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IN THIS ISSUE

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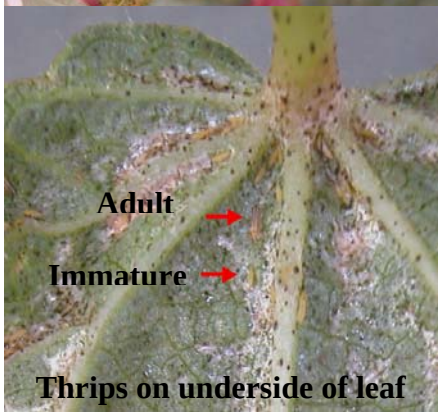
COTTON INSECTS

A range of planting dates and moisture conditions has produced a highly variable crop. Some fields were dry-planted and have yet to have plants emerge while early planted fields are already squaring. Insect problems reported thus far have included wireworms and thrips with concern for emerging pink bollworms in the southwest to grasshoppers, fleahoppers and Lygus bugs in a few fields.

Thrips infestations have been severe in some areas, especially north of Lubbock. Numbers have been much lower in the southern acreage. Counts in research plots have been as high as 80 thrips on some plants. With this kind of adult pressure, even the better treatments will have thrips present and some minor damage. But there will be a big difference between untreated cotton



and that, which was protected upon emergence.

The key to surviving thrips problems in cotton is to prevent reproduction. You can't stop adult movement from weeds and nearby maturing wheat. And these adult thrips must feed on cotton protected by products such as Temik or a Cruiser seed treatment before they are killed. Foliar insecticides will provide some of their mortality through contact action. These insecticides include various formulations of Orthene and Address, Bidrin, and various products with dimethoate as the active ingredient. Pyrethroids will not be effective since our dominant species, the western flower thrips, is not very susceptible to these products.

Research has shown that irrigated cotton receives an average of a 21% yield boost from proper thrips control. This involves either the use of Temik or a Cruiser seed treatment or properly timed foliar treatments. Even the at-planting insecticide treatments can use help from a foliar insecticide application when high thrips numbers continue to move into cotton after these treatments play out and plants haven't moved past their vulnerability stage (5-7 true leaf stage).

Recent bouts with rain and wind have reduced the threat of thrips in some areas, but this may only be temporary. All cotton, regardless of prior treatment, needs to be monitored at least weekly for thrips control determination. Scouting involves pulling up a representative number of plants and carefully count thrips on leaves, in leaf folds and in terminals. Some individuals will use a cigar box, white pie plate, and etc. to beat plants on and then count dislodged thrips. This is a start but must be reinforced with destructive sampling of the plant to find thrips that were not dislodged.

Plants with prior damage or those that are covered with sand following rains are particularly difficult to check for thrips. Make your counts in the morning before thrips begin to fly around much and before the wind kicks up. Separate winged adults from wingless immatures in your counts. Go to the Crop Production Guide Series for more information on thrips management. Do remember that your last opportunity to "piggyback" a thrips insecticide application with a Roundup application will be when the 5th true leaf is the size of a "quarter".

We have had more problems reported this year involving wireworms and stand loss. This is similar to what we observed last year in situations where cotton was planted in limited or no-till situations following a grain crop, especially sorghum. For more information on wireworms and their management, please refer to a recent Wireworm Alert.

Pink bollworms are on the minds of many producers southwest of Lubbock, especially in Gaines, Yoakum and Terry counties. Late season moth trap data provided by the Texas Boll Weevil Eradication Foundation did indicate areas that were at the most risk (see Pink Bollworm Management Tips II in the Crop Production Guide Series of FOCUS). We have traps out in Gaines, Terry and Yoakum counties on selected fields where activity should be highest and are monitoring their emergence. Weekly numbers of moths caught in each of 8 traps in Gaines County are provided in the table below:

Trap	4/22	4/29	5/7	5/14	5/20	5/27	6/2-3	6/8
1	0	0	2	3	10	135	89	3
2	0	3	1	36	20	93	138	8
3	0	0	0	12	18	30	11	5
4	0	0	0	16	8	71	43	0
5	0	1	2	3	4	68	21	5
6	0	1	18	106	26	125	135	6
7	0	2	1	12	12	103	95	4
8	0	0	1	10	21	*	52	1
Total	**0**	**7**	**25**	**198**	**117**	**629**	**584**	**31**
No./ trap	**0**	**1**	**3**	**25**	**15**	**89**	**73**	**4**

*Lost to wind.

