

# Stripling Irrigation Research Park

August 2020



Soybean blooms in Vellidis/Liakos  
research plots.

## This Month

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UNIVERSITY OF  
**GEORGIA**

College of Agricultural &  
Environmental Sciences

C.M. STRIPLING IRRIGATION  
RESEARCH PARK

# From the Superintendent

The hard working staff at Stripling Park (BJ, Mandy & Kyle) was very busy in July with all kinds of field activities, including fertigrating cotton, applying gypsum (calcium) to peanuts, spraying cotton with herbicides, PGR, and insecticides, spraying fungicides on peanuts, spraying insecticides on soybeans (for kudzu bugs), spraying alleys, preparing plot land for 'ultra late' soybean study, and mowing non-cropped areas/grass. I should also mention that Candace keeps the office running smooth and Martha does a great job as our p/t custodian.

Did I mention we also were VERY busy irrigating! Why, you ask? During July we received only 4.28 inches of rainfall (over 10 events) as we were finishing the corn crop and our cotton, peanut and soybean crops were reaching maximum water use stages. This means we were irrigating various plots essentially every day. Our July electricity bill reflects a hefty amount of pumping! We've also been enduring some hot and humid days with highs in July ranging from 98.8 to 86.6. Early August has been even warmer.

With the 4.28 inches of rainfall in July, this puts us at 31.36 inches for 2020. However, during the crucial May through July time frame, we've only received 8.49 inches. Again, this means we've been doing some hefty irrigation. But – that's what we're made for!

With the Covid-19 restrictions continuing, visitors to SIRP have been necessarily few and far between. We had Alex Nichols, Emergency Operations Coordinator with the UGA Office of Emergency Preparedness, come down and provide us with 2 "stop the bleed" emergency kits and associated training. We also hosted the 4-H Tri-State Crop Scouting School. Normally, this 3 day activity includes 30-40 4-Hers from Alabama, Florida and Georgia. This year, it only included 13 Georgia 4-Hers from Mitchell and Seminole counties. The organizers got approval to conduct the activity and took all pertinent precautions. The chaperones/advisors included Brian Hayes (Mitchell Co.), Andrew Warner (Wilkes Co.), Cindy Meadows (Seminole Co.) and Reid Miller (Hart Co.). Cale Cloud, BJ, Mandy and myself educated the youth on irrigation, sensors, crop water use, aquifers, etc.

You may have noticed that the FL v GA Supreme Court case has been back in the news. Florida's attorneys filed a brief with the Court on July 27<sup>th</sup>. They are asking the justices to take another crack at hearing their side of the case against Georgia. The state of Georgia, of course, wants the court to accept Special Master Paul Kelly's recommendation in Georgia's favor. Florida just announced a ban on oyster harvesting in Apalachicola Bay.

Finally, I'd like to point you to SIRP's new website. All 7 of the Research & Education centers across the state are working hard to update their web content. We certainly are trying to do this. Our college created a very nice intro video for our REC and it's featured prominently on our website. Also on the website, near the bottom right, in a bright red banner, is a "Donate Now" button. If you would like to make a donation to our College and have the donation directly help our facility, please take advantage of this opportunity. Any donation, large or small, would be greatly appreciated.

The website is at <https://striplingpark.caes.uga.edu/>.



Calvin Perry

# Smart Irrigation Month

As I mentioned last month, July is Smart Irrigation Month. I sent out some tips during July related to increasing irrigation efficiency.

Tip #1 – Center pivot sprinkler heads/nozzles have a finite lifespan (typically 7-10 years). Verify your center pivot is applying water uniformly by having a “catch can” test performed, fix leaks, and replace worn nozzles. Nelson, Senninger and Komet offer several types and models of sprinklers to fit your specific needs. Contact USDA-NRCS (thru local office) or your local UGA Extension office ([extension.uga.edu](http://extension.uga.edu)) for assistance with a uniformity test.

