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IN THIS ISSUE

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COTTON INSECTS

There are no significant pest problems in High Plains cotton. This has been a year with little opportunities for entomologists. Not that I am complaining! After all, the hot, droughty weather we have experienced in 2006 is more than enough to cause woes for area producers. I do think it is important to keep all of this in perspective though. Comparing this year's crop to last years or even 2004 will only give you heartburn. At least we are doing our part in keeping production costs down.

But don't think that you can stop using the new transgenic varieties or hiring a consultant to monitor your fields. We go through these cycles of low pest pressure and then all of a sudden we will have a major outbreak. All the money you save by not using a consultant for instance can be lost in one season trying to play catch-up after "discovering" a late, a serious pest problem. Well enough of this soapbox oration. Let's move on to the pest situation.

Bollworms have been a non-issue for 99% of the crop. We have had egglays and these have increased up north as corn has matured and earworm (aka bollworm) moths have moved to other crops to lay late season eggs. But so far infestation levels have remained below 10,000 small caterpillars per acre or 5,000 medium larvae per acre if you are running a little late on monitoring. Even "nickel and dime" egglays have gotten little traction to cause a spray decision, especially where cutout and fruit shed is occurring. The scattered showers and higher humidity levels we have experienced the last several days will increase survival of any existing infestations but only for cotton with 6 or more Nodes Above White Flower will support a significant egglay and hatch. Bolls will be safe from caterpillars once 450 heat units have accumulated since white flower. This is probably no more than 1-2 weeks away for most fields. If caterpillar pressure is on the

5 day old bollworm

light side of the threshold, a 350 HU cutoff could be used.

Beet armyworms have remained very stealthy this year. We have been finding larvae for most of the season but in very low numbers. They have been most numerous in fields infested with careless weed. Moth catches have increased lately so we are not out of the woods yet.

Pink bollworms were rare last year and even rarer in 2006. We have received no reports of sprayed fields. In fact, we have received no phone calls on pinkies at all this year. Trap catches are generally low across most of the survey area. Only Dawson, Lynn, Reagan and Upton counties had one or more traps that caught significant numbers of moths and these increased levels may have been due to deteriorating crop conditions in those areas.

Lygus bugs have been a non-issue this year and hopefully will remain so. Bolls will be relatively safe after 250 heat units are acquired after flower. At our present accumulation rate, that would take about 10-12 days. There is still time for this pest to become a problem in a few irrigated fields.

Aphids too are not a problem. In fact, many fields do not have enough aphids to support a robust natural enemy complex. Once bolls have filled, the only concern with aphids will be honeydew excretions on open lint. It looks like we will miss out on that again this year.

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 2006 (E-6) and Suggested Insecticides for Managing Cotton Insects in the High Plains, Rolling Plains and Trans Pecos Areas of Texas 2006 (E-6A).

Boll weevils close to extinction in the High Plains. Total accumulative sprayed acreage for the 6 active zones in this area (excluding the St. Lawrence zone) is still less than 20,000 acres—less than 10% of last years total. There was no spraying the week ending August 6th and only about 4,000 acres sprayed the week ending August 14th. Weevil trap catches are increasing somewhat in the central and southern areas of Texas as their crop finishes up. **JFL**

Remember this?

Average number of boll weevils caught per trap inspection and sprayed acreage through August 6. Number of boll weevils caught for the week ending August 6, 2006.

High Plains Zone	2005	2006	Sprayed acres	Total weevils caught this week
Permian Basin	0.0245	0.0003	15,742*	0
Western High Plains	0.00002	0.00002	299*	0
Southern High Plains	0.00004	0	0	0
Northern High Plains	0	0	0	0
Northwest Plains	0	0	0	0
Panhandle	0	0	0	0
St. Lawrence	0.2184	0.0009	8,231*	0

*No acreage sprayed this week.

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, 2006.

High Plains Zone	2005	2006	Sprayed acres	Total weevils caught this week
Permian Basin	0.0222	0.0003	17,391	6
Western High Plains	0.00002	0.00002	299*	0
Southern High Plains	0.00003	0	0	0
Northern High Plains	0	0	0	0
Northwest Plains	0	0	0	0
Panhandle	0	0	0	0
St. Lawrence	0.2184	0.0009	10,813	23

*No acreage sprayed this week.

