

SOUTHEAST GEORGIA PECAN PRESS

The Official Newsletter of the UGA Cooperative Extension
Pecan Agent Team



Montgomery County

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PHYLLOXERA MANAGEMENT

By Dr. Apurba Barman, UGA Entomologist

There has been high pressure from phylloxera the past few years! There are three species of phylloxera: 1) pecan leaf phylloxera (*Phylloxera notabilis*), 2) southern pecan leaf phylloxera (*Phylloxera russelae*) and 3) pecan stem phylloxera (*Phylloxera devaatrix*). The key to controlling phylloxera is the timing of insecticide application. Among insecticides, imidacloprid has been highly effective on phylloxera (Figure 1). **But the foliar application of imidacloprid has to be applied just after the pecan bud-break.** Budbreak may vary depending on the pecan cultivar and location. Due to the systemic nature of the chemistry, the application of imidacloprid protects all leaf tissue and other leaves that emerge following the application from feeding by phylloxera. Application of imidacloprid through a drip system should technically work for phylloxera as it is done for aphid control. However, the effectiveness of both drip-applied and drenched imidacloprid has been less than expected in the case of phylloxera control. This may be due to the plant's inherent physiological conditions, where the root systems take up less water during March-April compared to the summer months. As of now, foliar application is our only option and timing is its best effectiveness.

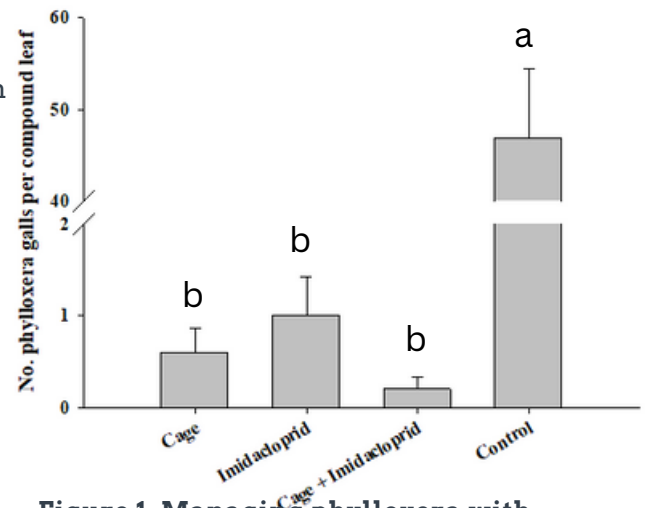


Figure 1. Managing phylloxera with imidacloprid, 2024.

DRONE SPRAYING IN PECAN

By Dr. Luan P. Oliveira, UGA Precision Ag Extension Specialist

According to previous studies on application technology, for insecticides and fungicides, the effectiveness was acceptable when the droplet density was within or above a certain range of droplets per square centimeter (*Pereira et al., 2015; Khan et al., 2022*) (Table 1).

Therefore, by using the droplet density as a metric for spraying drone efficacy, **we found that the drones were able to get good distribution through the pecan tree canopy at young (up to 15ft) trees and mid-age (15 to 30ft) trees at 13 gallons per acre.** We did the same for mature trees (higher than 30ft), but the results are still being processed (Figure 1). **While the conventional airblast system had the best coverage and droplet density distribution, the spraying drone showed to be a good alternative.**

This study was conducted on Ponder Farm in 2024 with plans to continue. Future studies include disease and insect ratings for complete drone droplet effectiveness.

Recomended Droplet Density (Drops / cm ²)			
Insecticide		Fungicide	
Contact	50 - 70	Contact	> 70
Systemic	20 - 30	Systemic	50 - 70

Table 1. Droplet density for insecticides and fungicides with use of spray drone.