Here’s a link to a UGA extension publication on uniformity:

<http://extension.uga.edu/publications/detail.cfm?number=C911>

Tip #2 – A quick way to increase the efficiency of an ag irrigation system is to repair all leaks, including missing/broken sprinklers, on the center pivot or other type system as soon as you notice them. Buried pipes seldom leak. However, above ground pipes frequently have worn gaskets and considerable amounts of water (up to 30%) can be lost before it gets to the actual discharge point (sprinkler). Replace broken or missing sprinklers, leaking gaskets, boots, etc. and repair any holes in the pipes.

Tip #3 – Consider switching from high pressure impact-type sprinklers to low pressure spray-type sprinklers on your center pivot for highest efficiency. Why? - Losses from wind drift and/or evaporation will be decreased so more of your pumped water will reach the plants’ roots for beneficial use.

Tip #4 – Increase center pivot efficiency by making sure your end gun and end gun controls are working properly. While an end gun can add wetted area inexpensively, the control system (electronics, wiring, valves, booster pump, angle setting, etc.) can fail causing the end gun to either not apply water or apply water incorrectly, often to non-cropped areas. Applying to non-cropped areas is certainly ‘inefficient’. Also, when water is applied to public roads, a potentially hazardous situation can be created with associated liability issues.

Here’s 2 blog posts covering end guns and end gun controls:

<https://www.smartirrigationgeorgia.com/features/benefits-of-end-guns-shutoff>

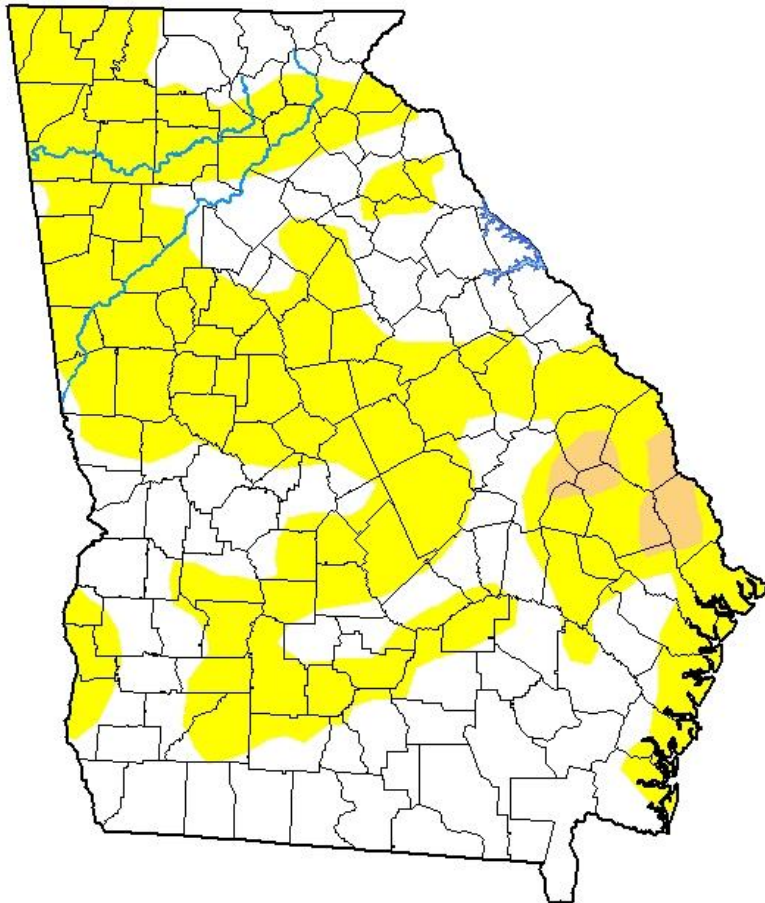
<https://www.smartirrigationgeorgia.com/features/importance-of-end-gun-settings>



# Drought Conditions

## U.S. Drought Monitor Georgia

**July 28, 2020**  
(Released Thursday, Jul. 30, 2020)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	47.47	52.53	1.98	0.00	0.00	0.00
<b>Last Week</b> 07-21-2020	73.05	26.95	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> 04-28-2020	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Calendar Year</b> 12-31-2019	96.00	4.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> 10-01-2019	0.00	100.00	61.58	28.35	4.49	0.00
<b>One Year Ago</b> 07-30-2019	76.37	23.63	4.25	0.05	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