While trap catches dropped off for the June 8th trap inspection date, reports from consultants checking their traps on a daily basis indicate that the ups and downs we are observing are more due to weather than actual emergence patterns. Therefore, it would be premature to state that overwintering pinkie emergence is tapering off. There are still areas where average trap catches are exceeding our spray trigger of 50 moths per night. It may still be possible that later planted fields will escape most if not all of this overwintering emergence flight.

Earlier planted fields that are just now or have been squaring are vulnerable for early infestation establishment. If you planted a Bollgard variety, you have no need to worry about "pinkies". If you didn't invest in this technology or you are protecting cotton in non-Bollgard refuge acres and you are in a risk area, trap monitoring and field scouting will be needed. I would consider spraying a pyrethroid at least twice early season, at 1st square and again 7 days later. This may be enough to break the back of the 1st pinkie generation. If not, it could become a very expensive management proposition. Refer to Pink Bollworm Management Tips I and Tips II in the Crop Production Guide Series of FOCUS.

Boll weevil numbers in the five High Plains zones are virtually zero with one exception. No weevils have been caught through June 6 in the Northwest Plains, Northern High Plains, or Western High Plains zones. One weevil was caught in the Southern High Plains/Caprock zone. Unfortunately, the Texas Boll Weevil Eradication Foundation is still catching a fair number of weevils in the Permian Basin zone. This number 995, is not especially high but is higher than counts from 2003 or 2002. This is the result of movement that occurred out of the St. Lawrence zone starting in 2002. This zone recently passed their referendum and will start a program with diapause treatments beginning in September.

Weevil on square

The Panhandle zone also passed their referendum even though no weevils were caught last year from this area. The formation of this zone will protect cotton in the zones to the south and allow movement of raw cotton products from this area to other zones no longer quarantined. The five original High Plains zones were granted suppressed status by the Texas Department of Agriculture allowing them to remove their quarantine status. Raw cotton products moving from quarantined areas to other non-quarantined areas will have to follow guidelines imposed by TDA.

Because of the greatly reduced number of weevils caught in most of the High Plains last year, significant reductions in personnel and traps have been implemented. Trapping density will be greatly reduced except in problem areas allowing for better trap placement, out of harms way of equipment. This represents a considerable reduction in program operation cost.

While there have not been any reports of cotton fleahopper or Lygus bug problems, producers and consultants should be checking cotton for square set once plants reach the 5th true leaf stage. Fleahoppers cause pinhead-sized squares to shed from their feeding damage. We rarely see situations where fleahopper numbers are high enough to cause concern during the initial colonization from weed hosts. Usually in-field reproduction is needed to drive their numbers up to problem levels. Fields most vulnerable to early fleahopper problems are those near weedy areas or those with weed problems themselves. Silverleaf nightshade and lanceleaf sage are only two of the more important host plants for

Adult fleahopper

fleahoppers. Weedy roadsides, bar ditches and wheat fields can be a significant source of fleahoppers. Lygus bugs have other hosts such as alfalfa and various mustards and legumes. But Lygus should not be much of a problem till later in the season.

