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FOCUS on Entomology

For South Plains Agriculture

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IN THIS ISSUE

LAST ISSUE OF FOCUS FOR THIS YEAR. LOOK FOR MORE CROP PRODUCTION GUIDES OVER THE NEXT SIX MONTHS, INCLUDING A REVISED AND SIGNIFICANTLY EXPANDED PINK BOLLWORM MANAGEMENT GUIDE.

NEWSLETTER CONTRIBUTORS

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COTTON INSECTS

Time is running out for young bolls to collect enough heat units (HU) for maturity. There are about 330 HUs available between now and the end of October at Lubbock based on the long-term weather records. This tells me that a bloom after August 10th is not worth protecting from insect damage. This date would be about August 5th for Amarillo and August 20th for Lamesa. Bolls from August 5th and earlier blooms are now safe from all insect damage. August 10th blooms still need a few more HUs to be safe from pink bollworms and bolls later than this are not generally safe from any insect at this time. These dates would move a little later or earlier as you move north or south of Lubbock. On this day at Lubbock, August 1 bolls have approximately 570 HUs; August 5, 480 HUs; August 10, 400 HUs; August 15, 340 HUs; and August 20, 280 HUs.

Bollworm activity is winding down as more fields become unattractive to moths for egg laying activity and unable to support bollworm development. The egg lay has also markedly decreased. Most of what we are finding now are "snakes". Not much money can be made spraying for large bollworm caterpillars since most of their potential damage has already been realized. Continue checking your late fields and finish up irrigations as soon as you can to prevent prolonging the lushness of your late fields. This will also help performance of harvest aids. Bolls are safe from significant damage once they accumulate 450 HUs past flower.


1

Beet armyworms are popping up in increasing numbers, especially in fields north of Lubbock. Increased moth trap catches are indicative of this trend. Numbers observed thus far are far below any I would be concerned with. But if you have a late field


2

with enough caterpillars to justify a treatment, make sure you know what species you have. Otherwise your insecticide choice could be wrong. Much of the armyworm feeding at this time of the year becomes concentrated in late blooms and bracts of bolls. These beet armyworms can sure be messy!

Cotton aphids are no longer a threat to yield, even in the latest developing fields. The only issue left for aphids between now and harvest is sticky cotton. This is caused by their excretions of honeydew onto the leaves and open bolls below their feeding sites. It takes very few aphids to cause a problem. As few as 5 per leaf can result in a problem if harvested cotton is not blended enough with uncontaminated lint or if rains fail to wash away this sticky deposit. There are no problems to report at this time but a few fields with opening bolls do have enough aphids present to cause a FIELD sticky cotton problem. I emphasize FIELD problems because most field problems do not result in sticky problems at the gin or TEXTILE MILL. Bottom line at this time? WE HAVE NO STICKY COTTON PROBLEM. For more information on this subject, "Sticky Cotton: Sources and Solutions".

***Lygus* numbers continue to increase,** as producers shred more weedy areas. It might be advisable to determine if these weedy areas harbor *Lygus* in sufficient numbers to cause a problem to adjacent cotton. If so, I might consider spraying these weedy areas with an insecticide before shredding. Much of the boll damage caused by *Lygus* at this time is superficial, and does not penetrate through the boll wall. Superficial lesions are not the problem, boll wall penetration and subsequent damage to lint and seed is the problem.

Master's degree studies by Andy Cranmer, Gaines County IPM Agent, on *Lygus* damage to bolls in relation to boll age indicate that external damage only decreases from 100% for a 150 HU aged boll to 90% for a 350 HU aged boll, while internal damage decreases from 60% down to 5%. I would not be overly eager to spend more money at this time of year for *Lygus* control.

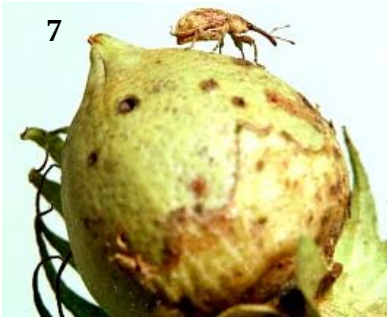
Pink bollworms moth trap catches continue to increase indicating that late summer/fall movement is beginning. Like boll weevils, this is in response to shorter days and a declining source of food (both quality and quantity). These moths are searching for their last field to lay eggs in to produce overwintering larvae. These late instar larvae will enter diapause, with peak numbers generated through the period, September 15 - October 15. Since eggs take about 4-5 days to hatch and larvae will take another 15-20 days (or more depending on temperature) to develop into mature diapausing larvae, there is not much time left for them. These diapausing larvae will either cut out of bolls and enter the upper 2 inches of soil to overwinter or they may remain in infested bolls. We don't yet know their preference in this area.