Author:

Richard Heim  
NCEI/NOAA



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

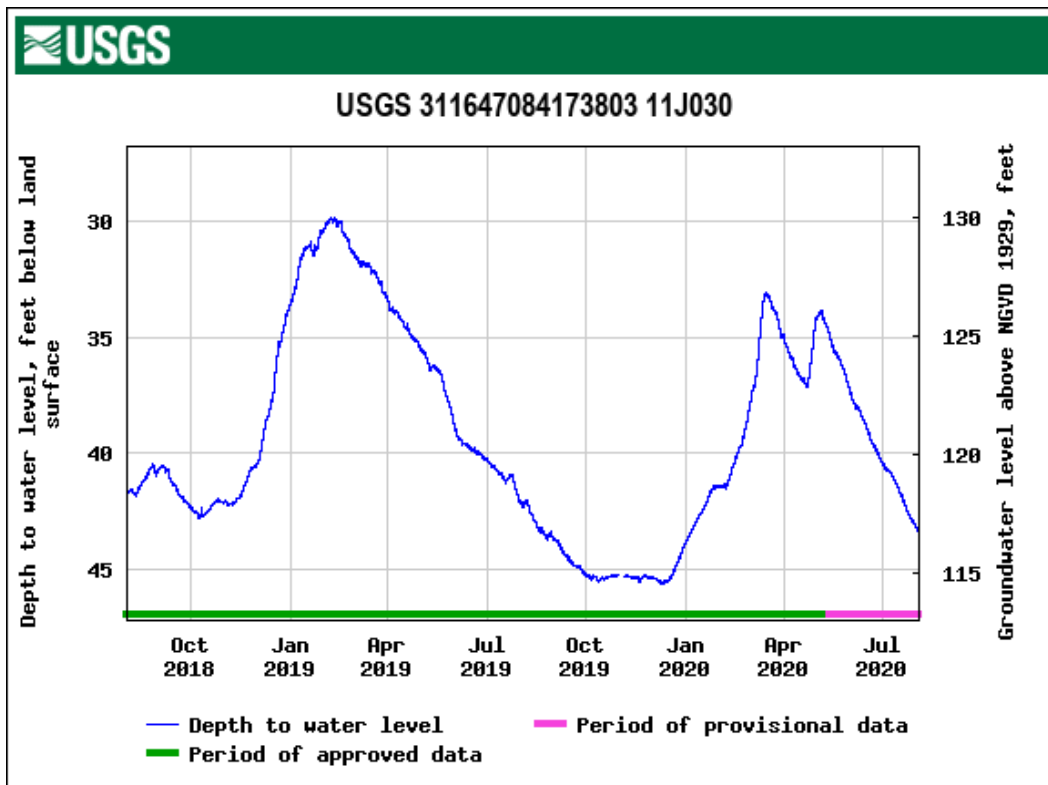
Drought Monitor map for Georgia as of July 28th. My how conditions have changed from last month! Currently, 52.53% of the state of Georgia is considered in Abnormally Dry status and 1.98% is in Moderate Drought conditions. Notice where we are in Mitchell County is considered Abnormally Dry. We concur!

For more info:

