GAINES COUNTY IPM NEWSLETTER

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General Situation

The 2009 Gaines County cropping season has began, despite the dry conditions and limited planting moisture. Safflowers will be added into the crop mixture this year. Safflowers are a favorite host of Lygus Bugs. Lygus Bugs may build up in the safflower fields and then migrate to neighboring cotton fields. Therefore, cotton fields boarding safflower fields should be monitored closely for Lygus Bugs and their damage.

Private Pesticide License Training & Testing

Wednesday, May 13, 2009
Training: 8:00 a.m.
Testing: 1:00 p.m
At the Center for Housing & Community Development (1400 Avenue K, Takoka) RSVP by Monday, May 11 by calling the Lynn County Texas AgriLife Extension Office at (806)561-4562

Texas AgriLife Peanut Seed Quality Testing--Samples Needed

Calvin Trostle, Extension agronomist, Lubbock is conducting an assessment of 2009 peanut seed quality for West Texas. This project is funded by Texas Peanut Producers Board. Farmers can assist by saving a 2 lb sample of any of their peanut seed. Samples for each variety can be placed in a ziploc or paper bag along with the seed certification and fungicide tags. Write the farmers name, county, and if the seed is for a seed block on the seed tag. Save the seed at room temperature out of the heat.

Samples will be assessed for seed size, splits, immature kernels, Texas Dept. of Agriculture warm/cold germination, seedling vigor test, etc.. The objective is to assess the overall quality of peanut seed in Texas, and we have particular interest in germination.

As many as 90 samples are needed from the South Plains. If you would like to save seed for this testing, you can drop any seed sample by your local Extension office or call or e-mail Calvin Trostle, (806)746-6101, ctrostle@ag.tamu.edu, and his staff will arrange to pick up the sample.

Successful Weed Management Systems

(Reported by Dr. Todd Baughman, Extension Peanut Specialist; Dr. Peter Dotray, Extension Weed Specialist; Dr. Wayne Keeling, Systems Agronomist; and Dr. Paul Baumann, Extension Weed Specialist in the April 27, 2009 issue the *Peanut Progress*)

The use of dinitroaniline herbicides (Prowl, pendimethalin; Treflan, trifluralin; or Sonalan, ethalfluralin) often referred to as the yellow herbicides is the first step towards successful weed management programs in peanut and cotton production systems. The strength of these dinitroaniline (DNA) herbicides is annual grass control (barnyardgrass, crabgrass, foxtails, panicums, etc.) and control of small-seeded broadleaf weeds such as Palmer amaranth (carelessweed and other pigweed species), Russian thistle (tumbleweed), and kochia (ironweed). Most larger-seeded broadleaf weeds, like annual morninglories, cocklebur, devil's claw,

sunflowers, and perennial weeds (silverleaf night shade, filed bindweed, lakeweed) are not controlled by these herbicides.

The rate of each DNA herbicide is dependent on soil type (the sandier the soil, the lower the recommended rate). High rates in sandy soil may injure crops. Check label for proper use rates and application methods for your soil type and cropping situation. If soil conditions are extremely dry and large clods are present herbicide performance will be less effective with these herbicides. Keep in mind that when the DNA's were first introduced over 30 years ago, farmers were diligent with a two-pass incorporation prior to bedding and planting. This resulted in thorough mixing of the herbicide and excellent weed control. In recent years many farmers have cut back on incorporation to save time and money. Adequate weed control often occurs with these methods but herbicide failures have also arisen due to poor incorporation.

The DNA herbicides may be incorporated by mechanical means or by irrigation. Incorporation methods vary widely across the state. A double-pass method of incorporation is recommended on most labels with the second incorporation made at an angle to the first incorporation, but a single-pass is most commonly used. Mechanical implements used to incorporate these herbicides include a springtooth harrow, a disk, a double or single stalkcutter, and a rolling cultivator to name a few. The better the implement mixes and uniformly distributes the herbicide in the upper 1- to 2-inches of soil, the better the weed control. Treflan should be incorporated within 24 hours after application, Sonalan within 48 hours, and Prowl EC within 7 days. Prowl H_2O must be incorporated prior to weed seed emergence. However, it is best not to delay this application at all if possible.

Prowl and Sonalan may be surface applied and then incorporated by rainfall or irrigation. Three-quarters to one-inch of irrigation is necessary to incorporate (activate) these herbicides. These products are very water insoluble and larger amounts of irrigation help to move them into the weed germination zone. Both Prowl and Treflan may be chemigated into the soil. These applications may not be the best way to incorporate Prowl, Sonalan, or Treflan, but may be the only way to use these herbicides in a reduced tillage or no-tillage crop production system. It is still better to apply these herbicides in this method then to not include them at all. When surface applications followed by irrigation or chemigation methods are used, herbicide rates are generally higher when compared to mechanically incorporated methods. Research conducted at the AG-CARES farm north of Lamesa by researchers with the Texas AgriLife Research suggested that Prowl provided more consistent weed control when compared to Treflan when surface applied and watered in, but Treflan performed better than Prowl when chemigated.

Weed resistance to many of our postemergence herbicides has become a greater concern in recent years. Many areas of the country are experiencing more problems with weed resistances than most of Texas. This is likely due to the continued use of the dinitroanaline herbicides. Continued diligent and proper use of the dinitroanaline herbicides is one of the biggest tools we have to combat weed resistance issues. Always carefully read and follow label recommendations.