There are a number of things a producer or consultant could do to reduce the overwintering population of pink bollworms this year. These would include: 1) continue spraying for pinkie moths until the last harvestable bolls are about 3 weeks old, 2) terminate and harvest crop as

soon as possible (stop irrigating, use boll openers, 3) send all harvest debris to the gin rather than through a lint cleaner during harvest, 4) after harvest, gin or burn green bolls or bury them at least six inches deep. Research has shown that early winter flood irrigations will decrease overwintering survival and spring emergence. But subsurface drip, sprinkler irrigation or rainfall would probably not be very effective. These practices are more effective when implemented on a community-wide basis.

As a reminder, we will be holding meetings this winter to develop a more effective pinkie management plan for 2005 and to plan for research needs. Also, many more pink bollworm traps are going out this week and will be checked by the Texas Boll Weevil Eradication Foundation. This trapping information will be made available to you through the Lubbock web site.

Boll weevil watch. Trap catches are increasing as weevils begin their movement out for their final feeding frenzy in preparation for diapause and entry into overwintering sites. Once the St. Lawrence zone has had a couple of diapause treatments, I would expect to see some impact on the increasing numbers in the Permian Basin zone. **JFL**



WHEAT AGRONOMY

Wheat varieties for grain. Several new varieties that have performed well are now widely available. Dr. Brent Bean, Agronomist at the Amarillo Texas A&M Center, provided the following wheat variety recommendations for the Texas High Plains, based on long-term varietal testing. Recent Texas A&M trials have expanded to include wheat varieties over a larger portion of the state.

When considering a variety, characteristics such as plant height, disease and insect tolerance, coleoptile length (determines how deep the variety can be planted), and fall grazing potential should be considered along with yield data.

2004 Grain Wheat Variety Recommendations		
Full Irrigation	Limited Irrigation	Dryland
Dumas Jagalene TAM 111	Dumas Jagalene TAM 111 TAM 110*	TAM 105 TAM 110* Cutter
Other Recommended Varieties (2000-2003)		
Irrigated	Dryland	
Jagger* Ogallala TAM 200 TAM 202*	Jagger* Custer Thunderbolt	
**Early maturity wheat varieties.*		

Dryland. Under dryland conditions, it is hard to go wrong with, TAM 105, TAM 110 or Cutter. These varieties have good yield histories. Cutter is relatively new, and it tends to have a good package of disease resistance. Cutter has decent pasture potential and is moderately resistant to wheat streak mosaic virus. It does not emerge well if planted in hot soils (dormancy), and may tend toward some shattering and lodging losses if left in the field too long. Cutter tends to be slightly taller than TAM 105 or TAM 110. TAM 110 is greenbug resistant, and it has been a solid performer for a number of years. It has moderately long coleoptile, which helps emergence in when seed depth is all over the place due to older drills (poor seed placement) or seeding in fluffy soils. It has moderate susceptibility to many

diseases, but this is less of a problem in the less humid Texas High Plains.

Regional 2004 trials note that the Clearfield wheats derived from TAM 110 performed well in part due to their greenbug resistance in a year when pressure was higher than normal. Also, TAM 111 was a little disappointing in 2004 in the dryland trials. However, it has performed well in previous years and at other locations. We originally thought TAM 111 might be a good replacement for TAM 105, but its area of adaptation may not come as far south as the South Plains.

Irrigated. In the irrigated trials, TAM 111 was clearly the best variety for 2004. TAM 111 had the highest yield average across Texas High Plains locations, while yielding in the top 20% in five of the six locations. TAM 111 is a new variety from Texas A&M and will be marketed by AgriPro. It is a relatively tall variety that should have some tolerance to wheat streak mosaic virus and stripe rust but is susceptible to leaf rust. It has demonstrated good straw strength and good test weight. Dumas yields have been hard to beat under irrigation including good straw strength and good test weights. It has some susceptibility to wheat streak mosaic virus and soil borne mosaic virus. Jagalene has also demonstrated good yields, straw strength, and test weight. Other top yielding varieties were Cisco, TAM 110 CL and TAM 110, Stanton, OK 101 and 102.

Shattering was a problem this year due to late June rains that delayed harvest and clearly reduced yield of some varieties. Varieties that yielded well in the irrigated trials also tended have very little shattering. The exceptions were Dumas and Jagalene, where significant shattering occurred, yet good yield levels were still achieved. The yield of these two varieties would have been exceptional if shattering had been eliminated. Lodging was also a problem in 2004. Among top irrigated varieties, Dumas and TAM 111 had minimal lodging.