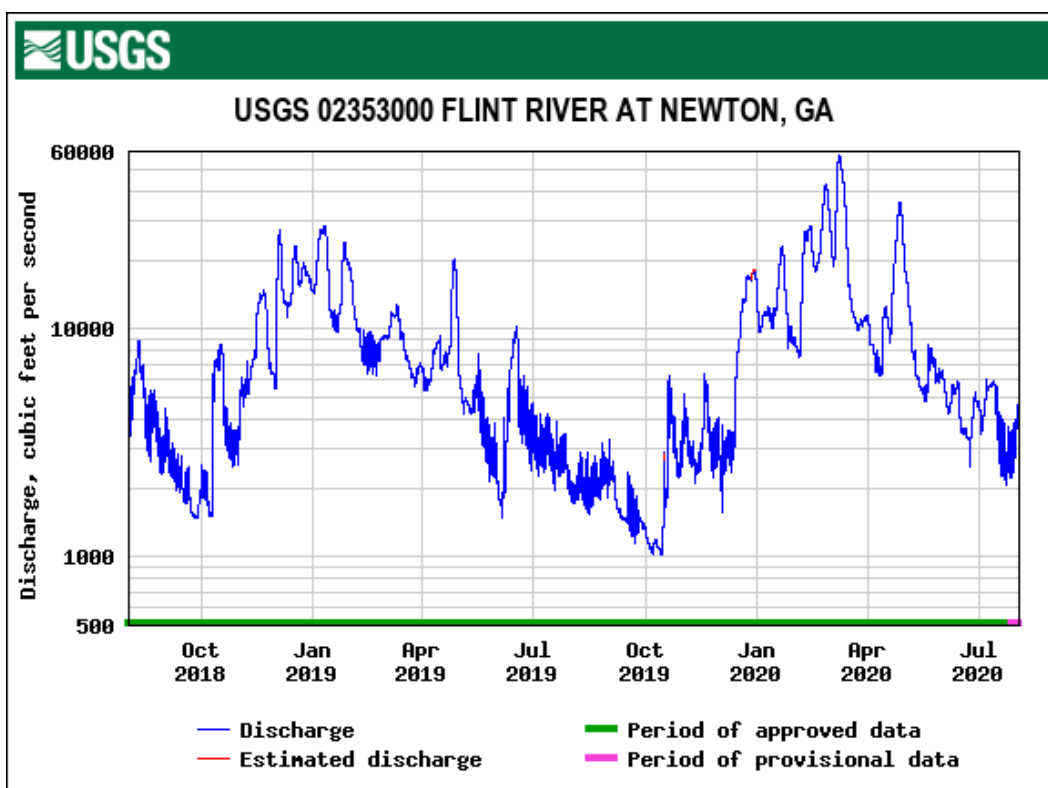
<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?>

[GA](#)

# Water Resources



Above and below - USGS data for the past 2 years for a groundwater monitoring well here at SIRP in Floridan aquifer (it was installed in 2018) and stream gage on the Flint River at Newton.



# Cotton Irrigation

## Cotton Irrigation Considerations for August David Hall, Cale Cloud, Wesley Porter

Up to the end of July the environmental conditions across the state have been brutal the past couple of weeks due to heat and dry weather. Unfortunately, if your crop was planted in May, the stress of adverse weather could not have occurred at a worse time because most cotton planted during May is in peak bloom right now. This means the crop is somewhere between 8 to 12 weeks after planting (assuming a May 1 to June 1 planting date). This puts us at the peak water use period. Hopefully, you were able to meet the water needs of your cotton fields during that critical peak water demand time frame.

We have been ramping up water demand to this year's peak demand in cotton. Even though perhaps peak water demand may be past if the crop was planted during late April or early May, we cannot get behind on irrigation during bloom. Over the next month, keeping up with the water requirements is very important. The water demand will be lowering as we move on into the season, but it is still critical to have adequate soil moisture during the entire period of bloom.