COTTON AGRONOMY

The High Plains crop has begun the countdown to harvest aid applications. We now have some open cotton in the low-water treatments in the irrigation level trial at the AG-CARES facility at Lamesa. Most of the remaining dryland crop is past the reproductive stage (all bolls set and plants "bloomed out the top"). Due to the prolonged drought and severe moisture stress, we will likely encounter smaller than normal boll sizes in these fields.

Although both high and low temperatures have remained substantially above normal for most of August, more recently we have encountered cooler temperatures and some badly needed rainfall in some areas. These rainfall events in some locations across the region have generally been very helpful, as some irrigation wells were finally turned off due to recent excellent localized rainfall amounts (see August rainfall distribution across the High Plains).

At Lubbock, we are still about 22% above normal for DD60 heat unit accumulation from May 1, and by my math we now have nearly 2100 HUs. We will likely be getting busy with harvest-aid applications in early maturing fields by mid-September.

Countdown After Cutout. Some hot, dry fields cut out quickly after blooming this year. Other higher yield potential fields have recently reached cutout (here defined as NAWF=5 on a steep decline). Based on this definition, many dryland fields were cutout at first bloom. COTMAN uses 850 heat units past bloom as a point at which a bloom can make a "normal" boll. In the High Plains, heat unit accumulations of 750 past bloom will probably make an "acceptable boll" that may not have "normal" lint production and may be of lower quality (low micronaire). We have developed a table that indicates where we are as of August 15. It is based on actual Lubbock 2006 heat units from cutout dates of July 25 (due to extremely early cutout dates for some fields), August 1, and August 9. From that point forward, it uses the 30-year long-term average for each day. The 30-year average is a conservative projection since it has been warmer than usual the last several years.

Counting NAWF

For example, the table shows that for a field that reached cutout on August 1, a bloom on that date was able to obtain 250 heat units (probably safe from Lygus bugs) by about August 12. The 450 total (probably safe from a heavier bollworm egg lay), will likely occur around August 23 if we encounter "normal" heat units from this point in time forward. This boll should obtain good maturity (850 heat units) about September 23.

Based on some irrigation termination projects with COTMAN when using center pivot irrigation (see the previous issue of FOCUS), the possible irrigation termination date could be September 2.

Table 1. DD60 heat unit events based on date of cutout (5 NAWF on a steep decline) and actual Lubbock August 1-August 15, 2006 temperatures with subsequent long-term average values for the remainder of the season.

DD60 Heat Unit Accumulation	Date When Crop Achieved Cutout (5 NAWF)		
	Jul 25	Aug 1	Aug 9
+250 HU (safe from lygus)	Aug. 5	Aug. 12	Aug. 22
+ 450 HU (safe from bollworm egg lay)	Aug. 14	Aug. 23	Sept. 4
+ 600? (terminate irrigation?)	Aug. 23?	Sept. 2?	Sept. 15?
+ 850 HU (mature boll)	Sept. 8	Sept. 23	Oct. 24
Total HU through Sept. 30	1077	912	737
Total HU through Oct. 15	1164	998	824
Total HU through Oct. 31	1208	1043	869

Harvest-aid chemical update. Since we will have many fields moving rapidly toward maturity, questions will soon be forthcoming concerning harvest-aid materials. We have some new harvest-aid products in the market in 2006. One includes Resource™ from Valent. Resource™ is a PPO inhibitor material and is in the same family with products such as ET™ and Aim™. Dr. Wayne Keeling (Lubbock Systems Agronomist) conducted some research trials with Resource™ in the High Plains in 2005. The product seemed to perform similarly to others in the PPO chemistry in that specific year.

Are you ready for this?

Gramoxone Max™ is now out of the market and Gramoxone Inteon™ has replaced it. Paraquat is the active ingredient in both formulations. The most important change noted is the in pounds of active ingredient per gallon. Gramoxone Max™ is a 3 lb/gallon formulation, whereas the Gramoxone Inteon™ is 2 lb/gallon. The Gramoxone Inteon™ is a much more "applicator friendly" formulation. Since we have become accustomed to the higher 3-lb/gallon formulation of Gramoxone Max™, we need to carefully scrutinize the rates of Gramoxone Inteon™. We will generate a conversion table that provides equivalent active ingredient rates in lb/acre for both formulations, hopefully in the next newsletter.

Over the last several years we have had a 24(c) Special Local Needs (SLN) label for various paraquat formulations granted by the Texas Department of Agriculture (TDA). These SLN have approved higher use rates for desiccation of stripper harvested cotton in Texas. In support of Syngenta's request to TDA, Dr. Robert Lemon (College Station Agronomist), Dr. Wayne Keeling, and I, along with Plains Cotton Growers have provided letters of support for a similar 24(c) for Gramoxone Inteon™ in 2006.

