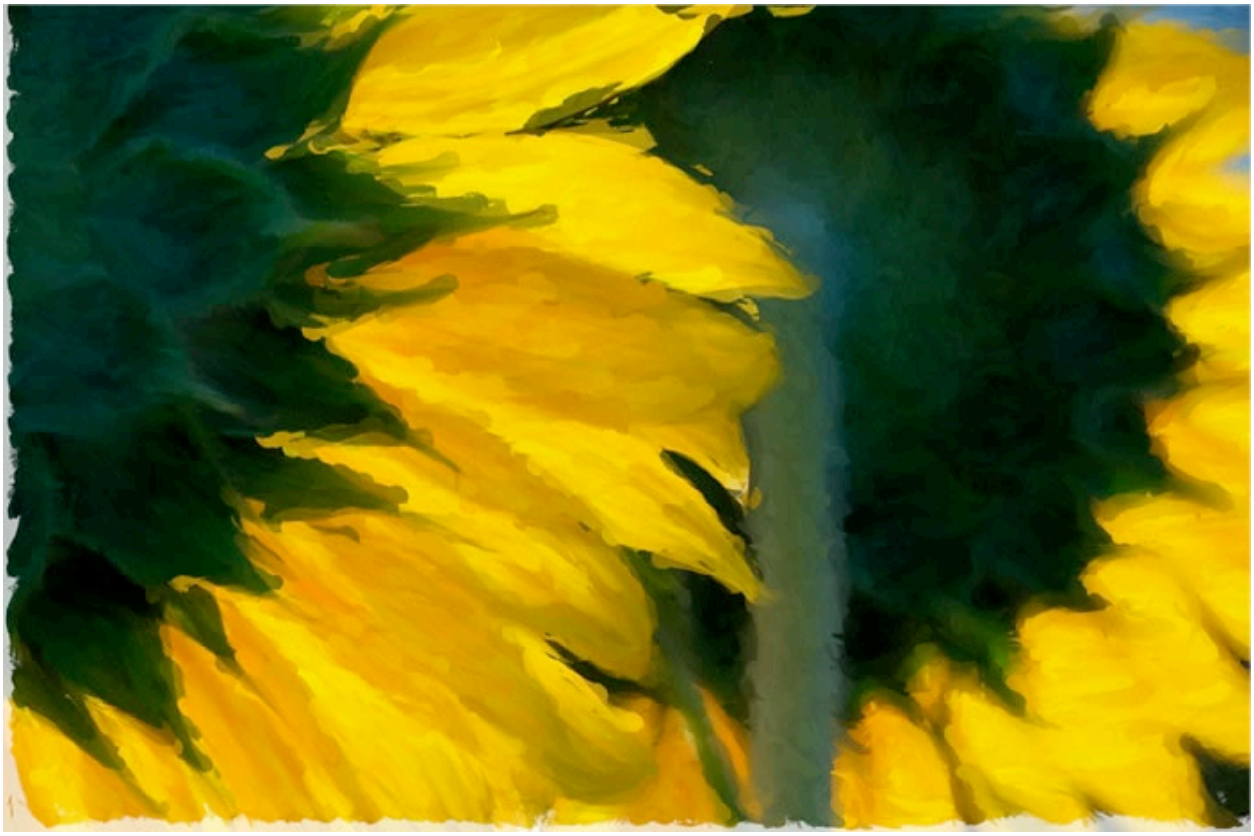
FOCUS on South Plains Agriculture

A newsletter from the Texas AgriLife Research and Extension Center at Lubbock



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http://lubbock.tamu.edu/focus