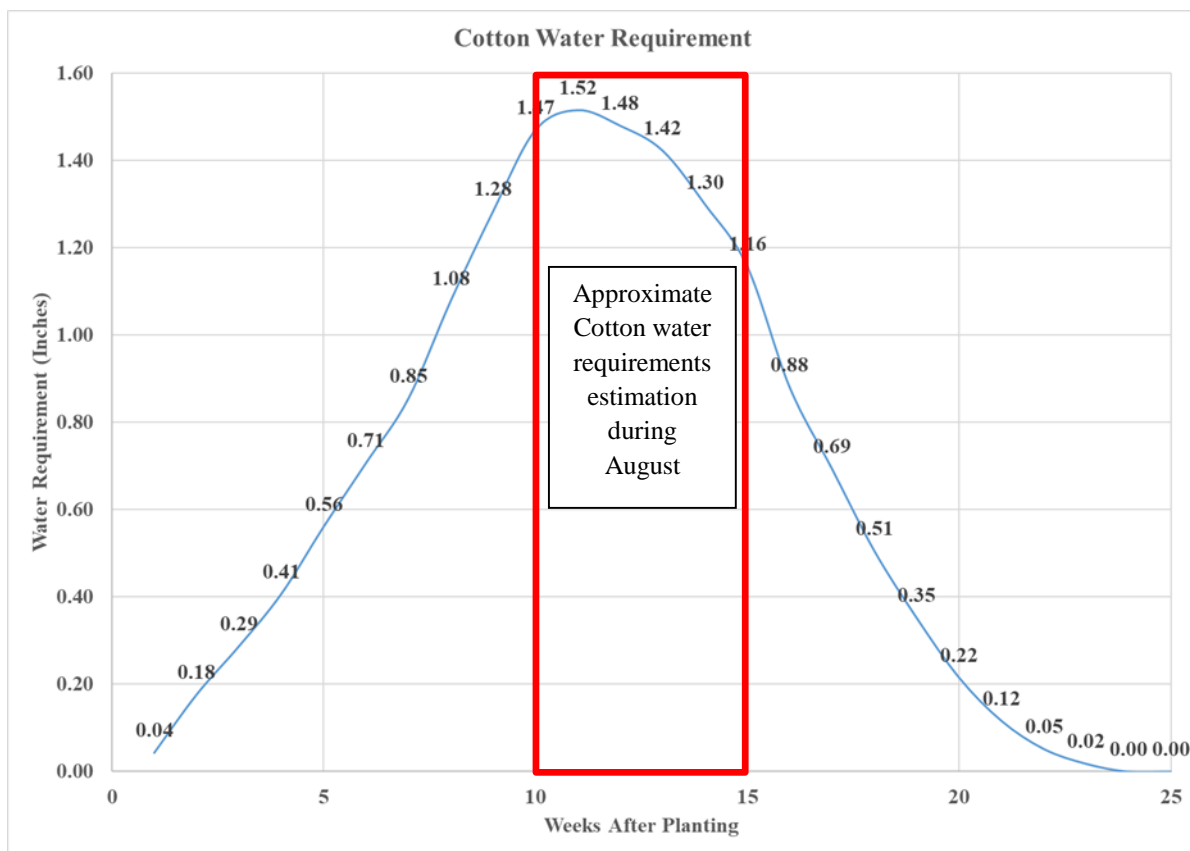
Based on planting date, the weekly water requirement of the crop can range between about 1.0 to 1.5 inches per week based on the UGA Extension checkbook method for cotton. Please keep in mind the weather conditions and how much of an impact they can have on water requirements. In other words, the checkbook method is there to give you a reference to go on, but should not be used for the final decision. We are entering the tropical storm season and have opportunities for large rain events and even some hit or miss showers. Some days can be of intense heat with low humidity, leading to high evapotranspiration rates and cause the need for more water than recommended for that week. Conversely, we can receive hot days with very high humidity and overcast conditions which will mean the plant is still using water but the evaporation rate is very low. Plus, with a good canopy closure the ground is shaded well.

It's really amazing to see crop water use through moisture sensors. The graphical representations of plant water demand and environmental conditions can be an eye opening experience to witness throughout a growing season. If you don't have access to moisture sensors, walking your fields with a shovel or soil probe to investigate available moisture is highly recommended. Again, the checkbook method is just one tool of many tools that can be used to assist in scheduling irrigation.

# Cotton Irrigation

Chemigation through pivots may not be for everyone but with possible insect pressure and many acres to cover, this practice may prove timesaving and effective. Remember, read the label to ensure the pesticide is approved for chemigation. Also, run the pivot at 100 percent to apply the least amount of water while chemigating. If your system can not apply .1 of an inch or less per revolution, chemigation is out of the question. Remember the goal of chemigation is to apply chemical to the foliage of the plant, not the soil. This also means that a chemigation event cannot accurately and validly be counted as an irrigation application.

If you are considering fertigation, using the pivot that is perfectly fine. However, keep in mind that the goal in fertigation is to get the fertilizer to the soil and into the top few inches of the soil. Ensure that you are applying the water at a rate to accomplish this, not to leave water and fertilizer on the crop canopy, and not to cause runoff or leaching of the nutrients.



