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IN THIS ISSUE

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COTTON INSECTS

As cotton plants recover from earlier environmental damage, they will be vulnerable to further thrips attack---and thrips are still moving into cotton fields. Pink bollworm trap catches have declined for the past 2-3 weeks but are still too high in some areas---especially where matchhead-size squares are appearing in non-Bt fields. Boll weevil numbers are up in three west Texas eradication zones but the remaining zones are "weevil free" so far. With earlier planted fields beginning to square, square set, Lygus bug and fleahopper monitoring should begin.

Western flower thrips infestations continue to plague some cotton fields. Severe damage is evident in some fields where thrips control was not practiced or not performed correctly.


1

Some of this damage is from earlier infestations. We are now seeing damage from later infestations where earlier at-planting insecticide treatments or later foliar treatments have "played out". This is in 4-6 true leaf cotton. These fields needed some additional help earlier, before this damage appeared. These fields can have perfectly good looking cotyledons and 1st and 2nd true leaves but the 3rd, 4th and later leaves are shriveled up from thrips feeding. I am sure that earlier adverse environmental conditions set up plants to be more vulnerable to thrips damage but also encouraged thrips to "hunker down" in the recesses of the terminal for protection, where thrips cause the most damage to developing leaves and to tiny squares yet to be visible.

At-planting insecticides no longer protect any cotton planted more than 3 weeks ago. Remember that the treatment level for thrips in cotton previously treated is 1 thrips for every true leaf present the size of a dime or larger AND 30% immatures.


2

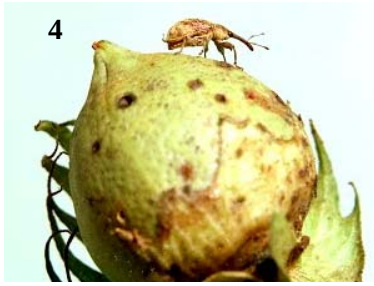
Cotton not previously treated can skip the immatures part of the threshold. Once cotton reaches the 5, 6, 7th true leaf stage it should be at a much lower risk from thrips unless it has already suffered significant environmental damage. Then it may need a little help into the early squaring period. Hot, dry conditions can "push cotton along" fast enough to avoid these exceptions.

Early non-Bt cotton now vulnerable to pink bollworms. Some earlier planted fields in the area southwest of Lubbock where pink bollworms numbers have been highest have reached or are approaching matchhead-sized square stage. If these fields are planted to non-Bt varieties and are not a part of an unsprayed refuge option and traps are averaging more than 5 moths per night---spraying a pyrethroid should be considered as an adulticides treatment. These and all subsequent adulticides treatments should be made between dusk and dawn to maximize kill. For further management tips go to: Pink Bollworm Management Tips I (http://lubbock.tamu.edu/focus/Off_Season/March_10_2004/march10_2004.pdf). I do have word that a few non-Bt fields in Gaines County have received their first application for pink bollworms. Trap catches were averaging over 15 moths per night.

3

Overwintered pink bollworm emergence reached 50% at San Angelo on June 10th and the 14th at Midland and should hit that mark in Lubbock by June 27. See Pink Bollworm Information on the Plains Cotton Growers web site: http://www.plainscotton.org. We should reach 95% emergence at Lubbock by July 28, Midland on the 14th and San Angelo on the 11th. This is the point when overwintering applications can cease. However, any pyrethroid application after the first or second week of July will certainly increase your risk of aphid and early bollworm problems because of the elimination of natural enemies. Remember too that any applications made after small bolls are present should be based on infested boll determinations and not trap catches. More will follow in future issues of FOCUS on scouting for pink bollworms.

Boll weevil eradication watch. Boll weevil emergence continues across the High Plains where adult weevils successfully overwintered. So far there have been no hostable fields in the vicinity of recent trap catches. This will begin to change as more fields begin to square. There was a big jump in trap catches in the Permian Basin zone the week ending June 12. Weevil numbers basically doubled over the previous week. The St. Lawrence zone to the south also increased but only by about 50%. A 2nd weevil was caught off the Caprock in Garza County in the Southern High Plains/Caprock zone. Other than these trap catches the other High Plains zones have been quiet. There have been some weevils caught in the Rolling Plains Central zone just to the east of us.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Average number of boll weevils caught per trap inspection and sprayed acreage through June 12. Number of boll weevils caught for the week ending June 12, 2005.