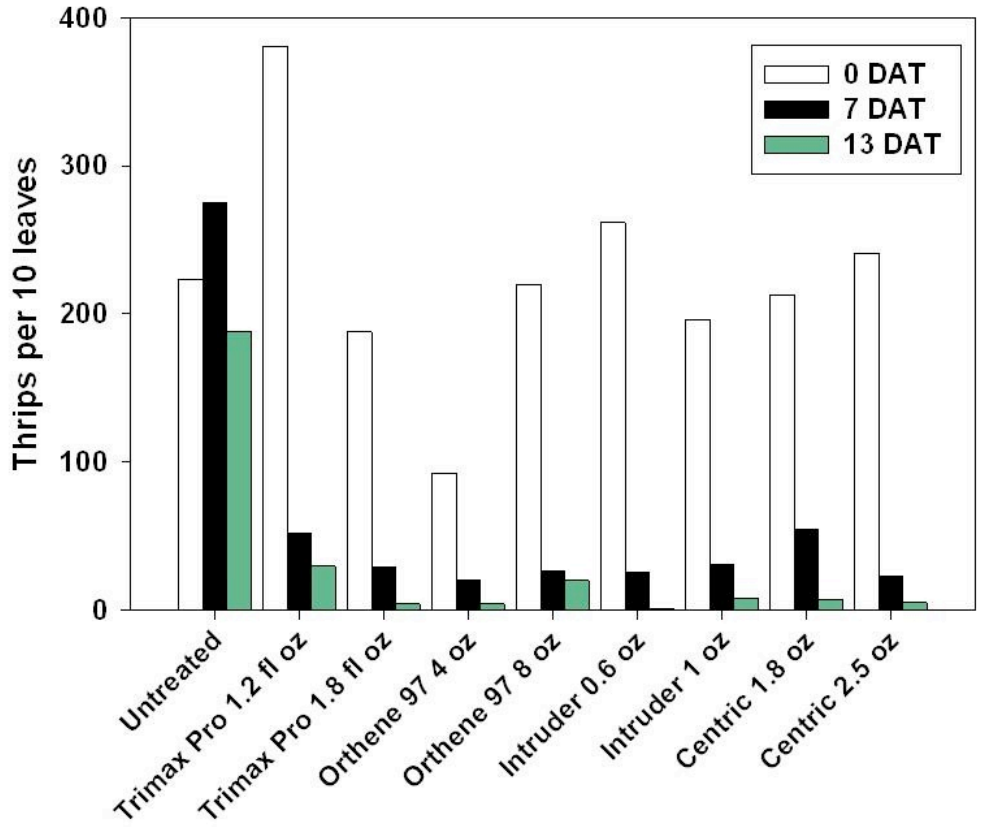
Cotton Insects

KURTOMATHRIPS

Please refer to the previous three editions of FOCUS for more information on Kurtomathrips; what to look for, what to expect, when to treat, etc.

The Kurtomathrips has continued to spread over the past few weeks. Infested counties include: Gaines, Dawson, Borden, Garza, Terry, Yoakum, Cochran, Hockley, Lamb, Lubbock, Hale and Bailey counties. We are hoping that the cool temperatures we are currently experiencing will slow the progress of this thrips, but we are not sure. Brant Baugh, IPM Agent – Lubbock, has reported that in one of his fields that the spread of the thrips appears to have slowed with the cool temperatures. If true, whether this is due to slower thrips reproduction, recent showers, or simply less plant stress is not certain.

Manda Anderson, IPM Agent in Gaines Co., and I put out another insecticide test in less severely infested cotton. We evaluated lower rates of previously tested products as well as Centric. Our data suggest that Trimax Pro (imidacloprid), Orthene (acephate), Intruder (acetamaprid) and Centric (thiamethoxam) all have excellent activity on this thrips, even at the reduce rates. **Note: we are receiving reports of some control failures with generic imidacloprid.**



Lygus

Some high numbers of Lygus have appeared in portions of Hale County. Most cotton is beyond the point where Lygus should be much of a concern, but Greg Cronholm has reported that some infested late drip fields with small bolls are being damaged. Our data have demonstrated as much as 230 lbs-lint reduction in yield due to boll feeding Lygus. Although this situation is not common this year, those less mature fields subjected to significant Lygus infestations should be closely monitored.

Damaged bolls will have feeding "stings" on the outside of the boll and penetration into the boll will be evident by an inner wart and usually stained lint. Our data suggest that Lygus should be treated if you average 4 external stings per dime-size boll. You should sample at least 25 bolls from 4 areas of the field.

At this stage in the cotton development I think most Lygus can be managed with an inexpensive pyrethroid, unless aphids and or mites are present in the field. DLK

Lygus stings on a boll

Cotton Disease Update

Verticillium wilt, caused by the soilborne fungus Verticillium dahliae, is one of the most economically important diseases of cotton on the southern High Plains of Texas. The fungus survives in the soil and crop debris as mycelia or microsclerotia (the survival structures of the fungus). Infections occur early in the growing season via penetration of roots via germinating microsclerotia. Symptoms consisting of stunting, intervenial chlorosis, pre-mature defoliation and a reduced boll load.

