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FOCUS on Entomology

For South Plains Agriculture

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IN THIS ISSUE

A Technician I position has opened up at the Lubbock Center under cotton entomology research and technical support. Go to http://greatjobs.tamu.edu for more information.

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COTTON INSECTS

All quiet on the western front (west Texas that is). Or is it? The leading edge of the northern bollworm egg lay appears to be going down but otherwise problem fields with treatable caterpillars are few and far between across the area, south or north. Some treatments are being made for pink bollworms in western Gaines county but these appear to be based on increasing trap catches and not on infested boll counts. Aphid infestations are still fairly static with natural enemies keeping them in check---but some infestations are approaching threshold. Lygus bugs and other potential pests are pretty much off the radar screen as the early crop moves through cutout with the later crop not that far behind.

Pink bollworm numbers in traps are fairly low except in Gaines, Glasscock, Reagan and Upton counties (see chart). There are reports that some fields have or will be sprayed in Gaines County this week. These fields will be sprayed based on the pre-boll threshold of 5 weevils per trap per night. There is no doubt that there are traps catching this number and even more but once bolls are present in fields, the trap threshold is no longer valid. Traps tell you there is moth activity in the area but does not determine the need to spray. Just like I wouldn't use bollworm trap catches to tell me when to spray in August, I won't use traps for pinkie management decisions.

Pink bollworm external boll damage

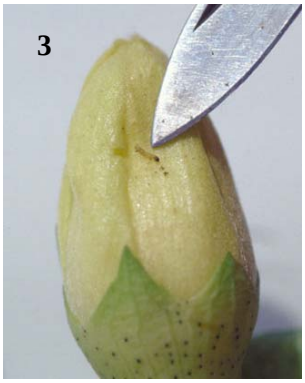
The infested boll threshold then comes into play and is set at 15% or more infested based on warts, larvae or fiber discoloration. Since the threshold for Lygus bugs is also 15% damaged bolls at this time of year (they produce internal warts too), and pyrethroids are effective on both pests, all a scout needs to do is look for warts. About 40-50 bolls per field should be enough as long as they are small bolls each check time. Otherwise you could be counting older damage along with new damage the following week. It doesn't matter if the boll has more than one wart, a larvae or fiber discoloration, once you determine it is damaged, move to the next boll. This can be a faster process than you think.

We are moving through the second generation of pink bollworm larvae in some area fields. I don't believe this generation has enough numbers to create a problem. But the next larval generation in September could pose a problem for late cotton. For more pink bollworm information see Pink Bollworm Management Tips I in the Crop Production Guide Series of FOCUS and Pink Bollworm Management In Texas.

Bollworms are moving out of corn and into cotton in the northern counties. This has just begun with the leading edge of the egg lay detected this week. Few larvae have been found but more farmers are spraying than should at this time. It is too early in this cycle to tell what will happen and by laying down a pyrethroid now you may be spraying some fields unnecessarily. A few more days wait would give a better measure of the situation. South of the corn country is a different situation. Scattered problem fields exist but no wholesale movement into the area from the Rolling Plains has occurred as I write this. We have too many natural enemies and too much of a risk from aphid flare-ups to be overly aggressive with pyrethroids at this time. Besides, much of the earlier planted cotton is very close if not at a point where it is "bollworm safe".

Egg on dry bloom

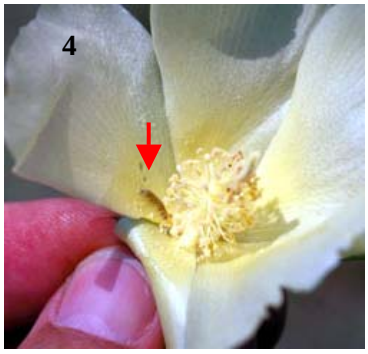
With bollworm problems possibly looming on the horizon and notable confusion over scouting protocol and economic thresholds--- I'd like to set the record straight. First of all scouting. I have always advocated whole plant scouting for bollworm caterpillars, looking in the terminal whorl and then examining every square, white flower, pink bloom, bloom tag and boll. When I am through with a plant, it is fairly beat up. I even dissect open dried up blooms. If you don't do this, you stand a good chance of missing a developing infestation (especially in Bollgard cottons)---for sure on once-a-week scouting. But I am all for once-a-week scouting until a vulnerable field starts showing increasing activity or reports for the area indicate an increasing bollworm problem. But once a field is passed the bollworm damage susceptibility stage (about 20 days after cutout on timely planted fields or 20 days following seasonal cutout). Seasonal cutout is about August 10-15 in Dimmitt, August 15-20 for Lubbock and August 20-30 for Lamesa on south. This is at the 50/50 risk level. Once fields are safe from bollworms and Lygus bugs (about 2-5 days earlier for bugs), then all we need to worry about are aphids and sticky cotton and pink bollworms which can damage bolls for another 10 or so days passed the bollworm cutoff time.



