Peanut Pointers

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UNIVERSITY OF
GEORGIA
Peanut Team

Early Season Irrigation Considerations for Peanut Production

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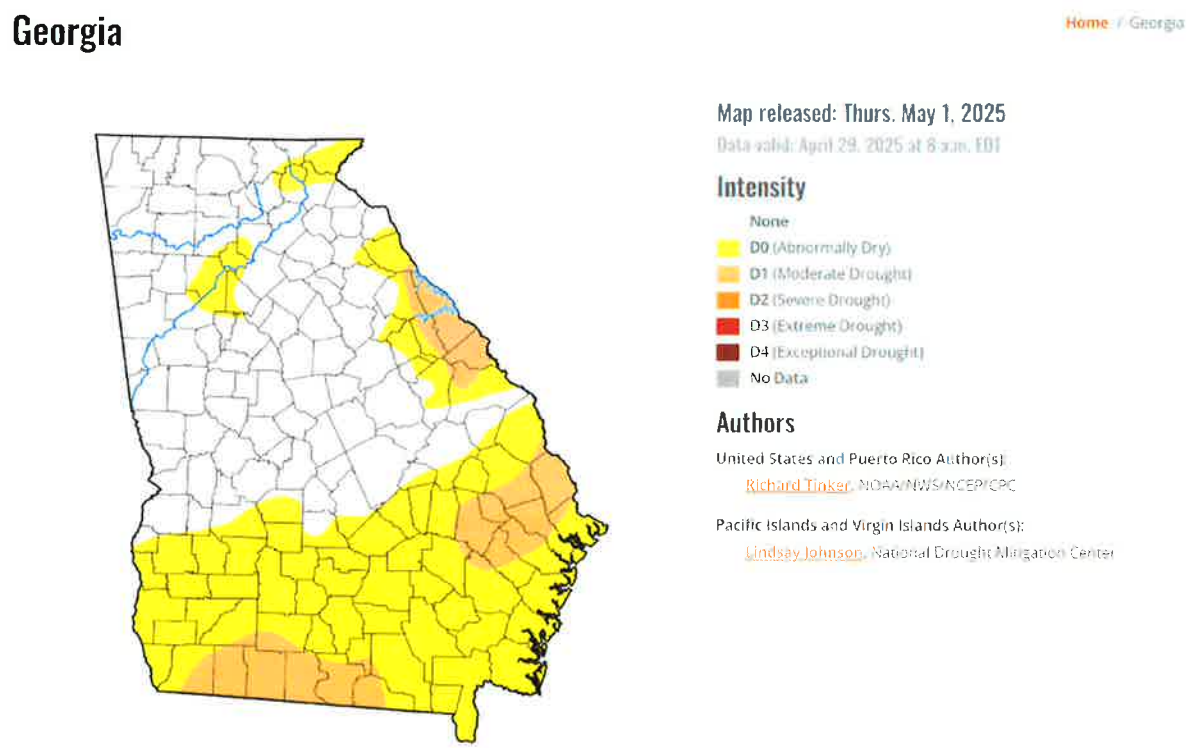
Most if not all peanuts in the state of Georgia should be planted during late April and into mid- May. Once the crop is in the ground it's time to start considering how to manage it, and specifically how to manage irrigation. Rainfall has been sporadic over the past few weeks. Because of this most of the state is now in an abnormally dry state, and portions have fallen into the moderate drought category. Careful consideration when planting should be utilized. Even though we have chances of rain predicted in the near-term forecast, there is no guarantee that they will be widespread and sufficient to alleviate the current southern drought levels. Thus, it is important that you monitor rainfall and current soil moisture during and after planting. Once the seed is in the ground it is critical to monitor soil moisture and make decisions on early season irrigation management.



There are many irrigation scheduling tools available to producers from the UGA Checkbook method to computer models and soil moisture sensors. Depending on your operation and what your irrigation capabilities are, one of or a combination of these methods may be a better fit than others. The simplest method is the UGA Checkbook method in Figure 1 below. UGA Extension has developed a quick and easy irrigation scheduling guide that is laminated and contains the four major row crops grown in Georgia. The guide can be downloaded at Irrigation Reference Guide for Corn, Cotton, Peanuts, and

Soybeans | UGA Cooperative Extension. Peanuts typically do not require a lot of water in the first month after planting as exhibited by the yellow box on the water use curve below. However, if it stays hot and dry you may need to apply a few small irrigation applications. It seems like each year farmers do not want to irrigate their peanuts during the first 40 days, but it is critical to watch the weather and irrigate if it turns hot and dry like it has in the past. The yellow box below represents the peanut water requirements for the first five weeks after planting. Track rainfall and temperature, your irrigation efficiency (typically around 65-70% for high pressure systems and 80-90% for low pressure systems) and make irrigation applications accordingly. Keep in mind that the water requirement below is irrigation plus rainfall, and the weekly water requirement recommendation was developed based on a historical average of evapotranspiration. So, your actual water/irrigation requirement may vary slightly based on weather conditions and rainfall during the growing season.