I would have to say that our recommended treatment levels for fleahoppers are in need of considerable research to begin to be more relevant to our situation. But these thresholds are a starting point. Research the last 3 years has indicated that irrigated cotton can afford to give up more squares during the first three weeks of squaring than we originally thought. We are extending these studies to caged studies where fleahoppers at various densities will be released. Thus far our findings would indicate that as much as a 40% first position square loss can be tolerated without significant yield loss or maturity delays. I will have more on fleahoppers next week with the inclusion of a fleahopper publication for the Crop Production Guide Series. For now, consultants and producers should be plant mapping squaring fields. This is the only reliable means of assessing cotton development and square set status. This information along with insect counts will tell you how the crop is doing and what is needed if anything to correct a developing problem

We have continued to use a tool called COTMAN for monitoring cotton growth and progress. It was initially developed by the University of Arkansas, mainly from funding provided by Cotton Incorporated. Its validation and evolution continues as we look at compensation capacity (4th year), thrips control (3rd year), irrigation scheduling and the effect of PGRs (both 2nd year studies). This is a computer-based tool which tracks square retention and plant stress during the early part of the season. Later it is used to determine when the crop is safe from damage from several insect pests and when the crop is ready for a harvest aid treatment. We will be talking about this tool as the season progresses, how we are using it and what it is telling us in the various tests we are conducting across the area. **JFL**

COTTON AGRONOMY

2004 season overview. This year's crop season is well upon us. As we have seen many times in the past, there is a real mixed bag out there. After excellent late winter and spring rainfall, land in the High Plains was in great shape for cotton planting. We were well above average for each and every month until time for cotton planting neared (rainfall for 2004). Rainfall from January through April totaled 8.6 vs. 2.9 for the long-term average. The weather gremlins managed to take away our average May rainfall in many places, and high winds and hot temperatures further depleted soil moisture (April, May and June temperatures).

Dry conditions currently persist over most of the dryland area west and south of Lubbock. As the final cotton planting dates for insurance purposes arrive for these counties, we find many producers scrambling to get cotton seed planted into the dry surface soil in anticipation of a timely rainfall event to get a stand. Many of these fields with dry surface soil have good to excellent subsoil moisture, at least compared to many recent years. However, it is perceived at this time that we have several hundred thousand acres of dryland "under the gun" due to lack of planting moisture. Our dryland crop will again be a cliffhanger, and we'll keep on top of this in future newsletter issues.

Dry planting at Lamesa, June 8

We have an irrigated crop that is in very good shape at this time. The weather has been very cooperative. Essentially all of the irrigated fields, and some dryland with good surface moisture, were planted very timely during late April or the month of May. Due to dry conditions at planting, many irrigated producers had to turn on the pivots after planting to insure a stand. Some timely, excellent and very welcomed rainfall has occurred north and east of Lubbock. These are the folks who took it hard last year with a large number of acres hailed out. In some cases both the first planting and the replant were destroyed. As of this writing, little irrigated acreage has been lost due to extreme weather events. We had a few fields blown out by high winds, and a few lost due to hail, but at this time, we are in good shape with the irrigated fields intact or replanted.

The long-term average DD60 heat unit accumulation for May is about 295, with the 2004 total pegged at 400. That was about 37% above normal. However, a few cooler days in June have resulted in about a 27% above normal accumulation from May 1 through June 8.

Many glyphosate herbicide brands are available today (including Roundup WeatherMax, Touchdown, Glyphos, etc). Be careful to check the label to make sure they contain the same active ingredient. Generally, only the salt formulation and surfactants are different. The differences in the efficacy of these materials for weed control are generally very minimal according to various weed scientists. For very good comments concerning this from Dr. Bob Hartzler (Iowa State University) go to:

Post broadcast Roundup application irrigated Crosby Co. field, June 4

www.weeds.iastate.edu/mgmt/2001/glyphosateformulations.htm

Of course when you do not use an approved Monsanto brand Roundup formulation for burndown or in-crop applications, the **Roundup Rewards Value Package is voided**.

