



UNIVERSITY OF GEORGIA EXTENSION

September 2022

SOUTHEAST GEORGIA PECAN UPDATE

2022 Pecan Crop

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We have another large pecan crop across the state. Growers in Southeast Georgia tell me most all varieties they manage have a good crop load. The only exceptions are varieties that tend to alternate more. Those varieties may have produced heavy last year and not this season.

Our crop may reach well over 100 million pounds this year. In 2021, it was evident that Georgia's total numbers will increase thanks to the newly planted acres coming into production. The final yield totals for 2021 was 79 million pounds. Keep in mind 2021 was considered an off-year. Our 2022 crop could reach numbers similar to 2020.

These numbers also represent newly planted acres following Hurricane Michael. Georgia dropped to about 140,000 acres after the hurricane. Counting acres replanted and new acres planted since the hurricane, Georgia is at about 200,000 pecan acres.

With a large crop and the reduction of our traditional export markets, we are naturally concerned about prices. There are a few points of optimism that should be recognized. First, early contracts for 'Pawnee' have been good. Second, data from American Pecan Council shows a 32% increase in domestic consumption since 2016. With the market shifting away from our traditional export markets, we will rely much more on our domestic market. This means a few things moving forward.

Because the domestic market is a shelled market, we will continue to see a shift in varieties consisting of large nut with a thinner shell. I would consider this to be a significant factor in variety selection moving forward. Varieties such as 'Avalon', 'Byrd', 'Caddo', 'Creek', 'Morrill', 'Oconee', 'Pawnee', 'Sumner', 'Tanner', 'Whiddon' and 'Zinner' fit this category. There is also one other factor to keep in mind, however.

A recent report by Dr. Wells shows our cost of production on high input varieties increasing to \$1,800.00 per acre. As input costs continue to increase, low-input varieties should be an equal consideration. This means high-input varieties such as 'Byrd', 'Morrill', 'Pawnee', as well as 'Caddo', 'Tanner' and 'Whiddon' should be managed in high density plantings. Traditional spacings of these varieties will cost too much to produce. Data from the low-input trial at the UGA Ponder Farm over three years show 'Lakota' to average \$3,000 per acre net return at \$1.99/pound. 'Avalon' data has not been collected inside the low-input trial, but as a low-input variety, it remains a high producer with characteristics of a good shelled variety. The key moving forward continues to be low-input varieties as well as varieties characteristic to a domestic market.



Figure 1. This photo of Summers was taken by David Curry in Emanuel County on August 15th.

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Hedging and Water

Hedging pecan trees in Georgia provides increased nut quality, enhanced spray coverage, reduced alternate bearing and reduction in wind damage. The increase in nut size and quality may be due to increased water efficiency. As a matter of fact, pecans are relatively inefficient compared to other species when it comes to water use. First, they require a large amount of water to support fruit production. Second, they have a high tolerance for heat.

Pecans leaves can photosynthesize up to 106 F. Most plants cannot function above 94 F in which the leaves “shut down” and respiration and photosynthesis ceases. As long as there is soil moisture, pecans leaves can function. This high tolerance for heat is the reason for its high water demand. What if the tree has less branches and total area to move this water? Can pecans use less water if they are hedged?

At the GPGA Field Day, Dr. Wells showed a trial in which we are testing this theory. Cape Fear trees were hedged in January on one side. One tree receives full capacity irrigation (100%), one tree receives half capacity of irrigation (50%) and the last tree receives no water. In Montgomery County, we are replicating the trial as well.

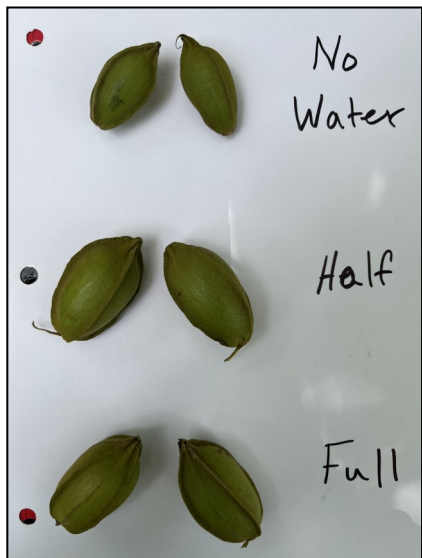


Figure 2. Nut size from Montgomery County trial on 8/05/22. A clear difference is seen in the non-irrigated and irrigated.