Premature defoliation of plants infected with Verticillium *wilt. Note the leaves that have been shed from the lower canopy.*

Such symptoms are generally observed after bloom and progress as the plants demand for water increases. The occurrence of foliar symptoms results from the fungus clogging the water conducting channels of the vascular system). Stem tissues of infected plants appear discolored. This speckling of the vascular tissue is an important diagnostic feature used to identify the disease in the field. Additional information on the diagnosis of Verticillium wilt is available at http://lubbock.tamu.edu/cotton/pdf/DiagnosisManagementVascularWiltsCotton.pdf. Cooler temperatures in July and August favor Verticillium wilt development and can drastically impact yield. In general, disease develops slower when maximum daily temperatures exceed 95 °F. The

hot, dry conditions experienced this season appear to have negatively affected Verticillium wilt development. Although isolated instances were reported in July and August, incidence of Verticillium wilt in fields with a history of the disease is much when compared to previous years.

Discoloration of the vascular system of a plant infected with Verticillium dahliae

This week, I have received several phone calls from growers, consultants and industry representatives regarding fields expressing symptoms of Verticillium wilt. Due to the late onset of disease and lower incidence, yield loss due to Verticillium wilt should be low. Management of Verticillium wilt requires an integrated approach, with the most critical decision being variety selection. Commercially available varieties and advanced breeding lines are continuing to be screened so that recommendations can be made. More information, regarding variety performance in fields with a history of Verticillium wilt is available at http://lubbock.tamu.edu/cotton/pdf/2010VERTICILLIUM.pdf. Additional cultural practices such as planting on raised beds, improving drainage, using adequate but not excessive irrigation or nitrogen fertilizer, and use higher plant densities can be used to minimize damage caused by Verticillium wilt. Information on integrated management of Verticillium can be found at http://lubbock.tamu.edu/cotton/pdf/IntegratedManagementVerticilliumWiltCotton.pdf. If you have any questions regarding Verticillium wilt, or any other cotton diseases, feel free to contact Jason Woodward at 806-632-0762, or jewoodward@ag.tamu.edu. JW

Cotton Agronomy

Cotton Update and Harvest Aids

Harvest aid season is quickly approaching and, in some areas, has arrived. Temperatures in the region have moderated somewhat and heat unit accumulation has slowed greatly. As of August 31st, we have accumulated a total of 2737 heat units, which is approximately 35% above normal. Drought conditions continue across the region with small amounts of spotty rainfall received in some areas. Crop conditions vary greatly and ranges from severely drought stressed cotton under low capacity irrigation to moderately drought stressed under higher capacity pivots and sub-surface drip irrigation. Most fields have open bolls and unfortunately, producers are observing

lower than normal seed counts resulting in bolls that are not "fluffing" as well as we are accustomed to. The locks with below normal seed counts will look like "orange slices" when open. This is being observed even with lower bolls that typically contribute the largest portion to yield with the highest quality. Due to extreme drought conditions experienced this growing season, harvest aid decisions may be difficult in some instances. To assist producers in the Texas High Plains and Lower Rolling Plains, the 2011 Harvest Aid Guide has been updated and is available on the Lubbock website. In the August 9 edition of Focus on South Plains Agriculture, I defined 3 levels of crop development and condition observed in the High Plains. For "Level 1" fields, those that have progressed close to normal throughout the growing season, traditional harvest aid practices will suffice. Level 2 fields that were somewhat behind during the growing season and entered bloom at 6-7 NAWF and have begun to exhibit some leaf shed, producers may be able to save some input dollars by applying a high rate of boll opener (ethephon) without defoliant and follow up with a terminating application of a paraquat material. Paraquat only applications should suffice for level 3 fields where percent open bolls has reached or exceeded 80% or when nodes above cracked boll (NACB) is 2 or less. For more detailed information on determining harvest aid products and timings, refer to the 2011 Harvest Aid Guide. Some discussion of bypassing field cleaners has occurred recently from producers in the region for the purpose of providing feed stock to cattle due to the lack of hay and grazing caused by the severe drought conditions. If the decision is made to bypass the field cleaner, producers need to carefully read the label for any and all harvest aid products they choose to utilize. This should be done to determine the safety precautions for feeding gin trash from treated cotton crops to livestock.

