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PEANUT PROGRESS

In this issue

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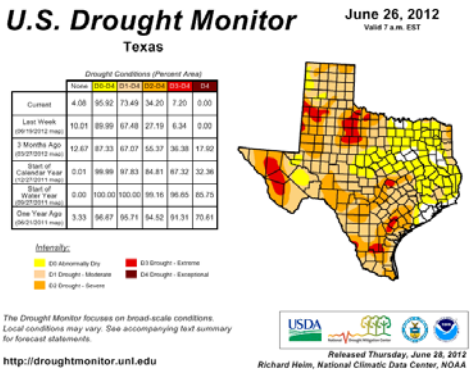
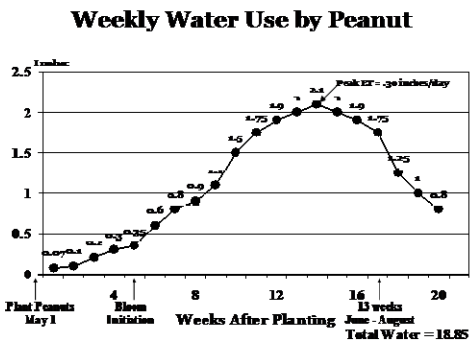
Current Peanut Situation *by Jason Woodward*

The 2012 crop condition ranges from fields that have just been planted in south Texas to those in the Rolling and High Plains that are beginning to bloom. Over the past few weeks, many peanut producing areas have received some rainfall, generally bettering the moisture situation. As of June 28, the USDA Drought Monitor (http://droughtmonitor.unl.edu) indicated none of the state is classified being in the exceptional (D4) stage and only 7.9% was considered extreme (D3).



While this is obviously an improvement over 2011, the return of hot, dry weather is a great concern for the producers where peanuts are beginning to bloom. Water requirements differ by growth stage with demand increasing greatest from bloom through kernel development.



If water stress is experienced during the bloom period, flower formation can be delayed or completely inhibited. Since extremely high temperatures can negatively affect flowering, it is important to maintain high levels of relative humidity within the canopy for pollination. If adequate moisture is available within the soil profile, this can be accomplished by speeding up pivots and applying smaller amounts of irrigation more frequently. In order to maximize yield and quality, it is important to keep up with the irrigation.

AgriLIFE EXTENSION
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Symptoms of chilling injury

Chilling injury symptoms include a swelling of the hypocotyl, curving or cork-screwing of the root and necrosis on the tip.

Peanut Situation (cont.)

Overall, the current peanut crop is off to a good start. Other than observations of marginal to poor stands and dying plants in some Valencia production fields, things have been relatively quiet. Several factors including seed quality can be attributed to poor stands or delayed emergence. The harsh growing conditions experienced last season negatively affected seed quality. Furthermore, the addition of other stresses such as cool soil temperatures, seed depth, herbicide residue and salinity may magnify any emergence or establishment issues. Taproots of many of the plants I have sampled from fields with stand problems exhibit symptoms of chilling injury, including a swollen hypocotyl, curving or cork-screwing of the root and necrosis on the tip. This can occur from dry seeds rapidly imbibing cool water, resulting in a stretching or rupturing of the root tissue, or by low temperatures slowing metabolism during root growth. Heavy rainfall shortly after planting was responsible for some seed settling deeper in the bed. Stand problems in some fields are more sever in areas with high amounts of caliche. Under such conditions, it is important to review the residual herbicides used the previous year. Low organic matter in conjunction with high pH and below average rainfall has been shown to lengthen the window in which damage to following crops can be observed. In addition, salt accumulation can become a problem in areas where winter rainfall needed to leach salts from the soil was lacking. The contamination of a irrigation source or well can also lead to severe salt damage and plant mortality. There are no curative treatments for salt accumulation. If salinity issues arise, it is recommended that more water be applied in a single irrigation event, so that salts may be leached from the rooting zone. Abundant rainfall is needed to correct salt accumulation.

"If salinity issues arise, it is recommended that more water be applied in a single irrigation event, so that salts may be leached from the rooting zone."