Roundup WeatherMax label issues.
Monsanto's brand of glyphosate, Roundup WeatherMax is formulated as a potassium salt, and has quicker rainfastness (only 30 minutes required as per the sales literature). The label for Roundup Ready cotton is now contained in the WeatherMax label. Read and follow the label, as it has much critical information. Remember that Roundup WeatherMax has a higher acid equivalent (a.e.) / gallon (at 4.5 lb per gallon) than the older Roundup UltraMax. Best control is generally obtained from Roundup WeatherMax when most weeds are small (less than 3 inches). Up to two, 22 oz/acre applications of Roundup WeatherMax over-the-top (OT) can be made to Roundup Ready varieties. At least 10 days between applications and two additional mainstem nodes of growth are required. No single application may exceed 22 oz/acre.

Once past the four-leaf stage, two post-directed or shielded sprayer applications can also be made, at a maximum 22 oz/acre/application. Ten days and two additional mainstem nodes of growth are also required between these applications. Post-directed equipment should be adjusted to direct the spray to the bottom of the plants and spray contact onto leaves should be minimized. Use less than 30 psi spray pressure. Salvage treatments of Roundup WeatherMax may be applied OT after the 5th leaf reaches 1 inch in diameter at 22

oz/acre when severe weed competition may threaten yields. These treatments can result significant boll loss, delayed maturity and/or yield loss. No more than one salvage treatment should be made during the growing season.

Follow up applications of up to 44 oz/acre can be made OT again once 20 percent boll crack has occurred to control late season or perennial weeds. The maximum amount of Roundup WeatherMax that can be used OT (ground cracking) through layby is 2.5 quarts/acre, while the seasonal maximum for all applications is 5.3 quarts/acre. Ammonium sulfate is generally necessary when preparing Roundup WeatherMax spray mixtures in West Texas due to "hard" water and "tough" weeds. The general recommendation for Roundup WeatherMax spray mixtures is to add 17 lb of spray grade ammonium sulfate/100 gallons of spray.

Watch for Roundup Ready over-the-top window closure. Some earlier planted Roundup Ready fields are nearing the end of the over the top window for glyphosate applications. Cotton that was planted around May 1st that has had no environmental damage is probably beyond the cutoff stage at this time. In some places, considerable thrips and wind/sand damage has "ragged up the plants" and resulted in severe stress, stacked nodes and has made staging the seedling plants more difficult. Where leaves have been lost or badly damaged, it is imperative that mainstem nodes be counted in order to properly stage the cotton.

If late applications are made, then significant yield losses can be encountered. Field research conducted at the Lubbock Center indicated that when Roundup was applied OT after the 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.

Glyphosate/Staple tank mixes for Roundup Ready varieties. The addition of a half-rate (0.6-0.8 oz/acre) of Staple herbicide to the first OT application of glyphosate may enhance control of several weed species and also provides some residual control. Improved control of some morning glory species and palmer amaranth is stated. Rainfall or sprinkler irrigation (0.5 to 1") after application is required for residual control.

Dual Magnum/glyphosate tank mixes. Dual Magnum has a label for Touchdown or Roundup/Dual Magnum tank mixes for use on Roundup Ready cotton. Dual Magnum should be tank mixed with the supported glyphosate material for residual control of pigweed, annual grasses and yellow nutsedge at 1 to 1.33 pt/acre. According to Syngenta personnel, cotton should be at least 3 inches tall, but not larger than the 4-leaf stage (where the 5th leaf is quarter-sized). Also, it is suggested that ammonium sulfate, spray adjuvants, surfactants, fertilizer additives, or other pesticides NOT be included in the spray mix as phytotoxicity/crop injury may occur with the Dual formulation. The supplemental label states: "Postemergence OT applications of this tank mixture may cause temporary injury in the form of necrotic spotting to exposed cotton leaves which will not affect normal plant development. Do not apply Touchdown or Roundup postemergence OT to cotton past the growth stage limit specified on their respective labels. Do not use on sand or loamy sand soils in Gaines County, TX."

Potential for reduced weed control from supported glyphosate materials could exist in extremely hard water areas due to the exclusion of ammonium sulfate. Best results are obtained when the Dual is incorporated 24 hours after application using 0.5 to 1 inch of irrigation water. For specific questions concerning this application contact your Syngenta representative.