Additionally, if it stays dry and turns very hot, irrigation will most likely be needed during the first month after peanut planting. So, don't fall behind early during the season. In addition to early season irrigation, due to the depletion of soil moisture from heat and lack of rainfall, farmers may need to consider pre- and post- irrigating their fields to aid in promoting better seed germination during planting. It is advised not to irrigate after planting into hot dry soils, as the cooler water may shock the seeds. If irrigation is needed for germination, irrigate prior to and after planting. For a more in-depth irrigation recommendation it is suggested that you consider implementing either a computer scheduling model either online or via a Smartphone App, or soil moisture sensors. For more information about either of these contact your local county Extension Agent.

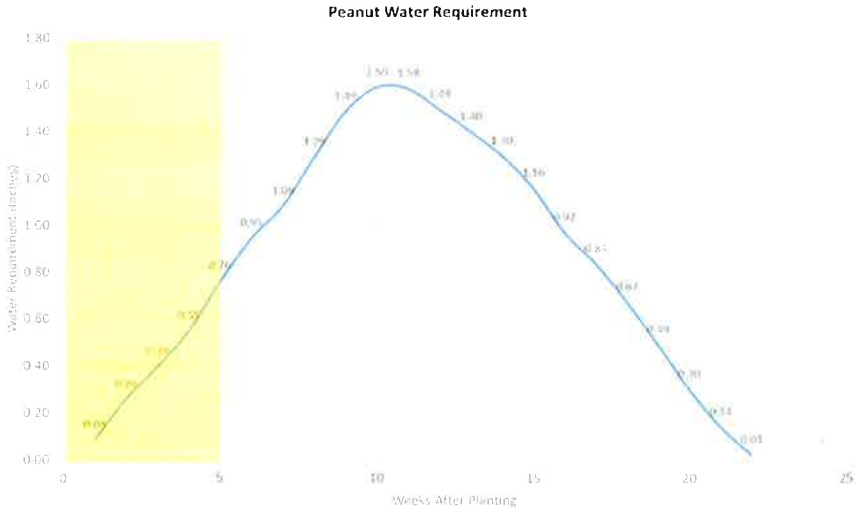


Figure 1. Seasonal Peanut Water Requirement.

For peanut farmers who utilize tools such as soil moisture sensors for irrigation scheduling, there are a few quick reminders to keep in mind. We tend to visualize the above ground plant biomass and forget what is growing below the surface. We can sometimes be guilty of placing a sensor in the row of peanuts and allowing it start logging data, making decisions from that data, and assuming everything is good to go. Unfortunately, we need to ensure we know what is going on in the field before we blindly start following the sensor. Based on when you planted certain fields peanuts may be spread in age by

several weeks while some are still in the bag, this is a good time to think about "weighting sensor depths" according to rooting depths.

Figure 2. Visual development of root development as the peanut plant progresses in age.

Adding rooting depths and plant needs in the equation creates the need for a formula for weighting sensor depths in your irrigation scheduling decision, an important factor throughout the growing season. Most sensors come with two or three depths that measure available moisture. Early in the season, we generally have cool nights and afternoon temps are "normally" around the low to mid 80s. The evaporation rate is low in comparison to the dry hot summer days and nights. The root profile for the first month develops shallow in the soil. These combinations of events reflect the plant water requirements, as shown in our UGA Checkbook method.