Selecting Quality Wheat Seed

(Reported by Dr. Gaylon Morgan, Dr. Brent Bean, and Dr. Todd Baughman in a report sent out on April 23, 2009)

Most of the Texas wheat crop has endured drought and late-season freezes this year. Both of these environmental stresses can be detrimental to seed quality, especially the late-season freezes. Each of these factors should be considered before keeping, purchasing, and planting seed this fall. Remember,

good seed equates to better plant stands, better fall growth, and higher grain yields, especially when planting conditions are less than ideal.

With the freezes that occurred on March 28-29 and April 5-6, much of the wheat crop across the state was at susceptible growth stages to be injured by freezing temperatures. Based on observations, Central Texas, the Blacklands, Northeast Texas, the Rolling Plains, and portions of the High Plains the late freezes will likely affect seed quality in these regions. In these regions, much of the wheat had headed or was very close to heading when the freezes occurred. At this stage, even temperatures as mild as 30-32 degrees can result in sterile flowers and halt seed development. If the flower was sterilized, no seed will be developed. However, if the wheat plant was in the seed development stage, much of the seed will be very small, shriveled, and will not likely germinate. So, special precautions should be considered this year before saving seed for planting or when purchasing seed. While there is most definitely reason for concern over next year's seed quality, availability, and price, there is no reason to panic at this point. As long as we take time to look at our potential seed quality and use some judicial precautions (listed below) we should be able to insure that our seed is worth keeping and planting.

There are several questions a person should ask before keeping or purchasing seed this year, including:

1. Does the seed look healthy? Plump seeds with good color are ideal. Large, plump seeds contain more energy and thus result in better plant stands and early season forage growth, than smaller shriveled seed. In addition, larger seeds are more forgiving on deeper planting depths and provide better seedling vigor. Keep in mind when comparing seed size that some varieties just naturally produce a larger seed than others. Always compare seed size of the same variety.

2. What is the test weight (bushel weight)? Test weight is a good initial indicator of seed quality, but is not an absolute. If the bushel weight is below 58 lbs/bu, then this warrants further investigation into the seed quality. If you are purchasing certified seed, the seed tags should state the test weight. Also, be aware that small shriveled seeds can sometimes have a high test weight due to being more densely packed into a given volume (lbs/bu). So, test weight should always be considered along with seed size. Below as an example of the importance of test weight on germination, emergence, and yield. **See Table 1 below.**

3. Does the seed have good germination? Unfortunately, a germination test should not be conducted immediately following harvest because winter wheat has a natural seed dormancy mechanism that prevents the seed from germinating for about 4 weeks after harvest (some varieties even longer). So, the only option for determining the seed viability immediately after harvesting is to have a TZ (tetrazolium) test run through the TDA (Texas Department of Agriculture) seed laboratory or a private seed laboratory. The TDA laboratory locations are listed below, and the TZ test costs $15/sample and requires 1 lb of seed. This TZ test is <u>not</u> equivalent to a germination test, but it can provide a good idea of the "viability" of the seed immediately following harvest. <u>If producers run a TZ test or an early season germination test, they should still consider running a second test prior to planting to insure that the seed possesses a good level of germination.</u>

   Good quality seed should have a >85% germination. Seed (1 lb.) can be sent to the TDA Seed Quality Lab for a germination test and/or a vigor test (accelerated aging) for $9 and $12, respectively. See addresses below.

For additional details on sending samples to TDA for testing, go to: http://www.tda.state.tx.us/vgn/tda/files/1848/10887_procedures_and_fees_for_submitting_seed_samples_for_testing.pdf

Texas Department of Agriculture seed testing locations:

1. TDA Seed Testing Lab, P. O. Box 629, Giddings, Texas 78942, 979-542-3691
2. TDA Seed Testing Lab, 4502 Englewood Av, Lubbock, Texas 79414, 806-799-0017
3. TDA Seed Testing Lab, 241 East McNeil St, Stephenville, Texas 76401, 254-965-7333

4. What are the cleaning and storage factors to consider? Extra care should be taken in storing, conditioning, and cleaning seed this year. Producers should ask seed cleaners to set screens to insure that all shriveled and damaged seed is removed from planting seed this year. This is especially important this year since this shriveled and damaged seed will likely be of poor germination. Growers should also consider only treating seed immediately prior to planting. Seed that is of poor quality that is not treated can still be sold or fed, while treated seed will have to be properly destroyed. Remember the start to a successful wheat crop next year starts at planting and with the quality of seed that is placed in the ground.

Table 1. Relationship between wheat test weight (lb/bu) and seed quality characteristics and yield of the variety Wichita. Modified from Laude, 1950. Kansas State University.

	Heavy Seed	**Light Seed**
Test Wt (lbs/bu)	**62.4**	**53.1**
Germination	**92%**	**86%**
Emergence	**68.0%**	**48.4%**
Days to Emergence	**21**	**25**
Heads per plant	**2.9**	**2.8**
Test Wt of Crop	**61.9**	**62.0**
Yield (bu/acre)	**50**	**45**

Information for this newsletter was obtained from the following publications:

- **April 27, 2009 Peanut Progress**
  http://varietytesting.tamu.edu/peanuts/index.htm#newsletter
- **April 23, 2009 Selecting Quality Wheat Seed Report**
  http://varietytesting.tamu.edu/wheat/index.htm#newsletter

Crop Management publications can be founds on the web at http:/agrilifebookstore.org