Salt damage on young peanut plants

As we look at setting this season's peanut crop, now is the time to assess nodulation and consider the need for supplemental fertilizer. Poorly inoculated fields will appear yellow 30-40 days after planting. Nodulation can be determined by using a shovel to uproot ten plants and counting the number of nodules per taproot. The inside of active nodules appear pink to dark red. Immature nodules will have a cream to white color and should be reassessed in 7 to 10 days; whereas, inactive nodules are gray to black and appear mushy as they degrade. An average of 15 nodules is adequate, less than 10 is marginal and less than five indicates poor nodulation. Low nodule counts may require the application supplemental nitrogen; therefore, soil tests may be required.

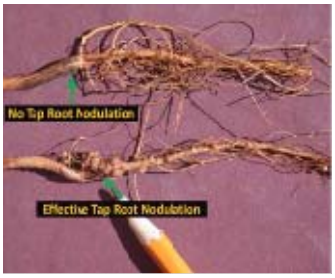


Photo credit: Calvin Trostle

Always follow test recommendations an avoid over-fertilizing. Limit side-dress nitrogen applications to less than 50 pounds per acre, as this may exacerbate soilborne disease issues, such as pod rot. **JW**

"Assess nodulation and consider the need for supplemental fertilizer."

Northwest Peanut Perspective

by Monti Vandiver

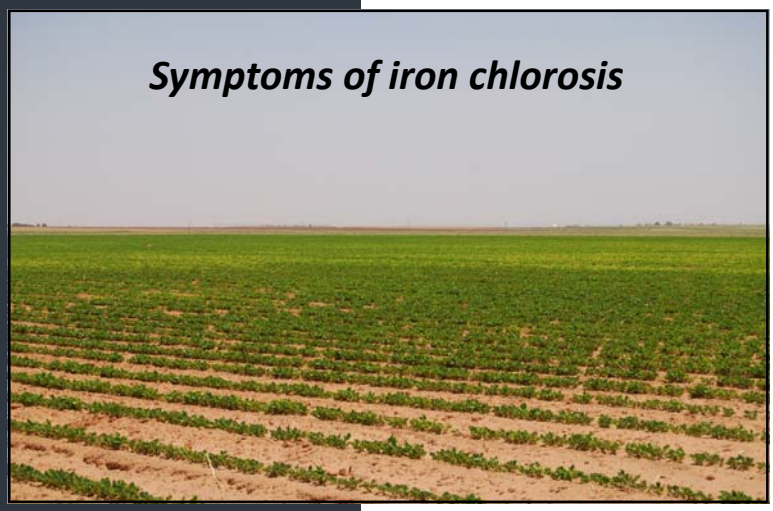
Here on the edge of peanut production our acreage has increased due to an attractive market and the need for an additional rotational crop. The current crop looks pretty good as a whole, but as with any average there are extremes. A few fields just don't seem to be growing off as well as expected. The Northwest Plains has not been blessed with a widespread soaking rain to supplement irrigation; even though irrigation systems are meeting moisture demands, rainfall certainly would bene-

"A few fields just don't seem to be growing off as well as expected."

Monti Vandiver

Extension Agent-IPM (Muleshoe)

water quality can become problematic as pumping capacity declines and peanuts are not very tolerant to salts. If peanuts are simply not doing well, and no other problems are noted, a simple water quality check might provide some insight.



Symptoms of iron chlorosis

Northwest Perspective (cont.)

Calcareous soils, whether entire fields or areas within fields, can cause issues as well. Soil pH greater than 7.5 really hampers the plants' ability to take-up micronutrients and in really high pH soils some of the macro nutrients as well. Irrigation water can come into play here as well, some water has been tested with a pH as high as 8.4. Some nutrients are effective when applied to foliage to correct a deficiency. Iron for instance can be applied to correct iron chlorosis, many times multiple applications may be necessary. Other micronutrients which have shown to provide benefit when applied in a foliar manner include zinc, manganese, and copper; many of the micro nutrient deficiency symptoms are similar so may require a bit of investigation to diagnose the root cause. Calcium is a very important nutrient in peanuts, but is not one that cannot be applied foliar in attempt to correct deficiencies. Calcium travels on a one way road, up the plant in the xylem; it

Mid-season Weed Control Options *by Peter Dotray*

"I have seen some exceptionally clean fields, likely from effective use of preplant burndown herbicides."