Moisture sensors generally default to an average of using sensors available on the probe for an irrigation trigger decision. This can provide false water needs for young peanut plants. For example, if a 16" depth is showing a dry reading and the 8" sensor is reading adequate moisture, the average will possibly trigger an irrigation event. If a peanut plant has just fully emerged and your root profile is in the 8"-10" range in this scenario, you do not need to irrigate. Now, considering the rooting depth let's weight the 8" sensor by an 80% value and the 16" sensor by 20%. Now since the average is weighted higher on the shallow sensor irrigation may not be needed. You should not begin to fully use deeper sensors for irrigation scheduling decisions until you see water use occurring at those depths. Weighting moisture sensors can be very beneficial but can be harmful if adjustments are not made during the growing season. If you are interested in weighting sensors, below are UGA Extension suggestions to consider for weighting sensors during the growing season:

D1 = shallow sensor D2 = middle sensor D3 = deepest sensor

- Early-Season: 80% * D1, 20% * D2, 0% * D3
- Early-Mid Season: 60% * D1, 30% * D2, 10% * D3
- Mid-Season: 50% * D1, 25% * D2, 25% * D3
- Late-Season: 40% * D1, 30% * D2, 30% * D3

Soil moisture sensors provide the most accurate means of monitoring available soil moisture. Monitoring the root zone and available moisture present is a great tool in irrigation scheduling. If you have further questions about irrigation requirements and scheduling on your peanuts reach out to your local UGA County Extension Agent.

May Peanut Pointers

Mark Abney

It is never too early to scout peanuts. There are a lot of things happening in peanut fields in the first few weeks after planting, and the only way to know what is going on out there is to go look. Assessing emergence/stands, checking on weed management, and scouting for pest insects are all important things to do as we work to get the 2025 crop off to a good start. The three primary insect issues that we see in May are thrips (everyone will have them), tobacco budworm (they have been sporadic in recent years), and lesser cornstalk borer (incidence and severity will depend on the weather).

Deciding whether to make a foliar insecticide application for thrips can be tricky. If there is no insecticide in the furrow, plan to spray acephate 14-17 days after planting. Usually fields treated with an in-furrow insecticide will not need additional thrips treatment. If a very water-soluble material like imidacloprid was placed in furrow, and heavy rains follow planting, a foliar application might be beneficial.

Scouting for caterpillars on seedling peanuts is pretty easy since there is not much foliage there for the insects to eat. A tobacco budworm infestation in the first 40 days after planting can cause severe defoliation. Even though we expect peanut to recover from early season defoliation, I would not let my peanuts get stripped. While in the field be sure to check for lesser cornstalk borers. This pest is much harder to find, but there are some scouting tips that can make it easier in fields with young peanut plants. Here is a YouTube video showing how to scout for early season LCB.

Disease and Nematode Management: As the Furrow is Closed

Bob Kemerait

There are four main considerations for in-furrow applications in a peanut crop in 2025 and the decision a grower makes, or doesn't make, can have season-long impact. Here are what I consider to be the Big 4 reasons for applications made in-furrow, much of which is important in my world of diseases and nematodes.

The first consideration is Rhizobium inoculant (Bradyrhizobium) to ensure that the peanut plants in the field are exposed to sufficient numbers of this nitrogen-fixing bacterium so as to have the root-nodulation needed to meet the nitrogen needs of the plant. We used to say that addition of inoculant is not needed if peanuts are planted at least once every three years in a field. While this still holds true, the use of inoculant as a matter of planting peanuts each year is seen as an "insurance" policy. Twenty-five years ago inoculants came in granule or powder form. Today most of our advanced formulations are liquids. Important to note, inoculants can be mixed or added to the open furrow with or at the same time as fungicides, nematicides, and insecticides without affecting efficacy of the inoculant.

2. Insecticides are applied in-furrow at-plant to manage thrips. As insects, management of thrips falls in the wheelhouse of Dr Abney. However, as thrips vector (transmit) the Tomato spotted wilt virus, they are important in my world as well. There are a number of products that can be effectively used in-furrow to manage thrips, to include Thimet, AgLogic 15G, Vydate CLV, and Imidicloprid. All of these products can be effective at managing thrips, I'll leave it to Dr Abney to rank them, but Thimet stands alone in reducing risk to tomato spotted wilt disease. This is not to say that in a single trial here or a single trial there other products haven't looked similar to Thinet. But over more than 25 years of research, Thimet and its active ingredient phorate, stand alone in reducing risk to spotted wilt. This has nothing to do with killing thrips and all to do with the serendipity that Thimet activates natural defense mechanisms in the peanut plant to "fight" the virus. Can growers get good control of spotted wilt disease without using Thimet? Of course the growers can, but they need to pay attention to other Peanut Rx factors, especially planting date and variety.