"Clearfield" wheat varieties. The Clearfield System is not available in wheat. This allows over-the-top spraying of the new herbicide-tolerant varieties TAM 110CL, AP 502 CL, and a Colorado variety named Above. The herbicide Beyond, is an imidazolinone compound that is particularly useful in this system in dealing with broad spectrum grass problems, and it is particularly effective against jointed goat grass and the winter *Bromus* species. The TAM 110 parentage in the Clearfield wheat varieties has retained greenbug resistance.

Gaines Co. grain trial results, 2003-2004. In the first year of wheat grain trials southwest of Lubbock, the Dumas variety performed well. TAM 110 and Jagalene were slightly above average. Jagger, a very early maturity wheat that is susceptible to late freezes, also did well. Other varieties that performed well included Coronado. It is a medium-early maturity wheat planted to increasing acreage to the southeast of Lubbock near Ballinger, San Angelo, and south of Abilene due to its moderate resistance to Hessian fly. Test weights were about 50-53 lbs./bushel, but we note that earlier maturity wheats averaged about 2 lbs./bushel less. This suggests that probably all varieties, however, could have benefited from an additional irrigation.

2003-2004 wheat disease summary. Dr. Brent Bean, Agronomist at the Amarillo Texas A&M Center, provided the following: Wheat streak mosaic virus was the worst it has been in several years. Another disease that we see periodically that was more prevalent in 2004 was the high plain's virus. This disease was first identified in 1993 and produces symptoms similar to that of wheat streak mosaic virus. Often wheat was infected with both viruses. The wheat curl mite, whose main host plant is volunteer wheat, transmits both diseases. Because of the good moisture conditions present in early September 2003, volunteer wheat could be found in abundance in or around many wheat fields last fall. This likely

provided the source for the wheat streak mosaic and high plains disease viruses. If growers anticipate particular problems with diseases or pests, consult Texas Cooperative Extension for suggestions on varieties that have resistance.

Wheat grain yield seeding rates. Whereas earlier issues of FOCUS have described increasing the seeding rate if looking to enhance forage production, especially in the fall, we have reduced the recommendations for irrigated and dryland seeding rates. Traditionally, for irrigated grain yields we have recommended 90-120 lbs./A, but increasing evidence from Texas A&M-Amarillo/Bushland suggests that 60 lbs./A is just fine. Grain yields are comparable to that with 90 and 120 lbs./A. Likewise for dryland, the standard recommendation of 45-60 lbs./A for grain is now reduced to 30-45 lbs./A. Seed quality is just as important for good grain yield as it is for forage yield.

Planting dates for grain wheat. In general, for the Texas South Plains, there is little or no yield benefit planting wheat for grain before October 1 (more susceptible to insects, excess water use, etc.). This is especially true south of Lubbock. Also, yield potential into early November is not significantly diminished, especially south of Lubbock. But keep in mind that the onset of colder soil temperatures, especially if below 45 F, will retard wheat stands if planted later. If I could pick my date to plant wheat for grain at Amarillo, I would pick October 1, but at Lubbock I would move the date later to October 15th. At Lubbock I would expect over time that yields would begin to significantly diminish if planting after about November 10th, and especially in late November or later. The rainfall received in March after jointing and in April, however, might have far more impact on whether a grain crop is going to yield well. **CT**

GRAIN SORGHUM HARVEST AND SUCKER HEADS

Several producers southeast of Lubbock are asking for advice on what to do about late-developing green sucker heads in grain sorghum that is otherwise nearly ready to harvest. These sorghum fields were planted early (late April to May 1) when soil moisture was good and soil temperatures were warm enough (at least 62º F) to allow good stand establishment. The goals of the early planting were to take advantage of early season soil moisture (which might not be there in a late June planting), beat the heat by avoiding sorghum flowering during early July to late August, and spread risk by having some crop out of the field early. Information on this topic is on the Lubbock Web Site. **CT**

UPCOMING EVENTS

Sept. 13 – Yoakum Co. Crop Tour – 456-2263
Sept. 14 – Cochran Co. Crop Tour – 266-5215
Sept. 14 – Dawson Co. Crop Tour – 872-7539
Sept. 15 – Lynn Co. Crop Tour – 561-4562
Sept. 16 – Terry Co. Crop Tour – 637-4060
Sept. 17 – Helms Farm Tour, Halfway – Jim Bordovsky, 889-3315
Sept. 21 – Floyd Co. Crop Tour – 983-4912
Sept. 23 – Lorenzo Tour – 675-2347
Sept. 28 – Crosby Co. Crop Tour – 675-2347
Sept. 29 – Mitchell Co. Crop Tour – 325-728-3111

COTTON INSECT PHOTO CREDITS

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