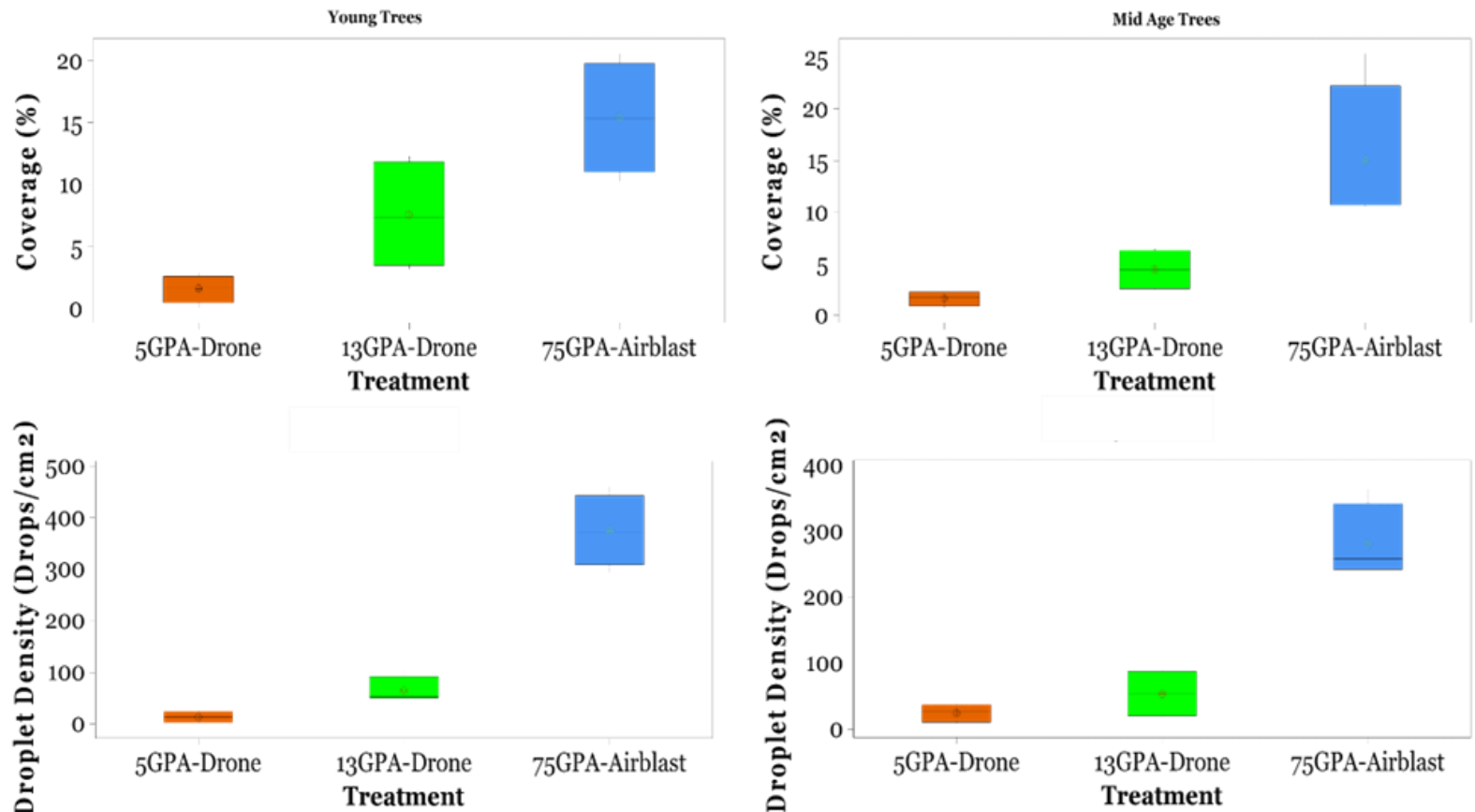


Figure 1. Less than 15ft and greater than 15 ft pecan tree spray distribution with use of drone.

FERTILIZATION RECOMMENDATIONS FOR YOUNG TREES

By Dr. Lenny Wells, UGA Extension Horticulturist

Nitrogen Injection Irrigation (28%, etc.)

Year	April	May	June
1	0	0	0
2	2.5 lb	0	2.5 lb
3	2.5 lb	0	2.5 lb
4	4 lbs	2.5 lbs	2.5 lb

Balanced Granular Fertilizer (10-10-10, etc.)

Year	April	June
1	0	0
2	0.5 lb	0.5 lb
3	1 lb	0.5 lb
4	2 lbs	1 lb

FERTILIZATION RECOMMENDATIONS FOR MATURE TREES

By Andrew Sawyer, Area Pecan Agent & Dr. Lenny Wells, UGA Extension Horticulturist

Southeast Georgia pecans should follow a reduced fertility program for hurricane damaged pecan trees. For trees that survived Hurricane Helene, the crop is historically low in the following season. The crop tends to be heavy two years following. A reduced program is not only necessary for a reduced crop, but also to reduce potential of alternate bearing. Pecan trees move into this pattern following storm damage. For 2025, it is best to only apply 50 lbs of nitrogen per treated acre at budbreak instead of the normal 75 lbs. If these bearing trees present a crop for 2025, we can follow up with the needed nitrogen.