Ignite herbicide on Liberty Link cotton. We have a new transgenic herbicide tolerant cotton system available in 2004. These are the Liberty Link varieties from FiberMax (Bayer CropScience). As usual, we will need to learn

how to most effectively use this new tool in the weed control arsenal. Ignite herbicide (glufosinate-ammonium) is the formulation labeled for Liberty Link cotton. Liberty Link cotton varieties have excellent full-season tolerance (both crop size and rate) to the labeled herbicide, but applications must cease at 70 days prior to harvest. For more information on this system see http://lubbock.tamu.edu/cotton/pdf/liblinkcot.pdf and http://lubbock.tamu.edu/focus/Off_Season/May_27_2004/may27_2004.pdf

This herbicide works very well against many problem weeds including morningglory. The Ignite herbicide rate is 32 to 40 oz/acre. The label suggests that the 40-oz/acre rate be used when weeds exceed specific heights. When a field has a mixture of weed species, use the highest rate required to control all targeted species.

There are two critical issues surrounding this herbicide system. One such issue is weed size. Typically, most weeds should be targeted at very small size (see label for 65 plus specific broadleaf species and 20 plus grass species and size restrictions). An additional 25 species can be either controlled or suppressed with the 40-oz/acre rate (see label for specifics).

The other critical issue is thorough spray coverage. Since this is a contact material, it is critical that outstanding spray coverage be obtained. The label states: "uniform, thorough spray coverage is important to achieve consistent weed control. Select nozzles and pressure that deliver MEDIUM spray droplets as indicated in the nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572." Bayer personnel suggest using flat fan nozzles, or Turbo-TeeJet types (if 60 psi pressure is used). At this time, it is not recommended to use air induction or Flood-Jet tips. **A minimum total spray volume of 15 gallons/acre is required.** For dense weed/crop canopies, a spray volume of 20 to 40 gallons/acre is required for thorough coverage. Also, ground speeds should not exceed 10 mph. Ammonium sulfate at 17 lb/100 gallons of spray mix is also recommended.

Due to recent hot, dry conditions, Bayer personnel are currently recommending that producers use the 40-oz/acre rate instead of the lower 32-oz/acre rate. Also, it has been suggested that if producers are planning to irrigate fields, it would be better if irrigation water is applied in front of the herbicide application rather than after, assuming that weed size will not exceed label requirements.

The label also states: "for cotton tolerant to Ignite herbicide, Syngenta's Dual or DuPont's Staple herbicide may be tank-mixed with Ignite herbicide and applied over-the-top post-emergence to enhance weed control and/or provide residual control."

Roundup or Ignite/insecticide tank mixes. Some questions have been asked concerning the use of Roundup or Ignite /insecticide tank mixes. Generally Orthene, dimethoate, and Bidrin have been the tank-mix partners mentioned for thrips control. No problems with cotton phytotoxicity or product efficacy have generally been noted.

A guide to cotton root disorders has been published by Cotton Incorporated. This publication was generated by several workers across the Cotton Belt and was funded by the Texas and Arkansas State Support Committees. Cotton root disorders detailed in the publication include: herbicide injury from amino acid synthesis inhibitors, photosynthetic inhibitors, and seedling growth inhibitors; pathogens including fungi and nematodes; fertilizer injury; chilling injury; and soil compaction. The guide is available on the Web at: http://pestdata.ncsu.edu/cottonpickin/disorders/
RB

CORN AND SORGHUM INSECTS

Things are reasonably quiet in corn and sorghum right now. We do have a small first generation flight of European corn borers (ECB), and fall armyworms and corn earworms are present in low numbers. I checked several fields this week and found no worrisome numbers of any of these pests. Southwestern corn borer (SWCB) will be flying very soon. We usually have no need to treat first generation ECB or SWCB, but if the worst comes to pass, it might be well to think about insecticide choice and its effect on beneficial species and later spider mite populations.