1 day old bollworm

I am responsible for the threshold for bollworms in the guide (along with a team of Extension IPM agents). My intent was to establish 5,000 larvae per acre less than ¼" in size as a starting point for scouts that had little experience or folks that easily find little things in cotton. But my own threshold and that for

experienced scouts has always been 10,000 small larvae per acre. So those of you that can find the small worms and are still using less than 10,000 per acre---shame on you! I really think this level could be raised to 15,000 small larvae per acre but have not done so. But here is the rub. Since most of the biotic (natural enemies) and abiotic (weather) mortality takes place during the egg stage and the first 3 days of larval life, treatment decisions based on small bollworm larval infestations at or near threshold are probably unnecessary. You should check back in a couple of days or determine if there are enough eggs present to add to the current developing problem. And speaking of eggs---if you are finding 40,000 or more per acre in cotton with 4 or more NAWF, then you probably will have enough survival to cause economic damage from the resulting larvae.



3 day old bollworm

If you are scouting Bollgard cotton varieties or are finding mostly bollworms larger than ¼" in size in non-Bollgard varieties, then and only then should you consider spraying at levels in the 5,000 to 8,000 per acre range. This is only an educated guess; so don't hold me to it as exact science. But it only stands to reason that since most mortality has taken place at this stage, and those larvae that remain will probably live and complete their development. Their accumulative damage will probably be enough to cover a pyrethroid application. But remember that square or white bloom protection is no longer a part of the economic equation unless you are in the southern High Plains south of Lubbock. There is not enough time left to make a harvestable boll with any kind of certainty.

The only problem with waiting to make control decisions until worms are at least 4 days old is that they tend to move into places where insecticides fail to penetrate---like in squares, pink blooms and bolls. But at numbers around the threshold level of 10,000 small larvae per acre, I am willing to take that chance.

Most fields continue with low levels of aphids with a few showing some increase. Natural enemies such as lacewings and lady beetles are doing the job of keeping these slowly developing infestations in check. Any disturbance that reduces numbers of natural enemies or increases aphid survival or reproduction could tip the balance in favor of aphids. With increased bollworm activity and associated sprays, aphid numbers could start increasing. So keep a watch on the situation.

Lady beetle larva and aphids

For more management information on west Texas cotton insects, including a list of recommended insecticides, go to: Managing Cotton Insects in the High Plains, Rolling Plains and Trans Pecos Areas of Texas 2005 (E-6) and Suggested Insecticides for Managing Cotton Insects in the High Plains, Rolling Plains and Trans Pecos Areas of Texas 2005 (E-6A).

Boll weevil trap catches decreased across all zones in the High Plains area with the exception of the Northern High Plains zone, which picked up its first weevil. Total accumulative sprayed acreage for the 7 active zones in this area is still less than 300,000. And do remember that under current maintenance remedial action rules followed by the Texas Boll Weevil Eradication Foundation, when a trap catches a weevil, all fields within

½ mile of the trap receives 4 weekly applications. This can run up acreage in a hurry. So---we have been lucky so far.

Most other zones across the state are actually holding their own although there are still lots of weevils and applications in the eastern and southern Texas zones. The Rolling Plains Central zone weevil catches has been greater this year than in 2004. Even the new Valley and the Northern Blacklands zones are doing well considering. **JFL**

Average number of boll weevils caught per trap inspection and sprayed acreage through August 14. Number of boll weevils caught for the week ending August 14, 2005.

High Plains Zone	2005	2004	Sprayed acres	Total weevils caught this week
Permian Basin	0.0222	0.0070	177,320	42
Western High Plains	0.00002	0.00001	10,942	0
Southern High Plains	0.00003	0.00004	22,595	1
Northern High Plains	0*	0.00001	342	1
Northwest Plains	0	0	0	0
Panhandle	0	NA	0	0
St. Lawrence	0.2184	NA	65,630	285

*Number is less than 0.00001

COTTON AGRONOMY

More outstanding rainfall has occurred across the region over the last week or so. Some areas received up to 4-5 inches. Again, this is great for both our dryland and irrigated cotton producers. Turning off pumps during this time of high energy prices is a major plus for the pocketbook. And more rain is in the cards for mainly Sunday and Monday.

Last week in the August Crop Report, Texas Agricultural Statistics Service (TASS) noted that this year's estimated standing acres at this time for Districts 1N and 1S (which encompasses the High Plains region) is about 3.5 million. Some may not agree with this estimate, believing we may have between 3.3 and 3.4 million acres. However, we can see a very large crop looming out there again in 2005 due to excellent rainfall and good growing conditions. The estimated bale production as of August 1 from TASS for 1N and 1S combined is just over 4 million. Last year in the August Report, TASS indicated that the 2004 crop was about 3.9 million bales off of 3.4 million standing acres. We all know that we ended up producing 4.8 million bales off of 3.25 million final acres in the 2004 crop. The 2005 crop could end up the second largest on record, behind 2004, but above the approximate 3.5 million bales produced in both 1993 and 2002. Where we are headed in this year is going to be a cliffhanger once again.