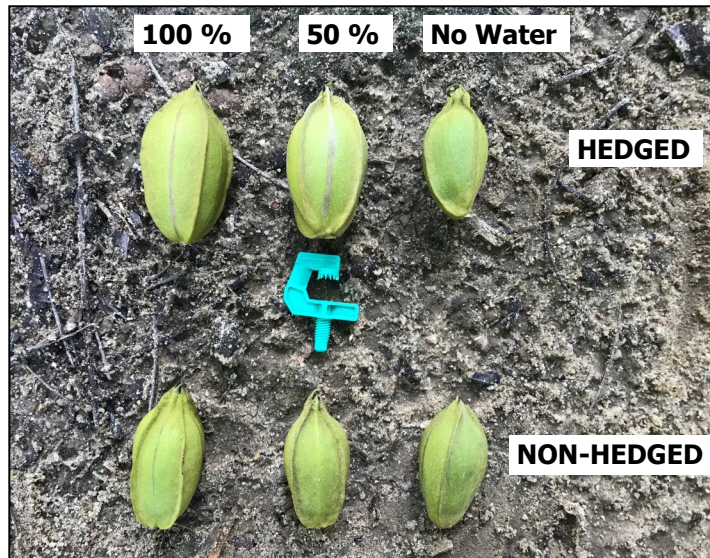


Figure 3. Nut size from Ponder Farm trial on 7/25/22. In this trial, hedged and non-hedged are compared with no irrigation, half and full irrigation.

Each week stem water potential data is taken and soil moisture measurements are taken from the trees. Stem water potential is essentially the ability of the tree to move water through its vascular system. The higher the number, the more stressed the tree. We will continue this work a few years to separate what the data is showing us in 2022.

Hedging Treatment	Irrigation Treatment	Mean Stem Water Potential (psi) June 3rd—July 29, Ponder Farm
Hedged	Full Rate (100%)	87.6
Hedged	Half Rate (50%)	99.81
Hedged	Non-Irrigated	109.8
Non-Hedged	Full Rate (100%)	96.3
Non-Hedged	Half Rate (50%)	104.6
Non-Hedged	Non-Irrigated	119.8

Table 1. Mean stem water potential at the Ponder Farm in Ty Ty, GA.

Controlling Bermudagrass in Newly Planted Orchards

By John Bennett, Wilcox County Ag Agent



Figure 4. RoundUp application in the foreground with a control (non-sprayed) plot right behind.

Wilcox County is home to over 1,500 acres of pecan orchards in commercial production. Annually, we are seeing an increase in land use being converted to more commercial pecan production. For newly planted trees, weed control and irrigation are the two primary management issues. Orchards planted in old pastures, hay fields, or areas where bermudagrass is common can see significant competition between this weed pest and young pecan trees.

Bermudagrass is a complex weed to manage. Due to bermudagrass spreading by the production of rhizomes, we are limited to post-emergent herbicides for control. Therefore, timeliness of post emergent herbicide applications is key for successful control. The most effective time for control of a perennial weed like bermudagrass is late season, generally during September or October. During this time, bermudagrass is transporting photosynthate to its roots for dormancy which increases the ability of the plant to translocate herbicides towards the roots.

To test this theory, we set up a simple test during late September of 2021 in a four-year-old pecan orchard that planted in a bermudagrass pasture. We utilized four post-emergent herbicides and applied them at their maximum labeled rates (Table 2). I used non-ionic surfactants at a rate of 10 gallons of spray solution per acre each graminicide. Andrew Sawyer and I rated each plot at 21 and 30 days after treatment for results. UGA Extension Weed Scientist Dr. Eric Prostko ran data on his software.