Irrigation Termination and Leaf Necrosis in Drip

Irrigation has been terminated in many fields with exception to later planted crops that are still in the boll fill stage. When deciding to terminate irrigation, producers may want to cut the uppermost boll they plan to take to the gin and verify that the seed coat is turning brown and that the cotyledons are visibly formed. If this is the case, it should be safe to terminate irrigation without fear of adversely affecting yield and quality. Some fields in the region under drip irrigation are exhibiting premature desiccation or leaf necrosis that may be attributed to high salt concentrations in the root zone around the drip tape. This same scenario occurred in 2001 and appeared to be isolated to fields with irrigation capacities below 3 gpm/a. A survey was conducted by scientists and Extension personnel and results of this survey and links to pictures from 2001 can be found on the Texas AgriLife Research and Extension website at http://lubbock.tamu.edu/cotton/2001leafnecrosis/necrosis.html . MSK

Leaf necrosis in drip-irrigated cotton

Corn and Sorghum Insects

Fall Armyworm Flight Declines

Fall armyworm damage in non-Bt corn has been extensive in some areas. All but late planted corn is now safe from egg laying. Late sorghum is still at risk from fall armyworm and corn earworm, both of which are part of the headworm complex. Fall armyworm trap captures showed a refreshing decline last week from the very high numbers the week before. RPP

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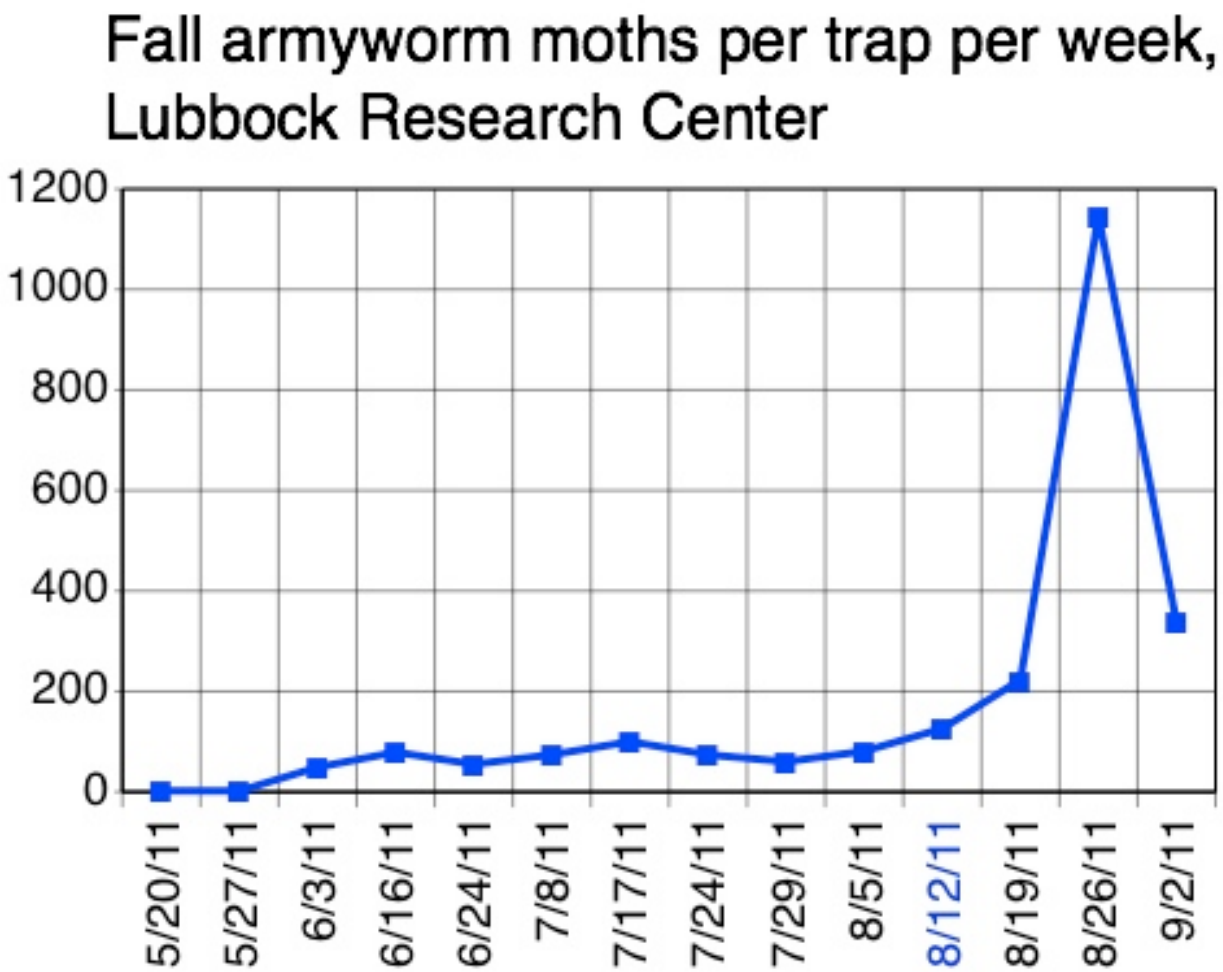

