
FOCUS on South Plains Agriculture

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Cotton Insects

Cotton Fleahoppers and *Lygus*

Cotton fleahopper are beginning to make their presence known throughout much of the High Plain cotton. Although populations in some areas remain too low to cause concern, there are hot spots of fleahoppers where as many as 80% or more of the plants are infested. Most of what I have been seeing in the cotton thus far are adult fleahoppers, which would indicate that the movement from the weeds into cotton is fairly recent and that we need to be watchful for nymphs over the coming week. Some nymphs are showing up, and one should keep in mind that the nymphs tend to be the most damaging stage. Also, it appears that most of the cotton fleahoppers are moving into the taller, more lush cotton.

Lygus are still around and appear to be moving into cotton in some areas, but for the most part the bulk of the population is still in weeds. Where they have moved into cotton, many of these adults have moved on. It remains to be seen if they laid eggs, but if so we could very well see nymphs over the next few weeks.

Square retention has been high this year, ranging from 80-95% for most fields. But where fields have gone through considerable environmental stress such as high winds and blowing sand, you can expect square retention to fall even in the absence of any insect activity. Be reasonable in your assessment of each field situation. It is easy to walk into a field and find an unacceptable square set and assume that insects are responsible, especially when a few fleahoppers or

Lygus are found. You can generally tell when weather, not insects, is the culprit for these losses. Squares lost to weather tend to be missing from the bottom of the plant whereas fleahoppers tend to take the upper squares.



Cotton Fleahopper Blasted Square

Fields that currently have a high square set will likely not be able to hold all these fruit and will make adjustments. Some of these adjustments will be in response to cloudy weather, fertility and later water issues, and the return of hot, dry conditions. Remember that only about 40-50% of all fruiting positions are retained. Also, most yield comes from 1st positions (80%) unless early losses dictate that 2nd positions (normally 15%) be used for compensation.

The decision to apply insecticide for fleahoppers should be based on the number of fleahoppers present, the squaring rate, and the percent square retention. During the first week of squaring, the economic threshold is 25 to 30 cotton fleahoppers per 100 terminals combined with less than 90 percent square set. In the second week of squaring, the economic threshold is 25 to 30 cotton fleahoppers per 100 terminals combined with less than 85 percent square set. Starting with the third week of squaring up to first bloom, the economic threshold is 25 to 30 cotton fleahoppers per 100 terminals combined with less than 75 percent

square set. This being said, where the crop is excessively late, it will require a more aggressive management style if average yields are to be expected. This will be especially true in the northern areas where most cotton may not bloom until mid to late July. This could represent a delay of 1 to 3 weeks. Long-term weather records would indicate that some of this cotton will be lucky to have 1 to 3 weeks of blooms available for harvest. Short-term weather patterns would provide a more favorable outlook with 3 to 5 weeks available to produce harvestable fruit. What the fall will bring is anybody's guess. The risk is yours to take, but in a year like this it is probably not a good idea to let square retention drop below 80%.

When choosing an insecticide for cotton fleahoppers there are quite a few choices, including a number of pyrethroids. However, this early in the season you should avoid using a pyrethroid if possible. Cotton aphids are present in low numbers in many fields and using a pyrethroid can easily flare a low aphid population into one that will require additional insecticide applications. We can't afford sticky cotton. DLK

Cotton Pests Around the State

Rio Grande Valley (reported by Manda Cattaneo, IPM Agent, Cameron, Hidalgo, and Wilbacy counties)

The first bale of cotton was harvested on June 28th. Aphid numbers remain low in most fields, but whitefly populations appear to be on the increase. Bollworm/budworms have decrease in a majority of fields, and we have had reports of Creontiades plant bugs in fields not treated for boll weevils or worms.

Middle Coastal Bend (reported by Stephen Biles, IPM Agent, Calhoun, Refugio, and Victoria counties)

We are finding primarily bollworms and stinkbugs. The continuous rain has made residual insecticide activity very short lived.

Central Blacklands (reported by Marty Jungman, IPM Agent, Hill and McLennan counties)

Cotton continues to grow-off rapidly. There are a number of fields that may require a growth regulant. The insect of most concern at this point is the bollworm. Bollworm egg counts range from 3-30%. Beneficial activity is light due to Malathion applications by Boll Weevil Eradication. Cotton aphids are also an insect of concern. In some fields we are seeing leaf cupping from higher aphid numbers. Aphids are on the increase in some area fields and have decreased in others.