Overall, the greatest level of control came from RoundUp (*glyphosate*) with 100% control of bermudagrass 30 days after application. Fusilade (*fluazifop*) did improve in bermudagrass control from the 21 day to 30 day rating, but remained less than 70% effective. Poast (*sethoxydim*) and Select (*clethodim*) both provided the least amount of control with 33% and 23 % efficacy respectively.

Keep in mind that Select can only be used under *non-bearing* trees. It is important to use either crop oil or non-ionic surfactants with graminicides as recommended by the label. To aid in tree growth and survival, maintain a 7 foot weed free diameter around newly planted trees. We followed this study in 2022 by experimenting with different herbicide programs for bermudagrass control. In this year's study we observed both the number herbicide applications along with different program options for control.

Treatment	Rate per Acre	Overall Weed Control 10/22/21	Overall Weed Control 11/2/21	Bermudagrass Control 10/22/21	Bermudagrass Control 11/2/21
Control	—	0.0 d	0.0 d	0.0 d	0.0 d
Glyphosate	2 quarts	96.7 a	100.0 a	93.3 a	100.0 a
Fusilade	1.5 pints	66.7 b	70.0 b	46.7 b	63.3 b
Poast	2.5 pints	43.3 c	43.3 c	33.3 c	33.3 c
Select	8 ounces	40.0 c	33.3 c	30.0 c	23.3 c

Table 2. Efficacy of different herbicides in late season application for control of bermudagrass.

Anthracnose

By Jason Brock, Andrew Sawyer, Lenny Wells

Since late July, the UGA Plant Disease Clinic confirmed anthracnose to be the scorch and subsequent leaf shed in many orchards. I've seen three different cases in the last week in East Georgia on many different varieties. Conditions for anthracnose in 2022 have been favorable.

Anthracnose is a fungal pathogen caused by *Glomerella cingulata*, occurring on both the foliage as well as the fruit. **The infection period of anthracnose occurs in the spring, sometime between budbreak and as late as July.** After infection, anthracnose fungus goes through a long latent period. During this latent period, a stress in the tree is responsible for initiating symptoms. What stress? It could be 1) physiological stress or 2) environmental stress. A heavy crop load is a known contributor to anthracnose. The heat back in May and June is a likely stress factor explaining why anthracnose is widespread.

Management

If you see anthracnose year to year, a cultural practice induced stress may be the cause. Some cultural tips include:

- 1) Managing crop load by mechanical shaking or hedging will help with crop stress.
- 2) Maintain a 2:1 ratio of nitrogen and potassium in leaves.
- 3) Make sure trees are not receiving too much water or too little water. From April to July, we recommend most orchards irrigate every other day as opposed to every single day so soils do not become anaerobic.



Figure 7. Symptom expression of anthracnose on 'Pawnee' in Washington County.

On a final note, a little symptom expression late in the season without significant defoliation should not be of serious concern. Late in the season—especially when the trees are bearing a heavy load—we see lots of odd foliar symptoms but most are not of serious concern.

Tips on Finishing 2022 Crop/Season

Bearing Pecans: Irrigate at 100% through mid-September. Cut back to 40% in October.

Continue scouting for aphids and mites.

Reports for pecan weevil have been low across the state so far.

Discontinue fungicide sprays.

Non-Bearing Pecans: Do not apply anymore nitrogen fertilizer. Apply zinc sulfate or elemental zinc at 1–3 lbs per tree per season.

Make fall foliar nickel applications to severely deficient trees.

Apply post-emergent herbicides to active perennial grass (Bermuda, bahia, etc.) or grassy strips. If weed strip is clean, apply fall pre-emergent herbicide.

Cut irrigation back to 40% in October.

Upcoming Events

September 13-14th, 2022—Alabama Pecan Growers Annual Educational Conference, Robertsdale, AL.

Contact Cathy at alpecangrowers@gmail.com or 334-844-5483 for more details.

February 24th-25th, 2022—Southeastern Pecan Growers Conference, The Lodge at Gulf State Park, Gulf Shores, AL

For more information visit www.sepga.com.

March 28th-30th, 2023—Georgia Pecan Growers Conference, Georgia National Fairgrounds & Agricenter

Perry, GA. More information to follow.

