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PEANUT PROGRESS

In this issue

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"While peanuts faired much better than cotton, it is safe to say that this years peanut crop is a little late"

CURRENT PEANUT SITUATION

Everyone is aware of the drought conditions that have plagued the southwest the past three years. While conditions have intensified in areas, such as California and Nevada, things have remained pretty much unchanged here in Texas (Fig. 1). According to the U.S. Drought Monitor (http://droughtmonitor.unl.edu/HomeStateDroughtMonitor.aspx?TX), 82.7% of the state is considered to be experiencing drought conditions; however, only 10.8 and 2.9% of the state is categorized as extreme or exceptional, respectively. These classifications are down by 10 to 20% as of 3 months ago. While scattered showers fell on parts of the High Plains (0.25-0.75 in) the forecast for the next several days calls for relatively dry conditions. Everyone could benefit greatly from a rain as we continue to fill pods.

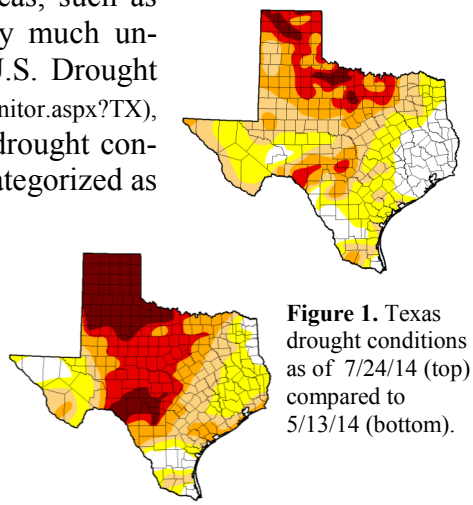

Figure 1. Texas drought conditions as of 7/24/14 (top) compared to 5/13/14 (bottom).

Although rainfall has been limited and somewhat sporadic , what was received earlier in the year has helped alleviate pressure that has been placed on irrigation. It has also helped in the dilution of salts within the soil. Several factors affect irrigation decisions in the later part of the season. The most important factor being water use. Water demand is greatest for peanuts during flowering, pegging and remains so through pod development (Fig. 2). One must also consider the current condition of the crop. The relatively cool temperatures experienced during much of June and July were welcomed by most everyone working outside; however, such conditions were less favorable for peanut development. While peanuts faired much better than cotton, it is safe to say that years peanut crop is a little late.

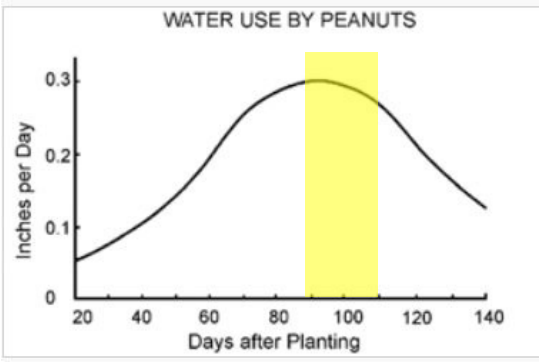

Figure 2. Peanut water use curve. The yellow shaded area represents the approximate stage of the High Plains peanut crop.

TEXAS A&M AGRILIFE EXTENSION

CURRENT PEANUT SITUATION (cont.)

Peanuts are sensitive to moisture stress at various periods during the season. The duration and severity of this stress can affect production in different ways. Research conducted in Georgia compared yields when stress was imposed at different times compared to plots that received optimal moisture. When applying this to the 2014 crop in west Texas be mindful that 1) maturity among the market-types grown in this region differs (i.e. market-types such as Valencia and Spanish are earlier maturing), and 2) the physiological condition of the crop differs slightly from year-to-year (and is slightly delayed this season).

Table 1. Effect of moisture stress on runner peanut yield.

Stress period (days after planting)	Yield (lb/A)
30 - 65	3,960
65 - 100	2,900
100 - 135	4,120
Optimum moisture	4,540

C.K. Kvien, Coastal Plain Experiment Station, Tifton, Georgia, 1987-1988.

I have received several calls with the million dollar question "What is the last effective bloom date for a peanut plant?" Sadly the answer to this question is challenging and depends on several things. On one hand, the answer to this question depends greatly on conditions in late September and early October. As with any given year, heat units will be required to finish the crop. The prospect of an early freeze can negatively impact the development of pods. Being an eternal optimist, I believe that there is still ample time for early developing pods to mature and contribute to yield. Being a non-determinant crop (like cotton) peanuts will continue to produce blooms as long as conditions are conducive. In general, a harvestable peanut pod requires anywhere from 45-60 days to develop. Therefore, pegs that penetrate the soil within the next few days or will have the ability to contribute to yield. This of course may vary by location and possibly market-type. The non-determinant habit of peanut and the ability of plants to compensate was tested in 2011, where many fields had few to no pods at the beginning of August. With a favorable fall, many of those fields yielded 2,000 to 2,500 pounds per acre; however, grades were considerably lower. ***JW***

"In general, a harvestable peanut pod requires anywhere from 50-60 days to develop. Therefore, pegs that penetrate the soil within the next week or so have the ability to contribute to yield."