High Plains Zone	2005	2004	Sprayed acres	Total weevils caught this week
Permian Basin	0.0807	0.0128	0	5,434
Western High Plains	0	0	0	0
Southern High Plains	0.00002	0.00001	0	1
Northern High Plains	0	0	0	0
Northwest Plains	0	0	0	0
Panhandle	0	NA	0	0
St. Lawrence	0.9042	NA	0	3,809

The South Texas/Winter Garden zone continues to catch more weevils than we would like. We strongly suspect that movement out of the Lower Rio Grande Valley (LRGV) is the major culprit of this problem, halted any further eradication progress in the zone for this year as it has for the last several years. The LRGV zone will start eradication applications around the 20th of this month. Keep your fingers crossed.

Watch for fleahoppers and Lygus bugs. As cotton begins to square, it is important to monitor square set of at least first position squares. Fleahopper feeding will cause pinhead-size squares to shed leaving tiny scats. Lygus bugs can feed on any size square, flowers and small bolls. These bugs will need to be watched for a longer period than fleahoppers. The fleahopper adult is about 1/8-inch long while a Lygus bug adult is ¼-inch long. Both these pests will come from weed hosts when they are no longer able to support them. This can be due to weeds maturing, weeds desiccating from dry conditions or roadside weeds being mowed (this is happening right now in several areas of the High Plains). Lygus bugs remain relatively low in wild hosts surveyed by Lubbock Experiment Station entomologist, Dr. Megha Parajulee. Highest counts were in 2003 in the 2002-2005 studies. Sweepnet counts for this year are about average, between 35-75 per 100 sweeps. Whether fleahoppers or Lygus bugs become a problem will depend a lot on the season long condition of their alternate hosts and mowing schedules. Last year, high rainfall amounts and delayed mowing kept these bugs out of cotton for the most part.

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). **JFL**

COTTON AGRONOMY

Overview of the week. Good growing conditions have returned over the last week. We are in a near normal temperature situation, however, recent forecasts indicate we are headed toward several days of 100s in some places for highs with lows in the upper 60s to lower 70s. This has caused much cotton to really get into a good growth spurt. Thus far June heat unit accumulation is running at about 6% above the long-term average.

I spent some time traveling in Hale, Swisher, Floyd and Crosby counties this week. We have considerable acreage in those counties that is severely environmentally damaged (due to high intensity rainfall, high winds, slight hail damage). Many fields are on the brink of failure and visits with Extension agents, ginners

and growers indicate that they are really watching some fields to determine if they are worth saving as many are "on the bubble" for viability. The major storms which painted much of Floyd and pieces of Hale, Swisher, and Crosby counties on the evening of June 9 resulted in perhaps over 100,000 acres either being lost or with marginally acceptable stands. Some fields are obvious "no brainers" as far as stands are concerned; however others are still being closely scrutinized for indications of recovery. Some fields that had been replanted due to storms earlier in May were again lost. We suspect that perhaps 300-400 thousand acres have been lost or damaged due to recent storms, but more fortunate growers now have decent stands and good soil moisture. Unfortunately, there are some producers in Floyd County who have lost cotton stands in up to 4 consecutive seasons. Some Floyd County growers who have been planting wheat and grazing stocker calves in irrigated fields, then terminating the wheat with glyphosate and no-till planting into standing residue have been able to keep good to excellent stands though rough storms which wiped out nearby conventional tillage fields (see pictures). When we get the new Roundup Ready Flex varieties on the market, I suspect we will see much more of this type of production management implemented.


Conventional tillage field lost due to weather

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Overall, the High Plains crop remains in reasonable condition, although late in some areas. The good news is that the dryland crop is finally off to a decent start. Most growers with June 5 final planting dates were able to get dryland fields planted following some early June rainfall which was sorely needed. If good stands can be established and maintained then the good subsoil moisture present in many dryland fields should allow us to have excellent yield potential if some timely July and August rainfall should occur.

A new Managing Nitrogen Fertility in High Plains Cotton publication has been generated by Dr. Kevin Bronson and me for the FOCUS Crop Production Guide Series**.**

Glyphosate application past the 4-leaf stage on Roundup Ready cotton. Much of the earlier planted Roundup Ready cotton is nearing the end of the over the top window for glyphosate applications. We have been getting questions concerning Roundup applications on cotton in which plants are past the 4-leaf over-the-top (OT) window. If late applications are made, then significant yield losses CAN be encountered. High winds have been a challenge this year, and the technological bottleneck has posed some serious weed control challenges. If an OT application of 22 oz/acre were made past the 4-leaf stage, one would still be "on label," but into what is considered a "salvage-type" application. Based on various experiences, it is possible that fruit retention on 3 nodes will be affected when making over-the-top applications of glyphosate past the 4-leaf cutoff. One can expect fruit on the next 3 nodes (which would currently be in the terminal) to be most affected, with poor pollination, and perhaps boll shed from these sites.