DuPont has removed CottonQuik™ from the market and replaced it with a new formulation called FirstPick™. The active ingredient concentration is the same for both materials (58.6% AMADS; 18.3% or 2.28 lb/gallon of ethephon; and 23.1% inert ingredients). The

formulation change is described as: "a water soluble emulsifiable concentrate (EC) that has reduced corrosivity and different surfactants". FirstPick™ performed similarly to CottonQuik™ in 2005 High Plains research trials.

Several harvest-aid trials are planned at this time and we will be getting the results communicated as quickly as possible through various media outlets.

We are working on getting the High Plains Harvest Aid Guide updated. We hope to have this completed by the end of next week. The above noted new materials/formulation changes will be included in the revised Decision-Aid Table. Until the 2006 version is available, you may want to look at the 2005 High Plains Harvest-Aid Guide. **RB**

PEANUT DISEASES

Several pod rot outbreaks have been confirmed within the last few weeks. Frequent irrigation in conjunction with recent rainfall throughout the area may result in an increase in pod rot development; therefore, fields with a severe history of the disease should be monitored.

The term pod rot is often used to describe the decay or rotting of peanut pods in the soil. This condition may be caused by a number of soilborne fungi. In West Texas, the two major pod rot diseases are caused by *Rhizoctonia solani* and *Pythium* spp. There are no distinct foliar symptoms associated with pod rot; however, plants with severe pod rot may exhibit increased flowering, and have a dark green color late in the season. The below ground symptoms are quite similar, making it very difficult to distinguish between the two in the field. Identification may be further complicated, since both Rhizoctonia and Pythium can be found infecting pods simultaneously. Infected pods initially exhibit light brown lesions, which turn dark brown to black as the disease progresses. A subtle difference between the two is that pods infected with Pythium typically have more of a water soaked appearance, allowing soil to adhere to the surface of pods more readily.

***Rhizoctonia* or *Pythium*?**
Lamb County, 2006

Lamb County, 2006

Southern blight is causing pod rot symptoms in a number of fields this season. *Sclerotium rolfsii* is the causal agent and has been found in addition to *Rhizoctonia* and *Pythium*. Infected pods exhibit tan to light brown colored lesions, and may have an overall dull brown appearance. Under optimal conditions, a dense mat of white fungal growth may also be seen on infected tissues. One explanation for why we are seeing an increase in *Sclerotium* pod rot could be due to wide fluctuations in soil moisture, which can be attributed to the dry conditions that were experienced over the past several weeks.

Another pod rotting fungus, *Theilaviopsis basicola*, causal agent of **black hull**, has also been observed in fields this season. The distribution of the fungus in the region is fairly extensive, since *Theilaviopsis basicola* also causes a seedling disease in cotton. Black hull is often responsible for significant reductions in grade, especially in valencia varieties that are grown for the in-shell market. The disease is generally more severe on the more susceptible

spanish varieties. Black hull symptoms on the pods include small black lesions, which coalesce over time and turn the pod black. This discoloration is typically limited to the pod shell and can be removed by lightly scratching the shell surface; however, kernels can be affected and yield reductions can be experienced under heavy disease pressure.

Black hull pod rot

In general, pod rot is more severe in fields with a high sand content and an intense history of peanut production. Therefore, rotation with non-host crops such as corn, sorghum, or sudan grass can help reduce pod rot severity in subsequent peanut crops. Other factors such as the availability, rate, and quality of irrigation water, as well as the drainage and topography of a field will also impact disease development. Pod rot resistant varieties should be planted to minimize losses associated with the disease.

Choosing the correct fungicide to be used for control of pod rot depends on a proper diagnosis of which organism(s) you are dealing with. There are currently no chemical control options available for control of black hull; however, there are fungicides labeled for control of *Rhizoctonia solani* and *Sclerotium rolfsii*. Chemical control of *Pythium* spp. is limited to a single compound, which is available in various formulations. If you have any questions regarding peanut pod rot please contact personnel at the Lubbock Center. To view more of Chip Lee's disease photos go to: http://plantpathology.tamu.edu/Texlab/Fiber/Peanuts/atlas-toc.html. **JW**

Fungicides labeled for control of peanut pod rots.