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Wesley Porter, UGA Crop & Soil Science, Associate Professor ([wporter@uga.edu](mailto:wporter@uga.edu))

# At the Park



Above: Kyle working on Newton lateral sprinklers.  
Below: B.J. spraying alleys in FF-South soybeans.





# At the Park



Above: Cale & Calvin installed a soil moisture sensor in VRI peanuts.  
Below: Lola working in the FF-N cotton field.



# At the Park



Above: B.J. spraying layby herbicides in the NLM cotton.  
Below: B.J. & Kyle repairing leak in Pine SDI field.



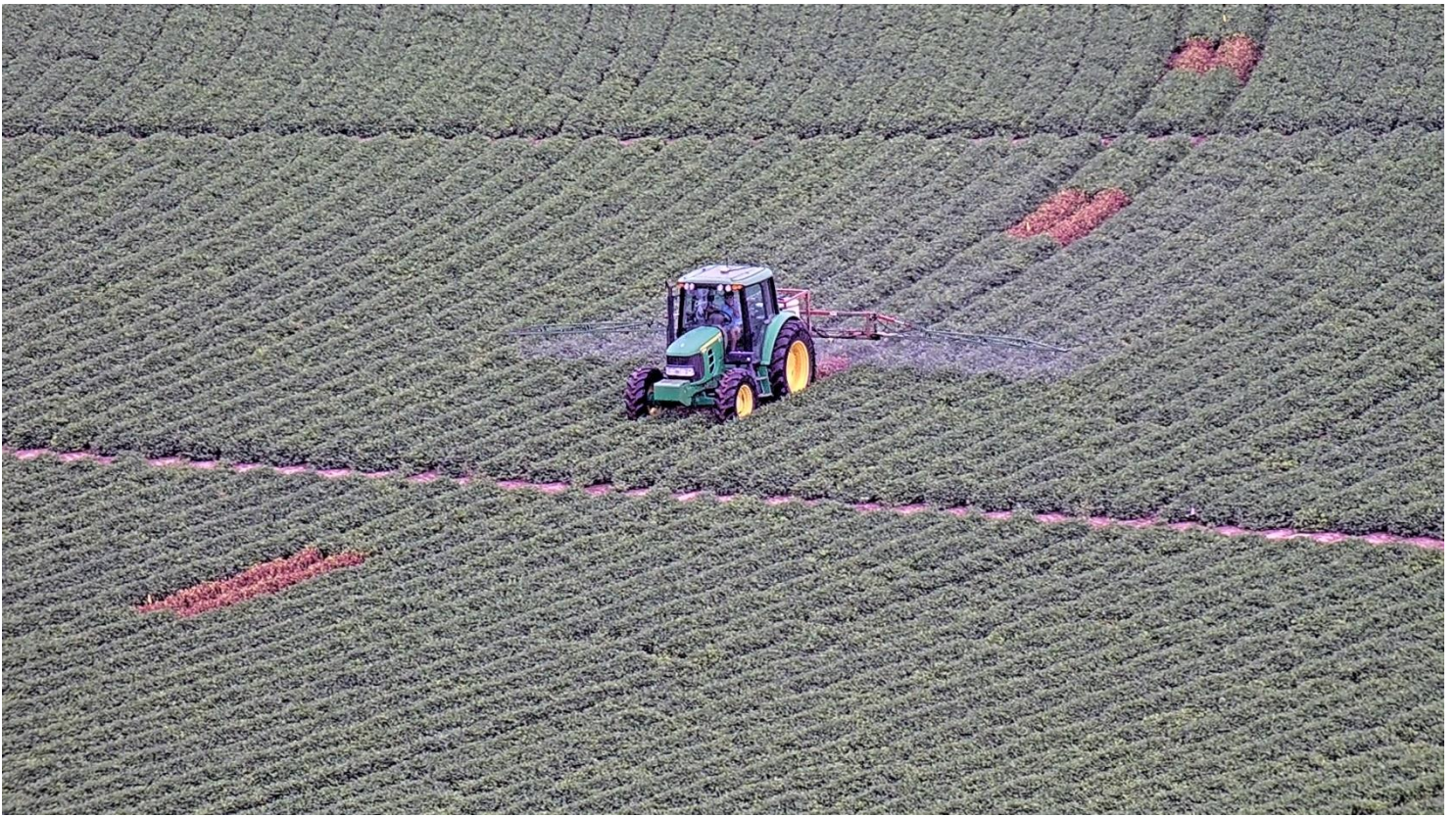
# At the Park



Above: Lateral systems irrigating plots.  
Below: Almost ready to harvest the corn...