3. Peanut growers put products in-furrow to combat fungal diseases and to complement fungicide seed-treatments. In-furrow fungicides are most often added as additional firepower against Aspergillus crown rot and Rhizoctonia. Note that our current seed treatments are already fighting those and other diseases, to include Rhizopus seed rot. Peanut growers do not always need to complement the fungicide seed treatment with an in-furrow product. Several times this year I have asked you to ask the grower why he is using product "P" in-furrow. The common answer? "Bob, he says he has done it for years and is afraid to stop now." Here are my thoughts- 1) putting azoxystrobin (Quadris, Abound, etc) is appropriate IF cooler and wetter soils favor Rhizoctonia. 2) if a grower is especially concerned about Aspergillus crown rot for whatever reason, a reduced rate of Velum (3 fl oz/A) can help (but is not sufficient for nematodes or for skipping a first leaf spot spray). If a grower is worried about CBR then he should apply Proline (5.7 fl oz/A) in-furrow. Proline in-furrow may give some early-season control of white-mold, but is more effectively applied for early season white mold control as a concentrated band

2-3 weeks after planting. Applications of Thimet, Velum, Propulse, and Proline all reduce early season risk to leaf spot diseases. Use of Velum (6.8 fl oz/A) Proline (5.7 fl oz/A) and Propuse allows grower to skip the leaf spot fungicide application timed for 30 days after planting.

4. Nematicides are applied in-furrow to fight the peanut root-knot nematode. AgLogic goes out at 7 lb/A and requires sufficient soil moisture for activation. Velum goes out at 6.8 fl oz/A and Vydate CLV goes out at 34 fl oz/A. Outreach, a new biological product from Valent is also available. Where root-knot nematodes punish peanuts in SW District, none of these products come close to protecting a peanut crop like planting a root-knot nematode resistant variety does

The time from when the furrow is closed until approximately 30 days after planting is a relatively quiet period in terms of disease management needs for peanut growers. Once the furrow as closed, growers have made significant decisions that impact risk to seedling diseases, Cylindrocladium black rot, tomato spotted wilt disease, and root-knot nematodes. Approximately 30-45 days after planting, growers begin treatment for leaf spot diseases. From 45 to 60 days after planting, growers should continue protecting the crop from leaf spot diseases, begin protecting the crop from white mold, and perhaps add additional treatment for nematodes.

Though a grower's attention is generally diverted to other critical needs and away from fungicides for the first 30 to 35 days after planting, there are still disease issues that deserve consideration. Aspergillus crown rot can severely affect stand, especially when conditions are hot and dry or in the presence of lesser corn stalk borers. There is little that can be done to protect against this disease after planting, other than to pray for rain or to use irrigation to cool the soils. Still, noting the impact of crown rot on this crop of peanuts can help to make improved decisions in the next peanut crop.

Further notes on Aspergillus crown rot. 1) cooler, moist soils reduce the threat from Aspergillus crown rot on peanuts. Aspergillus crown rot is most likely problematic on saved seed, on seed with inadequate seed treatments, or when conditions are very hot and dry early in the season. The hot soil scalds the tender tissue near the crown of the plant, allowing disease to occur. Steps to manage this disease include 1) planting high quality seed with effective seed treatment, 2) use of fluopyram (Velum or Propulse) in-furrow when risk is high, 3) timely irrigation to cool soils, and 4) management of lesser corn stalk borers.

When conditions are unusually warm during the first month after planting, Sclerotium rolfsii, the fungus that causes white mold, can become active and begin to attack the taproot and lower stem of young peanut plants. Banded applications of the fungicide prothioconazole (Proline) between 3 to 5 weeks after planting followed by irrigation can prove to be very beneficial in slowing the development of early-season white mold epidemics.

Though leaf spot treatments typically do not begin until at least 30 days after planting, growers who have applied Thimet for control of thrips and tomato spotted wilt and Velum for nematode control have already begun to fight leaf spot. Both use of Thimet and Velum in-furrow at planting can delay onset of leaf spot disease. Use of Velum allows growers to initiate fungicides for leaf spot management until 40-45 days after planting. While use of Thimet does delay the development of leaf spot early in the season,

UGA Extension recommends that this benefit be considered additive and not strong enough alone to delay the start of a fungicide program.

During the first 30 days following planting, growers are encouraged to carefully consider the fungicide program that they will use throughout the remainder of the season. Peanut Rx (www.peanutrx.org) is a powerful tool to aide in the development of fungicide programs.

Though the first 30 days after planting are relatively quiet with regards to disease management needs, this is a period where a grower can lay a solid foundation for successful management of diseases throughout the remainder of the season.