Active ingredient(s)	Trade name*	Manu-facturer	Rate	Disease activity
Azoxystrobin	Abound 2.08F	Syngenta	12.3 to 24.6 fl oz/A	Rhizoctonia Sclerotium stem and pod rot Pythium (suppression only)
Mefenoxam	Ridomil Gold EC	Syngenta	0.5 to 1.0 pt/A	Pythium
Mefenoxam + PCNB	Ridomil Gold PC GR	Syngenta	50 lb / 14,520 linear ft	Pythium and Rhizoctonia

*Various formulations of Ridomil are available on the market. Please refer to the manufacturers label to determine the proper formulation labeled for use in peanut. The website www.cdms.net (developed by Crop Data Management Systems) can be used to view and print pesticide labels.

ALFALFA 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. Fall Dormant (FD) alfalfa suitable for the Lubbock region is FD 4 to 6 (the lower the number the more dormancy). Historically, from Littlefield northwest, producers used FD 4 alfalfa, but 5 and even 6 is probably suitable. I would target FD 5 & 6 for Lubbock but alfalfa of FD 7 in Lubbock has done well. It could still be subject to injury or loss of root reserves, however, due to a harsh winter or unwanted winter and early spring growth during warm periods only to be knocked back by a late spring freeze or frost. For further information on alfalfa variety selection and the varietal insect and pest ratings that are available, contact me.

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 look at 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 already in place. A firm seedbed is essential for alfalfa. A seeding depth of about ½" (perhaps ¾" on the sandiest ground to prevent drying out of seedlings) is recommended. 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 for a packing rain.

With the increasing practice of reduced tillage or leaving crop litter on the surface, 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. N/A, 12-14 lbs. P2O5/A, and 50-60 lbs. K2O/A per ton of forage produced. Nitrogen is largely supplied by *Rhizobium* nodulation and fixation. 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.

Weed control. Herbicide options are limited on newly established alfalfa until 2-4 trifoliate leaves are established. At-plant herbicides include Balan™ (good on annual grass, but only fair on many broadleaf weeds) and Eptam (can be applied by chemigation, weak on broadleaf weeds).

Once seedling alfalfa (2-4 trifoliate leaves) is established then options include Buctril™, 2,4-DB, Poast Plus™ or Select™, Pursuit™, and Raptor™. For further comments on weed control consult the weed control resources under alfalfa at http://lubbock.tamu.edu/othercrops. **CT**

SMALL GRAINS AGRONOMY

Fall small grains for forage. Extension suggests that, 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 the amount of fall forage production. Quality seed, however, for Fall 2006 seeding, especially grain varieties, will be scarce. Know your seed before you purchase. If you have questions, have your seed tested (Texas Department of Agriculture has a seed test lab in Lubbock, 806-799-0519). You as a producer deserve to know the quality of your seed.

With recent rains, some producers will be thinking about seeding wheat in for fall grazing. I encourage growers to wait till about September 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 wheat (beardless Longhorn is one) that have some dormancy in warm soils, and they may not grow well at this point.

Seed and seeding rate for grazing. Like the alfalfa described above, management is probably a more important consideration for small grains grazing provided you plant good

quality seed. Keys include using up to 60 lbs./A of seed for dryland, and up to 120 lbs./A on irrigated. These higher seeding rates are particularly helpful in driving fall forage growth. If you have an irrigated field then N and P fertility are probably being maintained, but don't forget that dryland fields are haven't been fertilized for years could benefit from N once the field is established, and P incorporated before or at planting has been shown to drive forage production in small grains. **CT**

SUNFLOWER AGRONOMY

Leaf rust in sunflower. Later maturing sunflower may face some leaf rust pressure since conditions have been wet and humid. Some 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.

Texas is attempting to get a Section 18 to use tebucanazole (Folicur™) in sunflower. If approved, Folicur™ could be used after initial rust infection. However, there is a 50-day post harvest interval with Folicur™. Headline™ (pyraclostrobin/carbamic acid) is labeled for sunflower, but this fungicide acts primarily as a preventative, and is not very effective once an active rust infection is developing rust pustules. We only recommend it for preventive application, yet the guesswork involves whether you may develop rust later.

Little information is available for spray thresholds for rust in sunflower, but Kansas State University experience suggests that rust on the top 1/3 to 1/2 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 sunflower are more susceptible to leaf rust. Once disc flowering is essentially complete and you are approaching petal drop, developing rust on the top third of the plant will not merit spraying. Consulting the 10-day weather forecast might help you make your decision, especially if conditions appear to be humid and rainy, favoring rust development. **CT**

PHOTO CREDITS

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