ECB larva


SWCB larva

It should be noted that growers north of I-40 are already spraying for mites. We have low numbers of Banks grass mites present in corn right now. The good news is that beneficial insects, and to some extent, beneficial mite species, are doing a great job of keeping the pest mite numbers very low. Even western flower thrips (WFT), which are pests in cotton, are eating large numbers of spider mites in corn and sorghum. While WFT are not especially efficient at eating mites, there are so many of them in some field margins that they are doing a very good job of keeping mites in check. All of this early season beneficial activity really needs to be protected right now because beneficial species can significantly delay mite population buildup later in the season.


Mites on corn

An overly aggressive insecticide choice now can promote severe mite infestations in a few weeks. If you use a broad-spectrum insecticide now and kill the beneficial species in the field, you are setting up for mite resurgence. Don't use a pyrethroid for first generation SWCB. Instead, choose Intrepid or Tracer to help preserve natural enemies. Both of these insecticides are much "softer" on predators but only Intrepid is soft on parasites.

Of mites, men, and the EPA. We have known for two years now that Banks grass mites have developed serious resistance to Capture, and seems to be gaining tolerance to dimethoate. Texas Cooperative Extension studies funded by TDA and the Texas Corn Producers Board in 2002 showed this to be true. We have not been sitting on our hands. Several Texas Cooperative Extension personnel submitted a Section 18 request for temporary approval of another miticide, Onager, that needs to be applied early, basically on the same timing as Comite II. Well, while the request went to TDA in March, and TDA did a good job of getting it to EPA, it appears that we won't be getting the approval in time to do us much good in 2004. We will of course resubmit the request next year. We are also investigating other promising miticides. The group looking for new miticides includes me, Robert Bowling in Dumas, Carl Patrick in Amarillo, and Brad Lewis, our good friend from New Mexico State University. **PP**

PEANUT INSECTS

Stand establishment problems develop in some fields. We had several samples of damaged peanut seed submitted to the office. The seed either did not germinate, or was very weak after germination. I found lots of mites, small worms, and fungi in the seed. Dr. Terry Wheeler, our Experiment Station Plant Pathologist, also looked at the samples. We jointly determined that the seed was planted in soils that were too cool for good germination and ultimately began to rot. Fungi, mites, and small worms then colonized the seed. Calvin Trostle, the non-cotton Extension Agronomist at Lubbock, stated that he might have observed

a pattern where high-oleic seed from some companies did not germinate well in soils that were too cool. We have definitely concluded that the seed was not infested in the bag, but rather, it began to rot after being planted into cold soils.

Peanut IPM videos now available. We have produced a series of videos on peanut pest management with funding from the Texas Peanut Producers Board (TPPB). These short units include scouting for early season pests, thrips and tomato spotted wilt virus, foliage feeding pests, how to determine peanut maturity for harvest, and other topics. The videos will soon be available on DVD from TPPB, but for now you can view them on the web at the Lubbock Center website on the Agricultural Insects homepage. **PP**

SORGHUM AGRONOMY

Primary concerns for replant and late plant sorghum involve: 1) appropriate seeding rate based on planting conditions and soil moisture, both for germination and stored soil moisture, and 2) hybrid maturity and selection.

1) Seeding Rate: Many producers err on the side of planting too much seed per acre. Often this is based on optimism of available soil moisture, projected rainfall, and if available, the projected amount of irrigation that will be applied. It is best to be cautious. One common mistake in the past on irrigation is the intent to irrigate sorghum at levels that are higher than realistic. When irrigation prices are factored in as well as then low sorghum prices, irrigation levels were cut back. Result? The seeding rate was too high and even the hybrid choice may have been wrong.

When it comes to dryland sorghum seeding rates, what is the goal? The goal is to make a crop, not a mistake. The mistake is too high seeding rates. Producers may need to estimate that seeding rates could possibly be adjusted up if you expect problems from your cotton herbicides, but it appears that many producers are still planting too much seed in spite of that potential risk.

