLife Extension. Available: <https://extensionentomology.tamu.edu/files/2018/03/ENTO075.pdf>