Entomology 08-PMR (1-7)

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COTTON PEST MANAGEMENT NEWSLETTER #7

COTTON SITUATION: The Georgia Weekly Crop Progress and Condition Report for the week ending July 13th listed the crop as 80 percent squaring and 34 percent setting bolls which is similar to the 5 year averages of 83 and 40 percent respectively. As a whole dryland crop conditions have improved, but some areas remain dry. Areas with adequate moisture (rainfall or irrigation) appear to be progressing well.

INSECT SITUATION: Reports of corn earworm moth activity and small larvae infesting blooms significantly increased this week. Aphid populations have crashed in many areas of southwest Georgia due to the naturally occurring fungus; however aphids are still present in some areas. Stink bugs continue to be reported with some fields exceeding the 20 percent internal boll injury threshold.

Corn Earworm (Bt Cotton): Corn earworm (CEW) infestations significantly increased in some areas. Moderate to high numbers of small CEW larvae have been reported in both white and pink blooms. Larvae infesting blooms are more likely to survive in Bt cotton compared with larvae infesting terminals or squares. **If** small CEW larvae survive and develop in a bloom of Bt cotton they will often feed on the developing boll under the bloom or stuck bloom tag. Larvae 1/4 inch or greater in length are likely to survive Bt cotton and will damage additional bolls. CEW should be controlled in Bt cotton when 8 larvae 1/4 inch in length or greater are found per 100 plants. Pyrethroids should be used at medium to high rates for control of CEW.

One day old CEW larvae infesting white blooms.

Large CEW larvae found in a closed pink bloom. Note that the larvae had damaged the small boll below the bloom. Be sure to look under dried and stuck bloom tags for larvae and damage.

Scout all Bt Cotton Technologies: Regardless of Bt cotton technology, all fields should be scouted for caterpillar pests. Most Bt cotton planted in Georgia is single gene Bollgard (Cry1Ac) and we are familiar with its performance. We have less on farm experience with the two-gene Bt cotton technologies Bollgard II and WideStrike. Two-gene Bt cottons provide improved control of CEW and have a broader spectrum of activity on caterpillar pests (i.e. fall armyworm and soybean looper). We do not anticipate many Bollgard II (Cry1Ac and Cry2Ab) acres to require treatment for caterpillar pests, but it is possible and fields should be monitored closely. WideStrike (Cry1Ac and Cry1F) provides improved control of CEW compared with Bollgard, however supplemental treatment of CEW with a pyrethroid may be needed when high populations are present. Scout all Bt cotton fields closely regardless of technology and treat if thresholds are exceeded.

Aphids: Aphid populations have crashed due to the naturally occurring fungus in parts of southwest Georgia. However, aphids are still present and continue to build in east Georgia. Scouts should be observant for gray, fuzzy aphid cadavers (photo on right) which are indicative of the naturally occurring fungus. Once the fungus is observed in a field, we would expect the aphid population to crash in about a week or less. High humidity and aphid populations are conducive for fungal spread.

Stink Bugs: Stink bugs feed on or near developing cotton seed by piercing the boll wall with their needle-like mouthpart. In addition to physical injury, pathogens may be introduced into developing bolls degrading both yield and fiber quality. Bolls damaged by stink bugs sometimes show a sunken, purplish spot on the outside of the boll; however this is not a reliable indicator of boll injury. Internal symptoms of bug feeding injury are a better indicator of bug feeding and include warts or callous growths on the inner surface of the boll wall and/or stained lint. The warts of callous growths on the inner surface of the boll wall will be visible within 48 hours of feeding by a stink bug.

The inner surface of boll walls should be smooth and whitish in color as shown on the top left. Bolls injured by stink bugs will have callous growths or warts on the inner surface of the boll wall and/or stained lint.

Scouts should be observant for stink bugs (and other boll feeding bugs such as tarnished and clouded plant bugs and leaf-footed bugs) when walking fields to determine the complex of bug species infesting a field. If a field requires treatment, species of boll feeding bugs present will influence insecticide selection. Internal boll injury has proven to be a reliable technique for determining when an insecticide is needed for stink bugs. Bolls approximately the diameter of a

quarter should be randomly collected and examined for internal injury. Bolls of this size can be squashed between your thumb and forefinger. It is very important that bolls of this size (i.e. soft enough to squash) are sampled. Treatment of stink bugs is recommended when 20 percent of medium sized bolls display internal signs of feeding and stink bugs are observed. During early bloom when bolls the diameter of a quarter are not present, sample the largest bolls present. Also be observant for boll shedding if stink bugs are observed in fields during early bloom; if stink bugs feed on small bolls they may abort. Stink bug infestations are often initially observed near field borders, especially near habitats infested with stink bugs (corn drying down).

Growers should consider tank-mixing a pyrethroid with a low labeled rate of an OP insecticide when high CEW egg or small larvae counts are present in fields exceeding threshold levels of brown stink bugs. The OPs Bidrin and methyl parathion have little activity on CEW and will reduce beneficial insects which increases the likelihood of CEW developing into damaging infestations.

INSECT UPDATES: Check the **Cotton Insect Hotline (1-800-851-2847)** for updates on current insect conditions. The Cotton Pest Management Newsletter and additional cotton production information is also posted on the UGA Cotton Homepage at:
http://www.ugacotton.com

Sincerely,

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