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TEXAS AGRILIFE EXTENSION SERVICE

Peanut Progress

Peanut Production Update

The peanut crop is well on its way for most of the Texas growing region. It appears that peanut acres will be down substantially in the Southwest in 2009. Reductions are also occurring in other parts of the peanut belt but not to the level that we are seeing here. Current numbers suggest roughly a 25% reduction in U.S. peanut acres. It will definitely be interesting to see the crop production report from the NASS on Wednesday. While many parts of Texas have been dry conditions in the Southeast have been extremely wet with about 60% of the acres being planted before the end of May. In fact they are still trying to finish up plantings in some areas. In regards to this year's peanut crop, now is the time to be controlling initial weed flushes. Early season weed competition is most detrimental to peanut yield. Therefore, timely herbicide applications will provide the most bang for your buck. In addition, generally weeds are smaller and more actively growing at this time in the growing season and thus easier to control. Also now is the time to be scouting fields to determine the effectiveness of your rhizobium inoculation. We have two articles in this issue dealing with both of these important areas of your peanut production systems. If you have any other issues please give me a call @ 940.552.9941 ext. 233 or by e-mail: TBaughma@ag.tamu.edu.

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Early-season Weed Management Is Key

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One of the keys for successful weed management is early-season control. Peanut fields must be kept clean for the first 4 to 6 weeks in order to maximize yields. To date, we have experienced some very dry conditions and secondary weed flushes have not yet become a problem. Preplant burndown herbicides **(Gramoxone Inteon (Firestorm, Parazone), Roundup (many)** or tillage before planting, preplant herbicides (**Prowl, Sonalan, Treflan**) followed by incorporation (either mechanical or irrigation), and preemergence herbicides (**Valor, Dual Magnum (Parallel)**, and **Strongarm** (in labeled areas or the state), and **Gramoxone Inteon (Firestorm, Parazone)** from ground crack to 28 days after cracking have been successful. However, although the length of weed control may vary, additional weed management strategies will be necessary to maintain season-long weed control.

There are several herbicides labeled for use postemergence in peanut. **Cadre** (**Impose**) and **Pursuit** have good activity on many broadleaf and grassy weeds, and nutsedge; however, there appears to be more weed escapes following these herbicides compared to what we experienced just 5 or 10 years ago. The development of weeds resistant to Cadre and Pursuit has become a bigger concern across the peanut belt. Susceptible weeds that appear more and more

Early-season Weed Management Is Key—Cont.

tolerant year after year may be a

Ivyleaf morningglory seedling

sign that weed resistance may be present. The use of herbicides with different modes of action is a key to delay/prevent the development of herbicide-resistant weeds. Another concern about these herbicides is rotation restrictions. Both of these herbicides have an 18-month rotation restriction following application before cotton and grain sorghum may be planted. Every year I see rotation crop injury following Cadre or Pursuit.

Basagran, Cobra, and **Ultra Blazer** are options for use postemergence in peanut. Basagran has activity on cocklebur, sunflowers, and yellow nutsedge. Ultra Blazer and Cobra are effective at controlling Palmer amaranth (carelessweed), annual morningglory, and other broadleaf weeds, but weed size and "health" are important for effective weed control. Activity from these herbicides will quickly decrease as weed size increases and these herbicides do not provide soil residual weed control. **Storm**, a prepackaged mixture of Basagran and Ultra Blazer, may be use to control a wide range of small and actively growing annual broadleaf weeds. All of these herbicides need a spray additive (crop oil) for maximum herbicidal activity. In general, these herbicides are effective on a broad spectrum of broadleaf weeds that are up to 4-inches in height. Herbicide options to control early-season grass weeds include **Select** (**Arrow, Shadow**) and **Poast Plus**.

2,4-DB (**Butyrac or Butoxone**) is also an option for use postemergence in peanut, but extreme care must be taken before this herbicide is chosen. This herbicide has good activity on several annual broadleaf weeds including morningglory and sunflower. This herbicide is also a good option on larger weeds and tough-to-control weeds such as silverleaf nightshade (whiteweed). The use of crop oil with 2,4-DB will increase herbicide activity; however, crop oil will enhance phenoxy-type injury to peanut. Previous research suggests that this injury will not result in yield loss at the end of the season. 2,4-DB may be tank mixed with other herbicides to broaden the spectrum of weeds controlled. The dominant issues with using 2,4-DB in west Texas is cotton injury and tank contamination. Adjacent cotton fields are exceedingly susceptible to 2,4-DB drift. Tank contamination will likely occur even when proper tank cleaning procedures are followed. It is best to have a separate spray system when 2,4-DB is used.