Some questions pertaining to the potential of OT applications past the 4-leaf cutoff affecting square retention have also been asked. Most problems reported from across the Cotton Belt relative to late glyphosate applications generally have been poor pollination causing so-called parrot beaked bolls and possibly subsequent boll shed, NOT SMALL SQUARE LOSS. Of course one has to factor in weed population effects on yield, the harvestabilty of the field due to large weeds, etc. into an

"economic analysis" of each field-specific situation.

The Monsanto label for Roundup WeatherMax for use in Roundup Ready cotton states: "Salvage treatments will result in significant boll loss, delayed maturity and/or yield loss. No more than one salvage treatment should be used per growing season." Field research conducted in the High and Rolling Plains indicated that anywhere from 0 to 50% yield reduction might be encountered with salvage type applications past the 4-leaf stage. A trial kept "weed free" which included several Roundup Ready varieties was conducted at the Lubbock Center over a three-year period (1999-2001). In these tests, Roundup applications were made at various crop stages, and a non-sprayed check was included as a reference point. The take-home message from that study indicated that when Roundup was applied OT after window closure, lint yields were decreased in 2 of 3 years from 5 to 19%. Plant condition, as affected by environmental factors, appeared to influence potential yield loss. The critical issue is the crop's ultimate environment and the ability to compensate for the losses of the fruiting sites by retention of bolls up the plant and out on the fruiting branches. For the past several years, the fall has been fairly kind and has allowed later set bolls to fully mature, perhaps masking any potential yield losses due to crop compensation. I guess the disclaimer: "Your results may vary" may be in order here. The industry is anxiously awaiting the release of Roundup Ready Flex cotton.

With cotton development rapidly progressing, it is important to also consider the requirements for a successful post-directed or hooded Roundup WeatherMax application program. The Roundup label states that herbicide applications may be made using precision post-directed or hooded sprayers through layby. The spray should be directed to the bottom of the plants, with minimal contact of the spray with the leaves. Nozzles should be placed in a low position with a horizontal spray pattern directed under the cotton leaves to contact weeds in the row, and low spray pressure – less than 30 psi, should be used.

For more publications on cotton weed control generated by a team led by Dr. Peter Dotray (TTU/TAMU weed scientist), go to: FOCUS Crop Production Guide Series. **RB**

PEANUT AGRONOMY

***Rhizobium* nodulation and peanut.** Research since 2000 in West Texas documents that a well-nodulated peanut crop is fully capable of delivering top yields without supplemental nitrogen fertilizer. This highlights the value of checking for nodulation on peanuts about 6 weeks after germination to get an early indication of nodule development. The early to mid-June evaluation is useful in targeting any mid-season N applications or the level of N that may be applied. What degree of nodulation should I see on my peanuts right now? My experience is that a 6-week evaluation might be as follows:

0-5 nodules per plant	Poor
6-10 nodules per plant	Fair
11-15 nodules per plant	Good
16-20 nodules per plant	Very Good
21+ nodules per plant	Excellent

This is a basic estimate of the value of the nodulation. If nodulation is high and you were planning on putting out 100 lbs. N per acre mid-season, then you might feel comfortable scaling back on N to say 60 lbs./A. High N levels DO curtail nodulation. On the other hand, if you have little to no nodulation then you know you must add N to achieve higher yield goals. And at the same time we have an opportunity to ask ourselves 'Why don't I have nodulation?' and see if we can figure out why. The first $5-7 per acre, spent on inoculant and applied properly, is a much better investment than nitrogen fertilizer.