Northern Blacklands (reported by Glen Moore, IPM Agent, Ellis and Navarro counties)

We are continuing to watch for cotton fleahoppers. Applications of malathion for boll weevils appears to have reduced fleahopper populations, and despite these applications causing an increase in aphid populations, beneficial insects and fungi have helped keep the aphids in check. Boll weevil traps have been light and we are running 0 to 4 punctured squares per 100.

Rolling Plains (reported by Ed Bynum, IPM Agent, Jones, Mitchell, Nolan, and Scurry counties)

Some fields have 1/3 gown squares, match head squares, others are just beginning to square, and still others are in the 2-3 or 5-6 leaf stage. Cotton fleahoppers are being found in squaring cotton and the numbers are ranging from 3-47 per 100 terminals. The percent square set ranges from 78 to 100%.

St. Lawrence Valley (reported by Warren Multer, IPM Agent, Glasscock, Reagan, and Upton Counties)

Fleahoppers are ranging from 0-23 per 100 plants and percent square sets from 74-100%. Most of the mid to late May planted cotton has just begun to square and fleahopper numbers remain low and square sets are high.

El Paso Valley (reported by Slavador Vitanza, IPM Agent, El Paso and Hudspeth counties)

Insect pest pressure is relatively light, but we are seeing a number of fields with light to severe incidence of cotton rust. DLK

Cotton Nematodes

Seed treatment nematicides versus Temik 15G for control of root-knot nematodes

Large plot trials were conducted at five sites to compare the new seed treatment nematicides (AVICTA complete pack and Aeris + Trilex combination) with Temik 15G and Temik + Trilex combination (which includes Baytan 30, Allegiance FL, and Trilex). AVICTA complete pack includes the fungicide Dynasty and the insecticide Cruiser. Aeris includes the insecticide Gaucho Grande. These four nematicide treatments were also compared against seed treated with the insecticide Cruiser. At three of the sites (Muleshoe, Lamesa, and Whiteface), Temik 15G and Temik 15G + Trilex had less galling than Cruiser alone and the nematicide seed treatments. At the other two sites (Lubbock and Sudan), all nematicide treatments performed similarly. When all the data from all sites was combined (Table 1), then Temik 15G and Temik 15G + Trilex had less galling than Cruiser alone or Aeris + Trilex. AVICTA complete pack was intermediate (Table 1). The tests were conducted by Brant Baugh (Lubbock), Monti Vandiver (Muleshoe), Kerry

Siders (Whiteface), Emilio Nino (Sudan), Terry Wheeler (Lamesa), and Scott Russell (Wellman, data not ready yet at this site).

Table 1.

Treatment	Galls/plant
Cruiser	4.5
Aeris + Trilex	4.8
AVICTA Complete Pack	3.5
Temik 15G	2.2
Temik 15G + Trilex	1.3

However, a more important consideration is the percentage of plants that have few or no galls, and the percentage of plants that have damaging levels of galls. The plants with few galls can compensate for heavily galled plants, provided that the heavily galled plants occur infrequently. Over 600 plants were evaluated for each of these seed treatments across the five tests (3,175 plants were rated for galling). For the seed treatment nematicides, there were approximately 63% of the plants with 0 - 2 galls, while the plants treated with Temik 15G had approximately 84% of the plants with 0 - 2 galls (Fig. 1). The primary difference between Aeris + Trilex and AVICTA complete pack, was that AVICTA had 6% more plants with 0 - 2 galls, and 5% fewer plants with > 10 galls/plant than Aeris + Trilex. The difference between Temik 15G without additional fungicide and Temik 15G + Trilex was a 4% difference in the category with > 10 galls. Otherwise in all other categories, they were within 2% of each other in frequency of galling.

The differences seen in galling do translate to differences in egg production as the nematodes finish their first generation and produce eggs to start their second generation. In a small plot experiment conducted in Lamesa, the average number of root-knot nematode eggs/500 cm³ soil on June 28 was: 13,032 for the untreated check,

13,896 for seed treated with Aeris + Trilex combination, 13,736 for AVICTA complete pack, and 4,344 where Temik 15G was applied at 5 lbs/acre in the furrow at planting. As the plants undergo increased water demands, the affects of the galling on water extraction efficiency, and the cost in energy to the plant of higher numbers of nematodes feeding on the roots, should result in smaller plants and less yield.

[View Figure 1](#)

Figure 1. The effect of nematicide treatments (Aeris + Trilex, AVICTA complete pack, and Temik 15G) on frequency of plants with galls caused by root-knot nematodes. Aeris included the fungicides Trilex, Baytan 30, Allegiance FL and the insecticide Gaucho Grande, Avicta included the fungicide Dynasty and the insecticide Cruiser, Temik 15G was compared without additional fungicide protection and with the fungicide combination of Trilex + Baytan 30 + Allegiance FL.