With too many plants per acre, in droughty conditions producers are at risk of inadequate moisture *per plant* during flowering and grain fill to produce grain. In managing risk, know that most grain sorghum hybrids at modest plant populations are able to flex upward to meet the yield potential of favorable conditions. This is less risky agronomically and economically than having a high plant population crop under droughty conditions.

Managing Risk—Balancing Seeding Rate vs. Available Soil Moisture. The available moisture in soils of different textures influences suggested sorghum seeding rates. Generally, sandy to sandy loam soil can store about 1" of available soil water per foot; a silty loam to clay loam soil can store about 1.5" inches per foot; and a clayey soil can store about 2" per foot. Typically, it takes 6-8" inches of available moisture (rainfall or in the soil) to bring a sorghum crop to the point of grain production, and each additional 1" of water should produce 350-425 lbs. of grain.

For most dryland sorghum production in the Texas South Plains, when soil profile moisture is adequate (>4" of available soil moisture), a good target is 30,000-35,000 seeds/A. If soil moisture is low (2-4"), a seed drop of 25,000-30,000/A is advised. For any condition with poor soil moisture, especially as plantings approach July 1, consider 20,000 seeds/A. For limited irrigation (4-8") with low soil profile moisture conditions, target 40,000-45,000 seeds/A, but if soil moisture is good, consider 50,000-55,000 seeds/A. Just don't get carried away. If you are not committed to irrigating the level you project, and then restrict the seeding rate. For full irrigation levels, target 80,000 seeds/A on June 1, but by July consider 100,000-110,000 seeds/A for non-tillering hybrids and 80,000-90,000 seeds/A for tillering hybrids.

2). Hybrid maturity and selection: In general, Extension suggests the following guidelines as criteria for the last recommended planting dates for sorghum maturity classes in the Lubbock region:

Counties	Medium Maturity	Early Maturity
Parmer, Castro, Bailey, Cochran	June 25	July 5
Swisher, Lamb, Hale, Floyd, Cochran, Hockley, Lubbock, Crosby, Yoakum, Terry	June 30	July 10
Lynn, Garza, Gaines, Dawson, Borden, Scurry, Andrews, Martin, Howard, Mitchell	July 5	July 15

These suggested dates consider the length of sorghum maturity vs. historical averages for cool fall weather, which can be expected ahead of frost. Although these sorghum maturity classes may be planted later and be successful in many years, these guidelines should help producers understand when risk increases relative to achieving grain yield potential or at least an adequate test weight. If you must consider a very late sorghum planting, choose among hybrids that have estimated 'days to maturity' of less than 90 days. Check among seed dealers for suggestions.

Texas Cooperative Extension publishes last recommended planting dates for grain sorghum hybrids in the Texas South Plains. For a copy of the most recent summary prepared in 2003, consult "Recommended Last Planting Dates for Grain Sorghum Hybrids in the Texas South Plains".

Grain Sorghum Hybrid Suggestions: Extension compiles a summary of high performing grain sorghum hybrids for irrigated and dryland production based on High Plains results from the Texas A&M Crop Testing Program dating back to 1997. See the summary at http://lubbock.tamu.edu/sorghum/docs/sorghybridpicks.html

Herbicides and Grain Sorghum: Dr. Brent Bean, Texas A&M—Amarillo, has summarized available herbicides and their use in grain sorghum consult 2003 Texas High Plains Grain Sorghum Weed Control Guide.

Atrazine in Sorghum then Rotating to 2005 Cotton: We are frequently asked about atrazine in sorghum. Technically, the atrazine label restricts use on sandy loam soils, for high pH, etc. A specific recurring question about sorghum is "What rate can I use and go back to cotton next year?" The label would say that no application after June 10 should be made if you expect to return to cotton the next year. We believe, otherwise, that rates near 0.75 lb./A will still offer significant weed control in sorghum and not likely harm cotton the following year. On the sandiest of soils where herbicidal activity will be higher, a producer might consider 0.6 or even 0.5 lb./A rate. We believe this is in the range where producers might not be satisfied with control, but if soils are extremely sandy, then activity on weeds should still be significant. **CT**