PEANUT DISEASE UPDATE

Many fields with a history of pod rot have been treated previously this season. It is time to consider sequential applications. Currently, Abound is the commercial standard fungicide used to manage. Several generic formulations of azoxystrobin (the active ingredient in Abound) are registered for use in Texas. I have heard from several consultants who are evaluating these products. Likewise, we are comparing the performance of these fungicides in our small-plot field trials. The spectrum of activity for these materials is similar to that of Abound. The primary target in the pod rot complex is *Rhizoctonia solani*, whereas, the label list suppression of Pythium pod rot, which is capable of being caused by several *Pythium* spp. In addition, several other fungi including *Sclerotium rolfsii* and *Thielaviopsis basicola*, causal agents of southern blight and black hull have been observed this season. While fungicides which contain azoxystrobin, as well as triazole fungicides (such as tebuconazole, prothioconazole, etc.) have activity against *S. rolfsii*, their activity on Rhizoctonia pod rot is limited. Furthermore, none of the aforementioned fungicides have activity against black hull.

PEANUT DISEASE UPDATE (cont.)

Fortunately, black hull is more of a cosmetic problem, as the fungus does not typically penetrate the hull. This disease is however more problematic for market types, such as Valencia and Virginia-types, which are sold in-shell. Lesions are superficial and can be easily scrapped away with your thumbnail or a pocket knife. Microscopic examinations reveal the presence of barrel-shaped spores (Fig. 3) that are useful in providing a complete diagnosis.

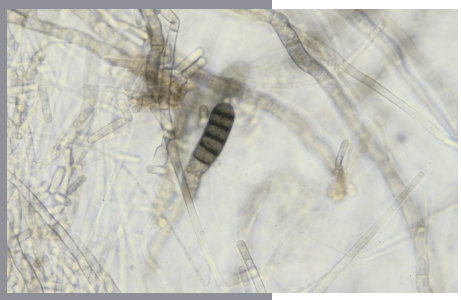

Figure 3. Microscopic examination of *Thielaviopsis basicola*, causal agent of black hull. Notice the barrel-shaped resting spores. (Courtesy: Bugwood, 5338023)

Figure 4. Appearance of pod rot caused by *Rhizoctonia solani*.

Figure 5. Appearance of pod rot caused by *Pythium*.

Figure 6. Appearance of pod rot caused by *Sclerotium rolfsii*.

Symptoms associated with *S. rolfsii* differ from those observed with Rhizoctonia (Fig. 4) or Pythium pod rot (Fig. 5) , and consist of a dry, ashy grey appearance (Fig. 6) compared to a brittle, brown, skeletonized pod, as with a wet, greasy, black pod, as with Rhizoctonia (Fig. 5), or with Pythium (Fig. 6). In addition to causing a pod rot, *S. rolfsii* is also capable of infecting entire plants. The appearance of these symptoms are similar to those of Sclerotinia blight, caused by *Sclerotinia minor*, except that the fungal strands of *S. rolfsii* are more feathery and have a flat appearance (Fig. 7). ***JW***

Figure 7. Signs of *Sclerotium rolfsii* causing southern blight.

"Extreme is the best way to describe armyworm populations this year compared to recent years."

INSECT UPDATE

If you have anything to do with grain sorghum you are aware of the high populations of fall armyworms (Fig. 8). Extreme is the best way to describe armyworm populations this year compared to recent years. Weekly captures from trapping in the Lubbock area have been well above normal, since June (Fig. 9). Overall, peanuts can tolerate extensive feeding without experiencing yield loss (unless pegs are being fed upon). Plants are most susceptible to damage 60 to 90 days after planting. Differences in plant architecture affect thresholds. For example, Runner-types have more foliage than Spanish-types, thus they can sustain more damage before yield losses occur. Dryland Spanish peanut can tolerate three to five medium-to-large larvae per linear row foot before yield losses occur. Irrigated Spanish peanuts can tolerate approximately six to eight medium-to-large larvae per linear row foot before significant yield losses occur. Contact your local county extension office if you have questions regarding these or any other insect pests that affect peanut. ***JW***

Figure 8. Fall armyworm feeding on peanut leaflets. (Courtesy: Bugwood, 1599419).

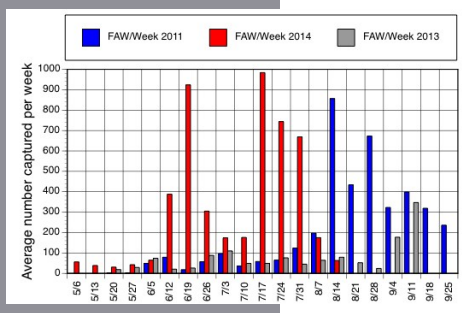

Figure 9. Fall armyworm captures (moths per week) at Lubbock. Courtesy Pat Porter.

HOPE

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Peanut Butter for the Hungry

This newsletter is for you the producers and other members of the peanut industry. If you have any questions, comments or suggestions for the newsletter please contact Jason Woodward (jewoodward@ag.tamu.edu)

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