The photo shows the beginning of what I call "super nodulation" on the taproot. This is the result of a liquid in-furrow *Rhizobium* inoculant applied to Valencia peanuts on May 6 in a field in Terry Co. The top plant received a seedbox inoculant powder, has no nodulation, and is similar to all peanuts planted without *Rhizobium* inoculant. Plants are 40 days old. In nine different Texas South Plains inoculant trials dating back to 2000, I have yet to see a single seedbox powder product deliver any nodulation increase over uninoculated peanuts. Seedbox powder *Rhizobium* inoculants for peanuts have not worked here, and it is not a product I recommend in West Texas under any circumstances. We have many other products that do work better, and any producers using seedbox powders are advised to use granular inoculant through the Temik boxes or even better to equip to spray *Rhizobium* inoculant in-furrow. **CT**

Peanut nodulation

WHEAT AGRONOMY

Plant Variety Protection Act and saving wheat seed. Keep in mind that enforcement of the Plant Variety Protection Act (PVPA) is more rigorous now, and less wheat seed will be sold as VNS or variety not stated. In brief, you may only save seed from your own fields for your own use, and you cannot save more than you would use. You may NOT sell seed to a neighbor. Varieties like TAM 105 and Scout 66 are off patent, and the PVPA rules no longer apply after 20 years. With the exception of additional generic Russian beardless wheats (not including Longhorn, Lockett, TAM 109), there are few other wheats planted in the Texas High Plains that would not be covered by PVPA. For a summary of the current PVPA rules, consult "The Plant Variety Protection Act: Information for Texas Small Grain Producers," by Texas Extension small grains specialist Dr. Gaylon Morgan at http://croptesting.tamu.edu/smallgrains/docs/plantvarietyprotectionact.pdf

Saving wheat for seed—quality parameters. If you are legally saving wheat you harvested for your own use this fall, Extension recommends that seed for forage production should be at least 85% germ and have a minimum test weight of 58 lbs. per bushel. Good test weight and germination have value in driving forage production, particularly for the fall. If you have some wheat this year that has low test weight, it might be better to let it go and purchase seed for forage seedings in September. **CT**

CROP PRODUCTION PRODUCT EVALUATIONS

I have been asked more than ever this year about a wide variety of products that are marketed to producers for the purpose of changing soil properties, lowering soil pH, nutrient mixes in non-conventional forms, plant growth regulation, etc. These materials include humic acids, salt remediation materials, plant growth regulators, and a variety of fertilizers.

Here are questions you should ask:

1) What is this product designed to do (and ask yourself if you really believe that a gallon or two can affect an entire acre)?

2) Are there independent assessments like university trials available? And may I have a copy?

3) Is any data you are shown replicated under uniform conditions? One half of a pivot vs.

the other half is not a valid test! There seem to be a lot of producers making this type of comparison in 2005. One producer in 2004 told me that he increased his peanut yield almost 1,000 lbs./A on the north half of a pivot vs. the south half where he did not put out a fertilizer product. I asked if he had any previous yield history between the half pivots. He did not. So although 1,000 lbs./A is a lot of peanuts and it certainly interests us, this was still not a valid comparison. Just because a crop "looks better" doesn't mean that you can really tell. Many if not most producers fail to leave a test strip in their fields when they are trying something new (and that's hard to do if you are applying something through the pivot), but this is important. Producers who do this often acknowledge they can't tell a difference, but on the other hand even if there is a yield difference you still might not be able to detect it visually.

4) Does the marketing and claims for this product seem too good to be true? And is the product claim to be a 'one-size-fits-all' material (e.g. it will do several things for a crop or works similarly on many crops)?

5) Testimonials may be many, but where's the beef? As an example, I conducted an independent trial of some products in peanut in 2004 for a private company. They took part of my data and posted it on the web to suggest that, yes, this particular product helped peanuts. Never mind that the yield data was not reported! The bottom line was there was no significant change in the yields in my independent, replicated on-farm research trial.

6) If I am going to spend $5, $10 or $20 per acre on a product, what else could I spend this money on that I am confident would give me a benefit. If you spend $10 an acre on a product for your peanuts, then you HAVE to yield at least 50 lbs. an acre plus change to cover your product and application costs.

The Texas Cooperative Extension resource: "Non-Traditional Soil Additives: Can They Improve Crop Production?" for producers and consultants will help you think through the questions surrounding the numerous products available. You can request a copy through your county Extension office or at: http://lubbock.tamu.edu/soilfertility/pdfs/nontraditSoilAdditves.pdf. **CT**

FAILED COTTON ALTERNATIVE DECISIONS

The updated guide from Extension, "2005 Alternative Crop Options after Failed Cotton and Late-Season Crop Planting for the Texas South Plains" covers numerous crops along with late planting guidelines, replant considerations, and last recommended planting dates. It is available from your county Extension office or via the internet at: http://lubbock.tamu.edu/cotton/pdf/2005altcropopt.pdf. **CT**

COTTON INSECT PHOTO CREDITS

1. Vandiver, Monti. Texas Cooperative Extension
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4. Clemson University. Image 1233021. http://www.ipmimages.org
5. Anonymous
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