PEANUT AGRONOMY

Stand Problems. We have had numerous reports about slow stand establishment in early May on peanuts. Varieties that appeared to be particularly susceptible were Flavor Runner 458 and TAMRUN OL02. Some of the problems in 458, however, have been traced back to low germination of the seed. We have also noticed big differences in stand establishment among some Spanish peanut varieties. Producer and industry experience has indicated that 458 is often a slow starter, but yields or maturity relative to other runner peanut varieties is not necessarily affected. Several experienced producers anticipating slow emergence certainly recognized the value of planting into moist soil rather than irrigating with cool irrigation water and 'shocking' the peanuts into a mode of slow germination and growth. Once growth is slowed to a certain point then opportunistic fungi, saprophytic nematodes, etc. can feed on the seed before the peanut emerges.

Peanut problems with emergence can often be traced to planting too early. Yes, we understand the need to get peanuts going to allow additional time for maturity come October (5 days of late April heat units and growth is worth perhaps 10 days of growth in mid-October), but if cold temperatures in the soil hold us up we haven't gained anything. Going forward, I understand perhaps better than ever that the bottom line on peanut germination, emergence, and stand establishment is SEED QUALITY. It is possible that the quality of seed that we plant may be more important than the variety we select for Runnner and other market type peanuts.

Scouting Your *Rhizobium* Nodules— Extension research since 2000 has highlighted 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. Research in West Texas documented that a well-nodulated peanut crop is fully capable of delivering top yields without supplemental nitrogen fertilizer. Remember, nodules that are pink or reddish on the inside are fixing nitrogen for your crop. That's a good deal for your bottom line.

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 know 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 $5-6 per acre, spent on inoculant and applied properly, is a much better investment than nitrogen fertilizer. **CT**

PESTICIDE NEWS

There are a few new products for cotton and other crops. Amvac is marketing a bifenthrin pyrethroid product called **Discipline**. It uses the same active ingredient as FMC's Capture insecticide. Amvac also markets Bidrin insecticide, which is widely used in Texas.

Dow AgroSciences and Cheminova have launched new insecticides in a joint venture. These pyrethroids will be marketed through Pytech Chemicals. These insecticides are both gamma cyhalothrin, a single isomer pyrethroid with the lowest active ingredient rate range. Cyhalothrin is a less resolved pyrethroid registered as Karate. The same range of activity will be listed. The two insecticides are **Proaxis** and **Prolex**. They represent different formulations with different crop markets, although there is some overlap. While other pyrethoids have "danger" and "warning" signal words on their labels, gamma cyhalothrin has the lowest toxicity level as evidenced by their label signal word "caution".

As always, refer to product labels for more information on crops covered, pests controlled, rates and application information. **JFL**

MISCELLANEOUS TOPICS

Rose Videos Available. While not a topic of agricultural concern, roses are very popular on the High Plains. We have produced a series of seven videos that explain how to grow roses under the unique climatic conditions in our area. The videos feature Kathy Roberts, noted Lubbock "rosarian", her husband, retired

Extension Horticulturist Roland Roberts, and other experts. They are available on the Agricultural Insects Homepage on the Lubbock website, and they will eventually be distributed on DVD by the Lubbock Rose Society.

Texas Extension Entomologists have new leadership. Many of you know Dr. Pat Morrison, who served as the non-cotton Extension Entomologist at Lubbock for many years and then to College Station to assume the position of Associate Department Head for Extension Entomology. He served in that role for six years. When the large state budget cuts hit in 2003, Dr. Morrison kept Extension Entomology solvent. His last act, however, was to retire. He did this in order to avoid having to lay off one or more of the Extension Entomologists serving in the state. The good news is that retiree Dr. Morrison is moving back to Lubbock! We would also like to announce that Dr. Chris Sansone, the Extension Entomologist in San Angelo, is now the new Associate Department Head for Extension. Dr. Sansone has not given up his former duties but rather is now doing two jobs instead of one. **PP**

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