



UNIVERSITY OF GEORGIA EXTENSION

October 2019

SOUTHEAST GEORGIA PECAN UPDATE

Southeast District
Area Pecan Agent

Andrew Sawyer

agsawyer@uga.edu

Mobile: 912-512-3030

UGA Pecan Blog
<https://site.extension.uga.edu/pecan/>

UGA Pecan Radio Update

WAJQ 104.3 FM—Alma
WDXQ 96.7 FM—Cochran
WUFF 97.5 FM—Eastman
WULS 107.3 FM—Douglas

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PECAN CROP PROGRESSION

Georgia's pecan crop is more than expected following the destruction of Hurricane Michael last year. UGA Extension Horticulturalist Dr. Lenny Wells estimates the state crop to be around 60 millions pounds. The crop is about a week ahead of time, and as I write this, both Eclipse and Pawnee are being shook and gathered. Some growers have already sold some nuts. We will see other early cultivars like Byrd and Lakota come off next. Growers in far Southeast GA will begin shaking Excels next week. Fort Valley will begin their harvest next week, so there is about a week difference in the most southern and northern parts.

In the Southeast, the crop seems to be similar all around. Excel certainly has a good crop this year. In the Southwest Stuarts are considered to be a less crop but this does not seem to be the case over here. Stuarts seem to be fair as many growers say they are pleased with their Stuarts.

As growers begin harvesting, they want the nuts to quickly drop to 8% moisture. Generally shaken nuts will take more time, but with our current dry state, nuts can dry on the ground quickly in just a few days. In the kernel development stage, they will be around 30%.

For long-term storage, 3.5% moisture is ideal, but at 4% moisture, pecan are okay to store without risk of mold growth.

On the right is a photo sent to me of speckling on Pawnee. It is also common of Stuart as well. When you see this all it means is that the tree had a heavy crop load.

Sometimes Stuart kernels will have fuzz in addition to the speckling. Of the two low-input cultivars, McMillan is a cultivar in which the speckling and fuzz has not been observed like Gafford. I mention this because both Gafford and McMillan are close resembling kernels of Stuart but with better overall quality.





HOT AND DRY FALL

For bearing trees, we can generally cut off the water once we get a good rain. Unfortunately it is very dry across the state and our district. Far east from Augusta to Vidalia and down U.S. 341, it has already been dry throughout the season. This can actually create an issue as pecan shucks naturally open (shuck dehiscence).

Though the kernels have formed inside the shell, the process of shuck split still requires water. The kernels are still maturing at this time. As they mature, ethylene is sent from the kernel to the shuck which tells it to split open.

A good question recently asked is: **At what point during shuck split can we cut off irrigation?** It is a difficult question to answer. The problem is that the shucks are not splitting at the same time. If we see 30% shucks fully open and cut off irrigation, the remaining 70% unopened fruit will have issues. We will start seeing stick tights, shuck decline and essentially hurt our quality. Yes, there is a point in an individual pecan nut where a fully opened shuck will not require more water to open. However, this does not occur at the same time on a tree, and this process requires water to complete.

RECOMMENDED WATERING THROUGH OCTOBER

Because of our drought conditions, **Dr. Wells recommends to keep water running at 50 – 60% capacity and drop to 40% capacity as we move into October. Do not cut off until either 1) we get 1" of rain or 2) the leaves naturally fall off the trees or 3) we are 1 week away from shaking.**

If we continue to go without rain, continue watering after harvest until leaves naturally fall off the tree or we get a good inch of rain.



Pawnee opening full in Wayne County 9/19/19.



Elliot opening full in Wayne County 9/19/19.

EARLY LEAF DROP



Early senescing due to irrigation block in Crawford County.

I have discussed with some of you specific leaf drop situations that are somewhat related to dry weather. The first is a situation where a grower has one tree in the orchard where all the leaves appear to senesce, turn yellow and start falling off the tree. This happens to one tree and none others. What would cause one tree to turn and lose its leaves when all other trees do not? Only some kind of stress.

In most cases, it has been lack of water. What we see is tree roots may cut off lateral lines, and it shuts off water to these trees. Sometimes it's just the emitter line running to the tree from the lateral line that is affected. Growers would benefit by driving through orchards and make sure emitters are putting out water.