Non-Cotton Agronomy

When Can I Stop Irrigating Grain Sorghum?

Grain sorghum acreage this year is considerably less, and irrigation water was taken from grain sorghum in some cases for irrigated cotton or corn. Nevertheless, there is a wide range of sorghum planting dates this year, including a modest amount of sorghum in some counties that was planted in June. When can I stop irrigating grain sorghum? As a rule of thumb if good soil moisture is still available to the plant—at least 1-2" (not likely the case in 2011!) then terminate near soft dough. The sorghum seed will proceed through grain development from watery ripe to milky ripe to mealy ripe then begins to firm at soft dough on to hard dough. Then physiological

maturity occurs at black layer, the appearance of a black dot on the tip of the seed. This usually occurs about 10-12 days after soft dough under warm conditions. Overall grain sorghum usually takes about 30-35 days from flowering to physiological maturity.

If soil moisture is minimal to non-existent, then you will likely need to apply perhaps two additional irrigations, possibly until you begin to see the first heads form hard dough. Likewise, if you have not been able to irrigate, then ANY irrigation you can supply is still favorable especially if you have gotten to heading. This means the crop is far enough along that you have some confidence that you can get some grain yield.

Seed moisture at black layer is ~25-35%, but harvest must be below 20% moisture with drying required. Grain can be harvested without drying at 13 to 14% grain moisture to avoid dockage (depends on delivery point).

Be sure to check many heads and check the whole head. Some difference in maturity will be observed on each head as seeds at the tip could easily be 7 days older than seeds at the bottom of the head. Sorghum flowers at the tip first then moves down, and there could be as little as four days difference in flowering and pollination for a small head to as much as nine days for a large head.

Can I use the color of the grain sorghum head to determine irrigation termination?

Not reliably. You still need to do a hands-on check of the heads. Turnrow observations of sorghum fields do not tell you how much soil moisture is still available, which could be from none to an amount that is more than twice what you may apply in one irrigation. Head coloration may vary depending on hybrid as some 'red' sorghums are not as red as others.

My observations over the past couple of weeks suggest in general when the seed in the head begins to take on an orange or reddish tint, the seed is most likely at the milk stage. As a field turns color such that you readily observe it while driving down the road then the sorghum grain tends to be in the mealy stage to perhaps just entering soft dough. But this is not a reliable means of deciding to irrigate again unless you check for available soil moisture and the seed stage of growth. Former irrigation specialist Leon New, Texas AgriLife Extension Service, Amarillo, An additional late season irrigation might help maintain stalk quality for harvest. Additional grain sorghum irrigation resources are available in the grain sorghum production pocket guide published by United Sorghum Checkoff Program, available for view/print/download at http://www.sorghumcheckoff.com/sorghum-production-handbooks (choose 'West Texas Production Guide').

Small Grains Forage Update

As noted in the last edition of FOCUS there are many options for small grains for forage IF you can find the seed you want. That may not be the case, especially for triticale.

Inquiries about small grains production for a possible hay crop have stopped. At this point, the reality is that in order to initiate any small grains for fall forage in most areas of the South Plains you will have to create your root zone by irrigating I believe at least 3" and perhaps more. That is just to get started. Then with little moisture prospects in sight, there is the concern that you could lose what you started with if you don't get rain and can't sustain irrigation. The cooler temperatures help, and I am not concerned so much about warm soil temperatures

interfering with stand establishment as I was two weeks ago. If you critically need small grains grazing, then it is OK to start those fields by now, but do not overestimate irrigation ability.