For phosphorus (P) and potassium (K), refer to the chart on the right. If you have sufficient soil and leaf levels of phosphorus and potassium, then you can forgo these nutrients for 2025. What if you have sufficient soil levels but not sufficient leaf levels? This means you have an uptake issue. The nutrients are all competing for uptake against each other and soil pH. In this situation, apply the needed P and/or K in a six-inch band along the drip emitters. This will essentially force the tree to take up these nutrients. It is mostly the same for zinc (Zn). If you have an uptake issue, Zinc EDTA is a chelated fertilizer that the trees can take up very well. It is recommended to do this if you have sufficient zinc levels in the soil, however. For pH, do not apply lime until your pH drops below 6.0.

Nutrient	Soil	Leaf
P	40 lbs	0.12
K	125 lbs	1.1 %
Zn	15 lbs	50 ppm
Soil pH	< 6.0	

BACKYARD PECANS: GET THE MOST FROM YOUR PECAN TREES

By Garrett Hibbs, Hall County Extension Agent

We get calls at the Extension office with questions about pecan trees, but the most common question is **“how do I make my pecan tree more productive to get a larger crop year in and year out?”** The expected answer will involve fertilizing, but the reality is it’s all about water. And much more than you would think! Callers are amazed when I explain that commercial producers are watering 350 gallons of water per tree per day at certain points in the season. While that sounds like a lot, commercial producers get a significant return on their investment per acre.

While watering this much may not be practical or cost efficient for backyard growers in north Georgia, some watering is better than none when it comes to maximizing your pecan crop. And it’s less important how much you water than WHEN you water.

The tree will leaf out in the spring, and the action of nut development will begin in May. By then your tree has been pollinated, and by June early nut growth is underway. As nuts develop, there are points when the need for water is critical. The most important time to supply water to your tree is early August through mid-September. **This is the period where the kernel within the shell begins to fill and forms into a pecan. This is when the tree is at its highest demand of water.** Drought conditions just prior to this point can result in certain pecan varieties aborting 30 times the number of nuts that they would have produced if they had received adequate water. Pecan trees need roughly 60 inches of water per year to maximize a crop, and in the southeast rainfall can typically account for only around half of this.

New work done by the UGA Pecan Team and Climatologists at UGA Griffin Campus show limits to water uptake by researching sap flow and evapotranspiration. Sap flow is greater in the spring and early summer, but significantly declines after August. Our cloudy days and foggy mornings slow down movement of water through the vascular system as well. In April and early May, water use by the trees is very low. Water demand increases with nut sizing and kernel filling.

Irrigation is also critical for nut size. Nut size occurs during June and July. With higher water demand and reduced water uptake happening in August, it is best to limit our water early. If we water too much in June, kernels become more difficult to fill out in August. This can happen in commercial orchards as well.

For our many backyard pecans, I would simply focus on water in August and September. Research has shown that we can reduce the total irrigation rates significantly in April and May no loss of yield or quality. For backyard orchards, I would let go April and May. Once we get to June and July, irrigate some, especially when it’s dry. In recent years, there has been significant rain during these months which favor our backyard crop. But once August begins, you cannot water enough! Irrigating above 200 gallons per tree per day would have a positive benefit. Even if you can’t supply this much water, some water is better than no water. My hope is that this information can help pecan owners get a crop this year that you’re nuts about!

SOUTHEAST GEORGIA AREA PECAN AGENT SPONSORS

<https://site.extension.uga.edu/pecan/>

UGA Specialists

Andrew Sawyer
Area Pecan Agent
agsawyer@uga.edu

Dr. Lenny Wells
Pecan Horticulturalist
lwells@uga.edu

County Agents

Northeast District

Garrett Hibbs
ghibbs@uga.edu

Northwest District

Josh Fuder
jfuder@uga.edu

Southeast District

Jason Edenfield
blldwg23@uga.edu

Ross Greene
wgreene5@uga.edu

Steven Powell
Steven.Powell@uga.edu

Pamela Sapp
pamsapp@uga.edu

Southwest District

Cale Cloud
ccloud@uga.edu

All materials written and reviewed by
the UGA Extension Pecan Team.



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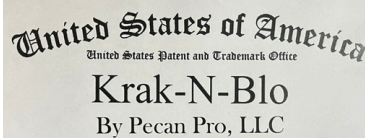
Upcoming Events

May 21 - East Georgia Pecan Field Day - Keysville Pecan, Keysville, GA

August 27 - Southeast Georgia Pecan Field Day - Shuman Farms, Reidsville, GA



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