As for daily heat units, although we were much cooler than normal for the first two weeks of August, we are now back to near normal due to the recent warming trend (see temperature and heat unit graphs).

More PGR issues. Last week, after rainfall and irrigation, many fields in the High Plains had nearly full soil profiles with high levels of moisture. Some of these fields are planted to longer season varieties that are exhibiting significant growth. Some of this cotton was over 3 ft tall, and continued to have high vigor potential, yet had tremendous fruit loads. Also, I have had some calls from producers in dryland areas that had large plants, poor fruit loads, and recently received substantial rainfall.

Some of the irrigated fields had been treated earlier with moderate rates of mepiquat chloride for growth control. We remember last year, where we had a lot of fields get very tall and very difficult to stripper harvest due to high rainfall and a cooler growing season. Plant size is the prime consideration here. Growing conditions in some of these fields are such that plant growth may not be checked by the existing boll load, especially with some of the newer varieties. I suggest you visit with your seed company representatives and find out what they have to say about your local field situation (moisture, nodes above white flower, boll load, etc.) relative to the variety planted.

Some producers are applying mepiquat chloride at high rates to attempt to check the growth of these plants that have high moisture profiles and 7-8 nodes above white flower at this time. Remember that we are getting to the point where a bloom today has a low probability of making a fully mature boll across most of the region. The Pix label states that for cotton that never completely "cuts out" the use rate is 8-24 oz/acre. For cotton that has moderate additional growth potential, use the lower rates, but use the higher rates on fields that are likely to continue vigorous growth. **RB**

PEANUT DISEASES

Peanut disease problems continue to grow: Sclerotinia blight, pod rot by both *Pythium* and *Rhizoctonia*, Botrytis blight, and now Leptosphaerulina blight are all showing up.

Leptosphaerulina blight has only been a problem once that I know of in the last 10 years. In most years it is present as a minor pathogen causing pepper spot. However, in 1996 during late August when there were several weeks of cool, damp weather, it began to infect peanuts systemically, resulting in rapid plant death. Symptoms of this blight before plant death is seen in associated picture. Most blights start in the roots or near the soil line and work up the plant. However, Leptosphaerulina blight begins on the leaves and works it's way to the stem. Under a 30X magnifying lens, one can see a lot of brown spores on the tissue that is infected, and also near the line between necrotic and green, healthy tissue. Dr. Chip Lee (Professor and Extension Plant Pathologist) looked at a number of different fungicides in 1996 for activity on this disease, and determined only one that would have no activity is Ridomil. He also determined that fungicides should be applied at their highest labeled rates and also the spray interval should be closer to the minimal time recommendation rather than the maximum time between sprays. If the weather goes back to being hot and dry, then one application will probably be adequate. It is important to act promptly if the blight symptoms show up in a field. **TW**

ALFALFA, SMALL GRAINS AND SUNFLOWER AGRONOMY

Fall seeding at hand for High Plains alfalfa. Seeding will begin in 2-4 weeks for the region. Much of the past emphasis on alfalfa establishment has focused on variety selection; however, variety choice is over-emphasized at the expense of basic management practices. I will discuss alfalfa variety selection in next week's FOCUS.

Irrigation capacity and alfalfa acreage. There is a common misunderstanding about fitting irrigation capacity to acreage. In general producers should consider at least 7 gallons per minute per acre (gpm), and 8 or more is usually recommended. For assistance in

calculating an optimum number of acres for available water consult Extension's 'Texas Alfalfa Production'.

Seedbed preparation. I assert that the most important day in the life of an alfalfa plant is the day it is seeded. Herbicide and fertility requirements are in place. A firm seedbed is essential for alfalfa, which is most likely seeded at about ½" (perhaps 0.75-1.0" on the sandiest ground to prevent drying out of seedlings). As a rule of thumb when you walk across an alfalfa seedbed your shoe heel should not sink in more than 3/8" into the soil. Having seedbeds prepared ahead of time offers the potential to have a packing rain.

With the increasing practice, however, or reduced tillage or leaving crop litter on the surface then producers must rely on their seeding equipment to adjust for cloddy, trashy soils. Seeding rates might need to be increased perhaps 5 lbs./A to adjust for reduced germination and establishment. If producers feel that they benefit from very high seeding rates for alfalfa, then there is a good chance that their seedbed may not be ideal.