Wheat for Grain—Whether and When to Seed

This discussion has been quiet as well. Fortunately, there is time for things to change with some possible rainfall to get a crop started. For some time, my suggested target seeding dates for wheat for grain settle in the range as follows:

- Northwest Counties--Oct. 10-15 is good time to establish before cold weather
- Central South Plains—Around October 20th is a good optimum target
- Lower South Plains (Lamesa)—Around October 25th is a good target

For each of these situations, in general planting up to two to three weeks later is likely OK in about all years without curtailing yield potential much. For the central and lower areas, I have often said that "the single digits of November" is still OK for good stand establishment, but I don't like to see all wheat on your farm (if you have lots of acres) planted this late.

Seeding rates for irrigated wheat (and for forage, too, if you are not grazing in the fall but are thinking spring hay) start at about 60 lbs. per acre, but that number should increase toward 90 lbs./A if planting Thanksgiving in the northwest region to December 1st in the lower South Plains. For many wheat varieties, this is about the same as 1,000,000 seeds per acre, so if you find that you have large seed size or small seed size, you might be able to adjust your seeding rate for that.

Prussic Acid and Nitrate Testing in Forages

Questions of prussic acid testing in sorghum family forages or nitrates in any forage persist in the South Plains. The good news is that both of these toxic substances in forage can be managed. Harvested forage high in nitrate can still be fed so as to limit animal intake by also feeding forage with low nitrate levels. Standing forage with high nitrate (usually on dryland in most years, but some in poor-growing irrigated forage this year, especially if fertilized heavily) will usually grow out of high nitrate levels once moisture is available; or if you must hay or graze either raise the cutter bar a few inches (nitrate is higher at the base of the plant) or limit grazing so cattle don't eat much of the stalk. Prussic acid dissipates in standing hay with time and in any cut forage in about the time it takes to properly cure.

For further information on nitrate and prussic acid in Texas forage crops consult Extension's "Nitrate and Prussic Acid in Forages," (E-543) obtained from your Texas AgriLife Extension Service county office or view/download from the web at http://agrilifebookstore.org, then search for the above title.

Where to get samples tested for prussic acid and nitrate

Most any lab can conduct a nitrate test in forage, and the test is quick. Furthermore, there is no special handling required for testing of nitrate as once the forage sample is cut, the nitrate is largely unchanged. Prussic acid is a different matter, as the value measured is heavily dependent on how the sample is handled and how long before analysis is conducted. No sample

for prussic acid is worth collecting if the lab you submit your sample to in turn will 'have to send the samples off' for prussic acid analysis.

Over the years I have routinely directed prussic acid inquiries to Texas Veterinary Medical Diagnostic Lab, Amarillo (TVDML) for analysis of prussic acid. They no longer conduct nitrate analysis (those can and are sent to College Station for analysis, and that is OK), so if that is all you want go elsewhere. But for prussic acid analysis, the opportunity is there to get quick turn around on a sample that was collected only hours beforehand. TVDML will advise on how to deliver a sample to their lab (even if overnighted) to minimize the changes in prussic acid. You may contact them at:

TVMDL runs a scale test on prussic acid, -1, 0, +1, +2, +3, +4, which is qualitative in that it producers color, and the intensity they relate to this scale. They do not measure ppm concentration anymore (highly dependent on collection, handling, etc.). Samples at the high end of scale are not recommended in their current state to be fed to cattle. Prussic is run the day received if possible. Texas AgriLife recommendations used to specify a certain ppm level as 'safe' but now report 'presence' instead. CT

Texas Veterinary Medical Diagnostic Laboratory--Amarillo Laboratory
PO Box 3200
Amarillo, TX 79116-3200
Phone (806) 353-7478, Toll Free (888) 646-5624
(Courier address: 6610 Amarillo Blvd. West, Amarillo, TX 79106)

FOCUS on South Plains Agriculture

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Useful Web Links

Texas High Plains ET Network, Water Management Website, TAMU, Irrigation at Lubbock, IPM How-To Videos, Lubbock Center Homepage, Texas Agricultural Experiment Station Home , Texas Cooperative Extension Home, Plains Cotton Growers

County IPM Newsletters

Castro/Lamb, Dawson/Lynn, Crosby/Floyd, Gaines, Hale/Swisher, Hockley/Cochran, Lubbock, Nolan/Scurry/Mitchell/Jones, Parmer/Bailey, Terry/Yoakum