# At the Park



Above: Spraying fungicide in the VRI peanuts.  
Below: Irrigate... Irrigate... Irrigate!



# At the Park



Above: B.J. harvesting corn in the Lindsay lateral field.  
Below: SWVT crew planting ultra-late soybeans in VRI.



# Events

## Past events

## Upcoming events

All events have been cancelled or delayed until further notice due to the COVID-19 virus.

We hope that everyone is practicing 'Social Distancing', and that you all stay safe, happy and healthy!

# In the News

[Rural Georgia's back-to-school blues: COVID-19 spreads fast, internet's slow](#)

[Rural SW Ga. hospital plans October closure; COVID was the last straw](#)

[Water is the heartbeat of Georgia](#)

[End Gun Shutoff](#)

[End Gun Settings](#)

[Recent Dry Weather Causes Issues for Cotton, Peanuts](#)

[Would you give up yield to boost natural defenses?](#)

[How Cargill's new science-based water targets go with the flow](#)

[Florida lawyers: Lack of relief in water wars could 'spell doom'](#)

[Florida blocks oyster harvesting as court mulls Georgia water case](#)

[https://www.supremecourt.gov/DocketPDF/22/220142/148761/20200727145821128\\_2020-07-27%20Sur-Reply%20to%20Florida%20Exceptions%20No.%20142.pdf](https://www.supremecourt.gov/DocketPDF/22/220142/148761/20200727145821128_2020-07-27%20Sur-Reply%20to%20Florida%20Exceptions%20No.%20142.pdf)

[Space to grow, or grow in space—how vertical farms could be ready to take-off](#)

[New satellite-based algorithm pinpoints crop water use](#)

[THIS HIGH-TECH FARM IS MANAGED BY A TEAM OF PESTICIDE-DISAVOWING ROBOTS](#)

[Efficient Irrigation is Critical to the Future of Farming](#)

[WATER FOR TOMORROW](#)

[Georgia Cotton: Increased Whitefly Pressure a Concern](#)

[Shoot for accuracy in zone mapping, soil sampling](#)

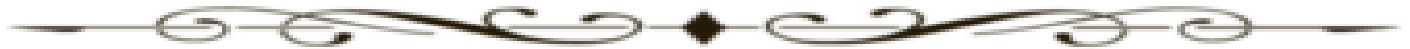
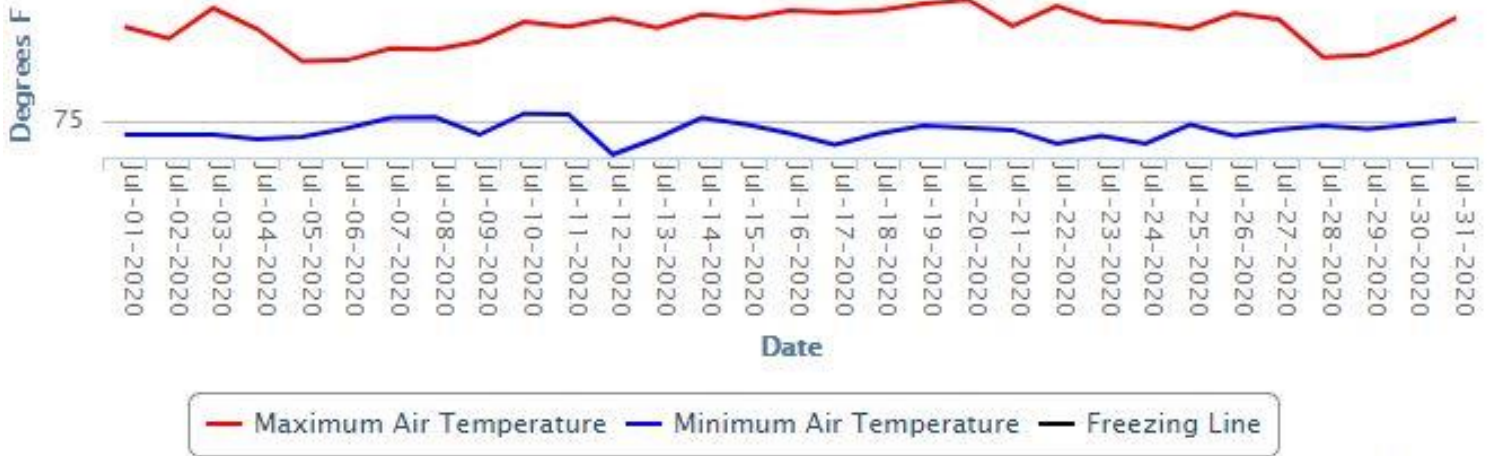
[Sunbelt Ag Expo suspends plan for annual show](#)