Peter Dotray

Weed Scientist (Lubbock)

Peanut fields seem to be off to a good start in 2012 and appear to be in better shape compared to 2011. We have had a few days of record high temperatures, but there have been breaks between these record-setting days. We are now into several days of triple digit temperatures and irrigation is in full swing. We have seen some good rainfall in places, but not all areas have been fortunate with help from Mother Nature. Most peanut fields have experienced hot, dry, and windy conditions in the early part of the 2012 growing season.

One of the most important "Keys to Success" in peanut production is effective early-season weed control. I have seen some exceptionally clean fields, likely from effective use of preplant burndown herbicides **(Gramoxone Inteon, Roundup)** and/or tillage before planting. Most fields received an application of **Prowl, Sonalan,** or **Treflan** preplant followed by incorporation (either mechanical or irrigation). Many growers also used **Valor** or **Dual Magnum (Parallel)** at planting and some even used **Gramoxone Inteon (Firestorm, Parazone)** early postemergence (from ground crack to 28

Weed Control (cont.)

"Success of preemergence herbicides is based on timely rainfall or overhead irrigation which is needed to effectively "activate" these herbicides. I have been very pleased with both Valor and Dual in 2012."

days after cracking). Success of preplant herbicides is largely based on thorough incorporation. Success of preemergence herbicides is based on timely rainfall or overhead irrigation which is needed to effectively "activate" these herbicides. I have been very pleased with both Valor and Dual in 2012. Their soil residual activity to date has been excellent! Valor has been excellent on Palmer amaranth (carelessweed), devil's-claw, and sunflower to date while Dual has been very effective on Palmer amaranth and yellow nutsedge. As good as control has been, I expect these herbicides will soon give way to new weed flushes, so be prepared with postemergence herbicides as needed in order to achieve full-season weed control.

Basagran, Cobra, and **Ultra Blazer** are options for use *early-* to *mid-postemergence* in peanut. Basagran has activity on common cocklebur, annual sunflowers, and yellow nutsedge, whereas, Ultra Blazer and Cobra are effective on Palmer amaranth, annual morningglory, and other annual broadleaf weeds. Weed size and "health" can significantly impact the efficacy of these "contact-type" herbicides. As weed size increases, the activity of these products will decrease. These herbicides do not have soil residual activity, so thorough spray coverage is important. **Storm**, a prepackaged mixture of Basagran and Ultra Blazer, may be used to control a wide range of small and actively growing annual broadleaf weeds. All of these herbicides need a spray additive (e.g. a crop oil concentrate) for maximum herbicidal activity.

Herbicide options to control grassy weeds include **Select, Arrow, Shadow** (both are generic Select) and **Poast Plus**.

Cadre, Impose (generic Cadre) and **Pursuit** have good activity on many annual broadleaf and grass weeds, and nutsedge. These herbicides have good foliar activity and also have activity through the soil. One of the major disadvantages of these herbicides having soil activity is the 18-month rotation restriction following application before cotton and grain sorghum may be planted. The development of weeds resistant to Cadre and Pursuit has increased concern across the peanut belt, and we have noticed more weed escapes following these herbicides in recent years. I have sprayed several areas with Cadre in 2012 and complete control of Palmer amaranth and devil's-claw was observed.

Peanut Disease Update *by Jason Woodward*

Fungi, such as *Aspergillus niger*, *Fusarium* spp., *Pythium* spp. and *Rhizoctonia solani* have been associated with a few of the plants obtained in fields exhibiting stand issues noted in the Current Peanut Situation section. However, these organisms appear to be secondary pests and not the main cause of the problems. Most fields that I have visited have reached final plant stands. As mentioned in the previous issue of Peanut Progress, peanut plants have a tremendous ability to compensate for lower plant densities. These results were obtained from studies utilizing Runner and Virginia market-types. I would expect that Spanish and Valencia types are also able to compensate to a lesser degree due to their upright growth habit. Studies are curently underway comparing the performance of all market-types under various seeding rates.