Verticillium wilt symptoms have been seen in sites where variety testing is being conducted.

Typically Verticillium wilt is not seen until late July or August. However, with cooler than normal temperatures persisting into July, we appear to have earlier onset of disease. The most important decision in managing Verticillium wilt occurred at planting, with the choice of variety. Other management options to keep in mind include: minimize cultivation or side dress operations that will produce wounds to the roots, and minimize irrigation. As we move closer to flowering, where water needs of the plants increase, producers will need to make a decision on whether to limit irrigation. The worse the wilt is, the lower the yield potential. There are no hard numbers that have been generated in our research program to advise producers on this issue. TW

Corn Insects

Corn growing very well, mites on the increase

Corn is taking advantage of the relatively cool temperatures and rainfall, and the fields I checked yesterday were in excellent condition. Stalk borer numbers were low, and the only problem I observed was spider mites. I was in one field in Hale County that needed to be treated for Banks grass mites. Mite numbers are now trending upward, especially in corn that is at tassel or post tassel. As I mentioned in an earlier edition of FOCUS, I am seeing relatively low numbers of beneficial insects and predatory mites that might otherwise keep spider mite populations in check. It would be a good idea to scout for mites in all corn fields.

I am getting some questions about which miticide would be the best choice in fields that are at tassel stage or later. Comite II and Onager are good miticides, but they must be used relatively early, preferably pre-tassel. Oberon can be used somewhat later, in part because it has some activity on adult mites. I am suggesting that Oberon would be the product of choice in corn that is at tassel or older. All three of these products will be relatively soft on beneficial species. What generally happens is that the miticide will reduce mite populations and then the beneficials will carry the load for the rest of the season. My data suggest that Oberon will give something like three weeks of control. It is important to avoid a pyrethroid application now if at all possible. This is because pyrethroids will kill the beneficials in the field and disrupt the natural mite control that usually helps so much. If a southwestern corn borer application becomes necessary, look at Intrepid or Tracer, neither of which will affect the beneficials as much as will a pyrethroid. We are most comfortable with Intrepid at 6 oz. per acre, and it would be a good idea to resist the temptation to cut the rate. All of our thresholds and insecticide suggestions can be found in "[Managing Insect and Mite Pests of Texas Corn](#)". RPP

Grain Sorghum Agronomy

Mid-Season Weed Control Options

Atrazine and propazine were common herbicide options in 2007 grain sorghum for pre-plant and pre-emerge applications. Extension agronomist Brent Bean, Texas A&M-Amarillo, has compiled a grain sorghum weed control guide that also notes several options for post-emerge grain sorghum. This guide is available on the [Lubbock website](#).

Key to many herbicide options in grain sorghum after emergence is the stage of growth of sorghum when you wish to use the herbicide. Many labels note that applications can be made up to a certain height or leaf number (e.g. apply the dicamba herbicide Clarity prior to 15" tall, but use drop nozzles if sorghum is taller than 8"). Other herbicides will discuss application restrictions in terms of leaf number. Either restriction, height or leaf number, corresponds in part to the development of the growing point which switches over from producing leaves to initiating development of the spikelets and potential number of seed you may have for each head. The effort to guide herbicide applications such as dicamba and 2,4-D is to minimize any of these growth regulator type herbicides from getting in the whorl which could lead to 'blanking' or 'blasting' of the head and hence no seed development.

Common problems over the past several years with these types of sorghum herbicide applications have been twofold: 1) spraying and getting too much herbicide on the sorghum plant and ultimately in the whorl; and 2) using hoods or directed spray (drop nozzles) that are not working the way they should and hence again putting too much herbicide on the plants. Consult your herbicide labels for additional details on your application.

Post-emerge Sorghum Herbicide Crop Restrictions the Next Year

One sorghum herbicide absolutely excludes cotton the next year: Peak (prosulfuron), 18 months. Other crops like sunflower have even longer restrictions after Peak. Peak, however, is not common on the South Plains but is used some in the Panhandle.

Atrazine restrictions are vague going back to cotton due to soil type, organic matter, etc. Most atrazine restrictions note a minimum of 10 months back to cotton. This is why propazine is popular due to no noted cotton rotation restriction except for the most coarse soils (loamy sand, sands) at the full labeled rate of 1.2 quarts/A. CT

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