[Georgia Cotton, Peanuts: Late July Irrigation Considerations](#)

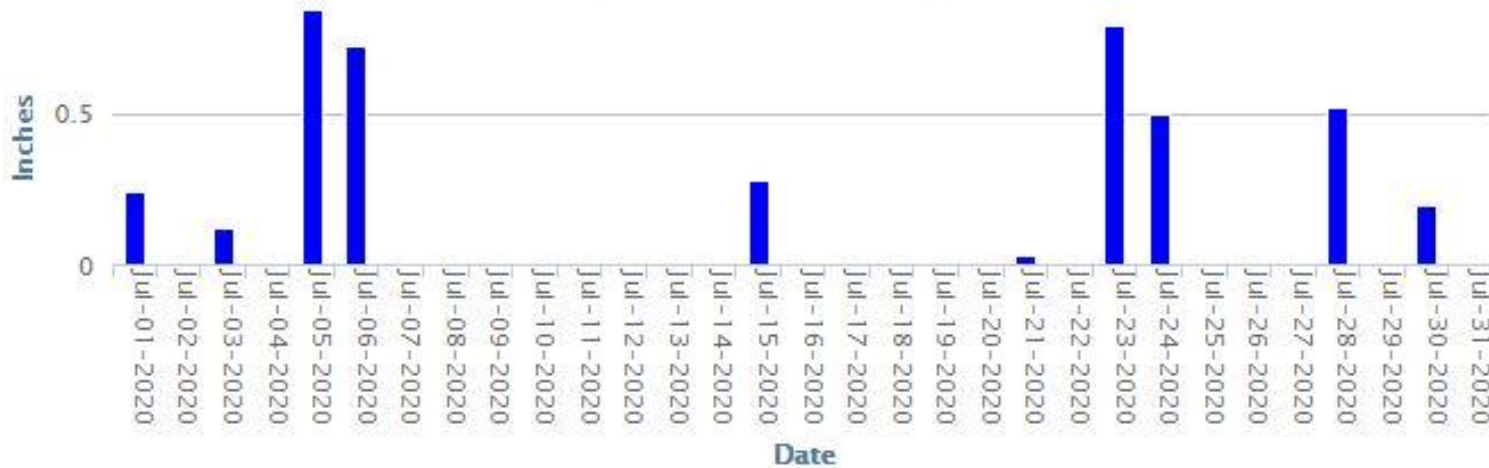
[Georgia: Disease Pressure Increasing in Most Crops](#)

# SIRP Weather

## Maximum Temperature, Minimum Temperature



## Daily Cumulative Rainfall



For July, SIRP had 4.28 inches of rainfall, compared to 2.18 inches in June, 2.03 inches in May, and 9.10 inches in April.

To explore weather information, visit [www.georgiaweather.net](http://www.georgiaweather.net).



# Contact Information

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**UNIVERSITY OF GEORGIA**

### Trivia:

How many heads of executive departments make up the president's cabinet - 10, 15, or 25?

Answer: 15 + VP  
The Cabinet includes the Vice President and the heads of 15 executive departments — the Secretaries of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, Interior, Labor, State, Transportation, Treasury, and Veterans Affairs, as well as the Attorney General.