Pre-plant fertility. As a rule of thumb alfalfa forage removes about 50 lbs. nitrogen per acre, 12-14 lbs. P2O5/A, and 50-60 lbs. K2O/A per ton of forage. Nitrogen is largely supplied by *Rhizobium* nodulation and fixation, and West Texas soils are inherently high in K, but P must be applied. Since P is immobile in the soil producers should consider applying not only Year 1 P but also Year 2 P since you have the opportunity to incorporate the P fertilizer. That is better than trying to get the P into the root zone on an established stand.

Fall small grains for forage. Extension recommendations suggest (particularly for fall forage production) that producers choose wheat seed with a minimum germination of 85% and a minimum test weight of 58 lbs. per bushel. Oklahoma research suggests that these two factors are correlated with fall forage production. Know your seed before you purchase. If you have questions, have your seed tested. You as a producer deserve to know the quality of your seed.

Some producers have already indicated they are about to seed wheat for fall grazing. I encourage growers to wait till about Sept. 1 for northwest counties, up to 7 days later for areas around Lubbock, and 14 days later for Lamesa. Remember that wheat is a cool-season grass, and we can use too much water trying to get wheat established and growing when it is still hot. Furthermore, some wheats (beardless Longhorn is one) that have some dormancy in warm soils, and they may not grow well at this point.

I will highlight variety considerations later on and the degree to which variety may—or may not—have a significant impact on forage yields. Again, like alfalfa described above, management is probably a more important consideration provided you plant good quality seed.

Leaf rust in sunflower. All market types of sunflower are at some level of risk to leaf rust, especially due the recent August rains and humidity. Rust resistance is common to most oil sunflower hybrids, but rust races change and no hybrid, in spite of being resistant, is immune to leaf rust. Most reported outbreaks of rust come from the Panhandle, but could affect later planted sunflower in the South Plains as well.

Little information is available for spray thresholds, but Kansas State University experience suggests that rust on the top half to two-thirds of the plant in the bud stage to early flowering is most likely to benefit from treatment. Kansas State Extension plant pathologist Doug Jardine believes that confectionary and high oleic hybrids are more susceptible to leaf rust. Once disc flowering is essentially complete and you are approaching petal drop, significant development of rust on the top third of the plant still may not merit spraying. Consulting the 10-day weather forecast might help make your decision

especially if conditions appear to be humid and rainy, which favors rust development.

Few available fungicide labels for rust in alfalfa limit control options. Headline is a fungicide that is more preventive in nature, and must be applied at the earliest sign of infection. The current label, however, allows two sprays at a two-week interval. This may not be sufficient to give extended control. The fungicides of choice, ideally, would be Folicur (tebucanozole) or Tilt (propicanozole), which are good materials that can stop a rust infection, but no Section 18s are currently available for application in Texas. **CT**

CROP TOUR SCHEDULE

August 23. Scurry/Borden County Small Grains Workshop. Contact Greg Gruben, CEA-AG, at 325-573-5423 or Dennis Poole, CEA-AG, at 756-4336.

August 24. Crop Conference, Tulia. Contact Michael Clawson, CEA-AG, at 995-3721.

August 25. Bailey/Parmer Crop Tour. Curtis Preston, CEA-AG, at 806-272-4583 or Cody Hill, CEA-AG, at 806-481-3619.

August 31. Gaines County Ag Tour. Contact Terry Millican, CEA-AG, at 432-758-4006.

September 9. Swisher County Forage Meeting. Contact Michael Clawson, CEA-AG, at 995-3721.

September 13. Yoakum County Crop Tour. Contact Arlan Gentry, CEA-AG, at 456-2263.

September 14. Lubbock County Crop Tour. Contact Mark Brown, CEA-AG, at 775-1680.

September 14. Cochran County Crop Tour. Contact Jeff Wyatt, CEA-AG, at 806-266-5215.

September 15. D&PL Field Day, eight miles south of Lorenzo on the Steve Chapman Farm, 9:00 a.m.

September 15. Dawson County Crop Tour. Contact Tommy Doederlein, EA-IPM at 806-872-5978.

September 15. Terry County Crop Tour. Contact Chris Bishop, CEA-AG, at 806-637-4060; Scott Russell, EA-IPM at 806-637-8792.

September 16. Swisher County Crop Tour. Contact Michael Clawson, CEA-AG, at 806-995-3726.

September 20. Floyd County Ag Tour. Contact J.D. Ragland, CEA-AG, at 983-4912.

September 21. West Texas Ag Chemicals Institute Annual Meeting, Holiday Inn Lubbock Plaza Hotel, Lubbock, TX.

September 22. Bayer CropScience/FiberMax Field Day, phone 765-8844 for more information.

September 22. Lynn County Crop Tour. Contact Bryan Reynolds, CEA-AG, at 561-4562.

September 28. Crosby County Crop Tour. Contact Steve Young, CEA-AG, at 806-675-2347.

COTTON INSECT PHOTO CREDITS

1. University of California Statewide IPM Project.
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