Symptoms of limb rot

A few samples have been processed, in which Rhizoctonia limb rot was identified. Limb rot is a disease we occasionally see in the High Plains. It is most common later in the season when vines are succulent, actively growing and lap. Limb rot is capable of affecting yield by weakening lateral branches, thus reducing pod development on the limbs, or by degrading pegs where pods will form. The disease can be characterized by the brown, circular lesions that form on diseased tissues. These lesions generally appear on plant parts that are in direct contact with the soil. Furthermore, they have a distinct bulls-eye appearance. There are several fungicides labeled for limb rot in peanut. The fungicides Abound and Convoy are routinely used for pod rot later in the season; whereas, triazole fungicides, such as Folicur are readily available in numerous formulations and relatively affordable. It is important to remain diligent in scouting for disease as the crop moves into bloom, pegging and pod set. Active scouting provides useful information needed to properly time fungicide applications.

"There are several fungicides labeled for limb rot in peanut."

Insect Update and Outlook *by Scott Russell*

Hot, dry weather tends to favor spider mites in a variety of crops. These conditions may also favor some foliage feeding caterpillars, specifically, beet armyworm. Beet armyworm egg lays have been observed in South Plains' cotton, but few larvae appear to be surviving. Infestations often start near field margins, weedy areas or on the windward side of the field. Spider mites are carried in the wind by a balloon of webbing. Infestations tent to reoccur in the same areas of a field from one year to the next as mites overwinter in crop residue. During hot, dry conditions, spider mites can complete their life cycle in as short as one week; females may live two to four weeks and are capable of laying several hundred eggs. In addition to hot, dry conditions, stressed plants and insecticide applica-


Signs of spider mites

Scott Russell

Extension Agent-IPM (Brownfield)

"Broad spectrum, non-specific insecticide applications, which kill beneficial insects, allow for a potential explosion of mite populations."

Insect Update

cations which kill beneficial insects (predators) allow for a potential explosion of the mite population.

There are several species of spider mites which can infest Texas peanuts. Spider mites have piercing and sucking mouth parts, kind of like a drinking straw. They feed by sucking the cell contents out of plants cells, which results in a "bleaching" or speckled appearance of the foliage. Mites usually inhabit the underside of leaves, but will move to the upper surface as the population's size increases. Usually these pests are kept in check by natural enemies; however their populations can out pace predators under favorable conditions. Spider mite damage in the field resembles wilting, or droughty plants from a distance. When you examine the foliage more closely, you find the speckling of the leaves which results from their feeding. Extensive feeding results in defoliation, a lack of pod filling and death of the peanut vines. These mites are 0.4 to 0.5 mm in size, so a hand lens is helpful when confirming their presence. There is no specific treatment threshold for spider mite infestations. One should consider the extent of the infestation, the growth stage of the cop, extend/potential of damage if mites are not controlled and the impact of control measures on beneficial insects and potential secondary pests. Before deciding to treat any spider mite infestation, take time to consider the impact of the insecticide application on beneficial insects and the potential for secondary pest out breaks. Removal of the beneficial insects and mites (some mite species are predators) will allow a release of minor pests which can become problematic. It is suggested that one monitor the mite infestation for several days to determine if it is increasing or if beneficial insects may be working to reduce the mite population. Registered products for controlling spider mites in peanuts include Danitol, Comite and Brigade. For rates of each product consult the current product label. Thorough coverage of the canopy is essential to control an infestation. Often it can take two applications to satisfactorily control spider mites, as labeled miticides do not kill mite eggs, only adults. If conditions favorable for the mites continue, eggs hatch and the population rebounds in just a few days, necessitating an additional chemical application. Spider mites are at a high risk of developing resistance to miticides, therefore judicious use is encouraged. Spider mites are tiny relatives of ticks. Look on the underside of leaves for the actual mites. Note the speckling of the leaf caused by the feeding of these mites. Heavy infestations of spider mites are capable of defoliating a peanut crop. If chemical treatment is required one must insure thorough coverage of the foliage.

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This newsletter is for you the producers and other members of the peanut industry. If you have any questions, comments or suggestions the newsletter please contact Jason Woodward

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