You will also notice in the under story of a pecan orchard the leaves are larger than leaves on the outside of the tree receiving full sun. A sun leaf

does not need as much surface area to collect sunlight for photosynthesis. For pecan, shade leaves are about half as effective in converting sunlight to energy as sun leaves.

This is why orchards must be thinned (cut trees down) in increase sunlight. I was riding through an orchard with a grower who showed me yellowing leaves. From a distance, it appeared as black aphid damage. But something was different – these leaves were all under full canopy and receiving no sunlight. **The photo on the right is a good example of yellowing from shaded leaves. Often times, the branch will lose all of its leaves and be completely bare.**

I've seen this in two different locations this year, and in both situations, the trees were very large and shading the orchard floor by 80%. Tree thinning needs to take place in these orchards. **As a rule of thumb, once 50% of the orchard floor is shaded at noon, tree thinning is justified. Generally start by removing every other tree in every other row.** If a grower takes over an old orchard where no grass grows on the orchard floor, he may have to thin every other tree in every row to double tree spacing.



These leaves in Emanuel County are completely shaded under the tree.

YOUNG TREE CARE

Irrigation

Pecans spend their first three years putting on a root system and growing a tall trunk. In year four they start growing larger scaffold limbs. Because pecans take longer to come into production than other fruit trees, young tree management is much different.

Considering this, we generally cut off all irrigation to young trees in early October. However, with dry conditions being persistent, **it is recommended to continue watering young trees at the same rate of 100 gallons per week until 1) we get a 1" rain or 2) leaves naturally fall off.**

Remember, it is best to NOT water every day to promote solid root growth. Growers use two different types of emitters: 1) drip or 2) microsprinkler. The difference is the amount of water. Drip emitters put out 2 gallons of water per hour, and microsprinklers put out around 15 gallons of water per hour. (Some may put out as low as 10 gallons / hour.)

Nickel and Zinc Deficiency

Nickel (Ni) is required by an enzyme in plants to convert urea to ammonia. It is very low in the soil and competes with other nutrients for uptake. The deficiency appears first as rounded leaves and is called 'mouse ear.' Mouse ear is more common on first year planted trees. With mouse ear, we need to use **foliar nickel** to correct the issue.



Drip emitter in herbicide strip. Water tends to move straight down in soil profile compared to microsprinklers.



Rounded, 'mouse ear' leaves of 5-year-old Zinners in Effingham County.

The rate is generally 1.5 quarts per 100 gallons of water. However, some formulations may have a higher percentage of nickel. Therefore, it is best to just follow the labeled rate. This year I've seen how easy it is over-do our nickel sprays which result in burn of the leaves. When foliar treating nickel, do not spray until leaf wetness! You only need to just cover the leaves with the spray.

How many times do we treat? Likely, you will need to treat more than once and no more than 3 - 4 weeks apart. We need to give it time to work. **Since nickel is not absorbed by the plant until the leaves are in the parachute stage, it is good to apply another foliar spray in September or October.** This is like a preventative spray for the next year since the nickel is stored in the buds and stem tissues over the winter and be available to the tree at budbreak.

Zinc has a direct impact on the yield of mature trees since it has an effect on flowering, fruit size and nut yield. It is also important in leaf expansion and shoot elongation, which impacts young trees also. Our general characteristic of zinc deficiency a curling and twisting of young leaves, usually with a wavy margin. Zinc's availability in the soil is due to soil pH, nitrogen and phosphorus applications.

Like nickel, our most effective way of correcting zinc deficiency in young trees is by foliar application. We do this to young trees when rosetting shows up. **Our general rate of zinc sulfate is 1 qt / 100 gallons.** And again, only spray for leaf coverage, not wetness.

In addition to our 10 - 10 - 10 applications on new trees, **we need to apply 1 - 3 lbs of Zinc Sulfate per tree for the first 3 - 4 years of planting.** Zinc moves slow in the soil, so it may take two or three years for most surface application to be effective. This is why managing this deficiency with annual soil application is desired.



Severe zinc deficiency appears as necrotic spots in Atkinson County. Photo by Tony Barnes.