"Peanut fields must be kept clean for the first 4 to 6 weeks in order to maximize yields."

Dual Magnum and **Outlook** are preemergence herbicides that may also be used postemergence followed by rainfall or irrigation for residual weed control and to decrease the potential of crop injury following application. Peanut injury has been noted with Dual Magnum when the herbicide has been applied preplant incorporated or preemergence on sandy soils followed by high rainfall (2 to 4 in) within 3 to 6 days after planting. Dual Magnum and Outlook have good activity on annual grasses and small-seeded broadleaf weeds, but must be applied prior to weed emergence or emerged weeds must be controlled by tank-mixing with another POST herbicide. Activity on yellow nutsedge has been observed when these herbicides are applied POST to peanut, but activation shortly after herbicide application (within 24 to 36 hrs) by rainfall or irrigation is necessary for effective control. Dual Magnum must be applied postemergence to yellow nutsedge not taller than 6 to 9 inches to be effective. If the nutsedge is any taller, than another herbicide such as Basagran must be added to control the existing nutsedge. Also, herbicide incorporation with irrigation must be delayed 4 to 6 hr to allow the Basagran to be translocated into the plant. Contact Pete @ 806.846.6101 or email: pdotray@ag.tamu.edu with any weed management concerns you might have.

Mid-Season Assessment of Rhizobium Nodulation

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Extension Agronomist

Note: The following comments address field observations in particular for the Texas High Plains peanut production region.

We are approaching the time in mid-June after planting in the Texas High Plains when peanut growers should check their taproot *Rhizobium* nodulation. Scouting 5 to 6 weeks after planting assesses early nodulation in advance of decisions about applying mid-season N, and if so, how much N. This is particularly important with N prices so high.

Use a shovel to dig plants from different rows and field locations. If nodulation is deemed poor, nothing can be done to increase nodulation in the current crop. In West Texas 20 to 25% of fields annually may be undernodulated, or worse, have only a few nodules per plant. Poor *Rhizobium* nodulation calls for supplemental N to achieve desired yield potential. This is why early scouting is recommended. We need to know which fields are not nodulating early in the cropping season.

Extension assessment of many peanut fields in the Haskell and Comanche Co. areas as well as south Texas typically have nodules all over the lateral roots suggesting the source of *Rhizobium* is native to the soil. These lateral root nodules are in contrast to the masses of nodules you hope to find on the taproot, i.e. evidence of inoculant application. Nodules on the lateral roots, though often high in number (i.e., hundreds per plant) tend to be less active and may not be fixing N for your peanut crop.

Active nodules are pink to dark red inside. If nodules are white inside they are not yet active—check again in 7-10 days. Nodules no longer active are black, gray, and may be mushy—you will see a few of those nodules starting in late July. Nodules which never turn pink or red inside are from soil *Rhizobium* that may not be specific for peanuts. You need to differentiate these types of nodules, mostly on the lateral roots, versus the mass of 'supernodulation' on the taproot, which is ready evidence that your inoculant worked.

For West Texas, the following guideline rates nodulation levels 5 to 6 weeks after planting. We are particularly interested in any developing clusters of nodules on the taproot. If early nodulation is good, you can expect it to continue to increase toward peak nodulation (usually early August), but if early nodulation is poor it probably isn't going to improve.

As illustrated in the accompanying table, as an example, a producer intends to apply 80 lbs. N/Ac mid-season. But if early signs suggest that nodulation is very good, this producer would have good reason to reduce target N application by up to 50%. It has been well documented that high levels of early season N, even moderate levels as low as 30 lbs. N/acre can reduce nodulation in a peanut crop. Higher mid-season N levels also can curtail *Rhizobium* N production as the plants are 'lazy' and take fertilizer N instead of fostering the desired relationship with the bacteria to give you 'free' N. If you have any additional questions contact Calvin at Texas A&M - Lubbock, (806) 746-6101, ctrostle@ag.tamu.edu

Early-Season Nodulation Rating	Nodules per plant	Management Consideration
Excellent	>20	Likely excellent late-season nodulation N response doubtful
Very Good	16-20	Late-season nodulation also strong Reduce mid-season N goal
Good	11-15	Will produce good crop Anticipate some reduction in mid-season N
Fair	6-10	Would have liked higher nodulation Mid-season N program a decent bet
Poor	0-5	May be background soil *Rhizobium* only N fertility program essential Try to determine why nodulation is poor if field was inoculated

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