Turfgrass Weed Control Demo

Cooperators: Westview Missionary Baptist Church/Ruby Bates
Assistance: Blair Griffin

On April 7, 2020 a turfgrass weed control demonstration was conducted at Westview Missionary Baptist Church on the west side of Searcy.

Treatment 1: 2,4-D - 1 quart/acre
Treatment 2: Metsulfuron - .3 oz/acre
Treatment 3: Trimec – 1 quart/acre
Treatment 4: Roundup – 1 quart/acre
Treatment 5: Atrazine – 1 quart/acre

Treatment 1: 2,4-D 1 quart/acre

Treatment 2: Metsulfuron - 0.3 oz/acre

Treatment 3: Trimec - 1 quart/acre

Treatment 4: Roundup - 1 quart/acre

Treatment 5: Atrazine - 1 quart/acre

Treatment #	Bluegrass control	Garlic control	Chickweed control	Henbit control
1	0%	80%	100%	100%
2	70%	80%	100%	100%
3	0%	95%	100%	100%
4	90%	95%	100%	100%

This information was shared on social media platforms (Facebook and Twitter) and in the White County Horticulture newsletter reaching a total of 16211 indirect and 1823 direct contacts.

Fruit Tree Training and Pruning

Cooperator: The Orchard Project

"Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime." Demonstrations are an important key to successful educational programs. They show the university research in real world situations and they help teach people through hands-on learning, not just lectures. Another key factor is that they allow the audience to see the agent getting real work done alongside the clientele, which makes agents more relatable. I conducted a hands-on fruit tree pruning and training workshop for the Orchard Project onsite at their West Vine Street property.

The Orchard Project is a community-based hunger program focused on providing sustainable long-term food sources for individuals locally by planting perennial crops such as small fruits and fruit trees. Currently they have a half-acre orchard at 1211 West Vine Street and one at 110 North Oak in Searcy planted with blueberries, raspberries, muscadines, a variety of apples, mulberries, pears, apricots, plums, and peaches. The location on Vine street is a busy pathway for high school students (around 50) who walk to school every day. This is located in an economically disadvantaged neighborhood and the families struggle to put food on the table. The orchard is there to help provide fresh fruit for anyone, especially the youth on their way to and from school. Their motto is, the trees are God's, the fruit is yours.

See their Facebook page here:
https://www.facebook.com/SearcyOrchardProject/?epa=SEARCH_BOX

The workshop was featured on social media and promoted through the White County Horticulture newsletter, reaching 21003 indirect and 2311 direct contacts. We had thirteen participants at the event.

Privet Hedge Control Demonstration in Commercial Blackberries

Cooperator: Ritter Farm
Assistance: Blair Griffin

On June 20, 2020 a privet hedge demonstration was conducted in a commercial blackberry planting at Ritter Farm. The field had once been abandoned and Privet hedge had taken over. The growers have eradicated it in row middles, but it is still prevalent in the rows.

Note: All Privet was at least 18" tall and multi branched. Privet was pruned to ground level by hand pruners and treatments were applied with a sponge brush directly to the bare wood.
Treatment 1: Roundup 50/50 mix
Treatment 2: Roundup 100% concentrate with no added water

Demo was rated on July 14, 2020 and revealed 100% control for both treatments

Landscape Weed Control Demonstration

Cooperator: Westview Missionary Baptist Church/Ruby Bates
Assistance: Blair Griffin

On April 7, 2020 a landscape weed control demonstration was conducted at Westview Missionary Baptist Church on the west side of Searcy.

Treatment 1: Gramoxone 1 qt per acre on the east side
Treatment 2: Gramoxone plus Princep 1 qt on the west half

The plot was rated and we found good control of all weeds present with both treatments. However, we saw some damage on the daylilies and roses too due to high gusts of wind during application. The information was uploaded on social media (Twitter and Facebook) and distributed in the White County Horticulture newsletter, reaching over 14,500 contacts.

Weed Control Demonstration in Commercial Blackberries

Cooperator: Ritter Farm
Assistance: Blair Griffin

On March 20, 2020 a weed control demonstration was conducted at Ritter Farm on 7-year-old commercially grown blackberries.

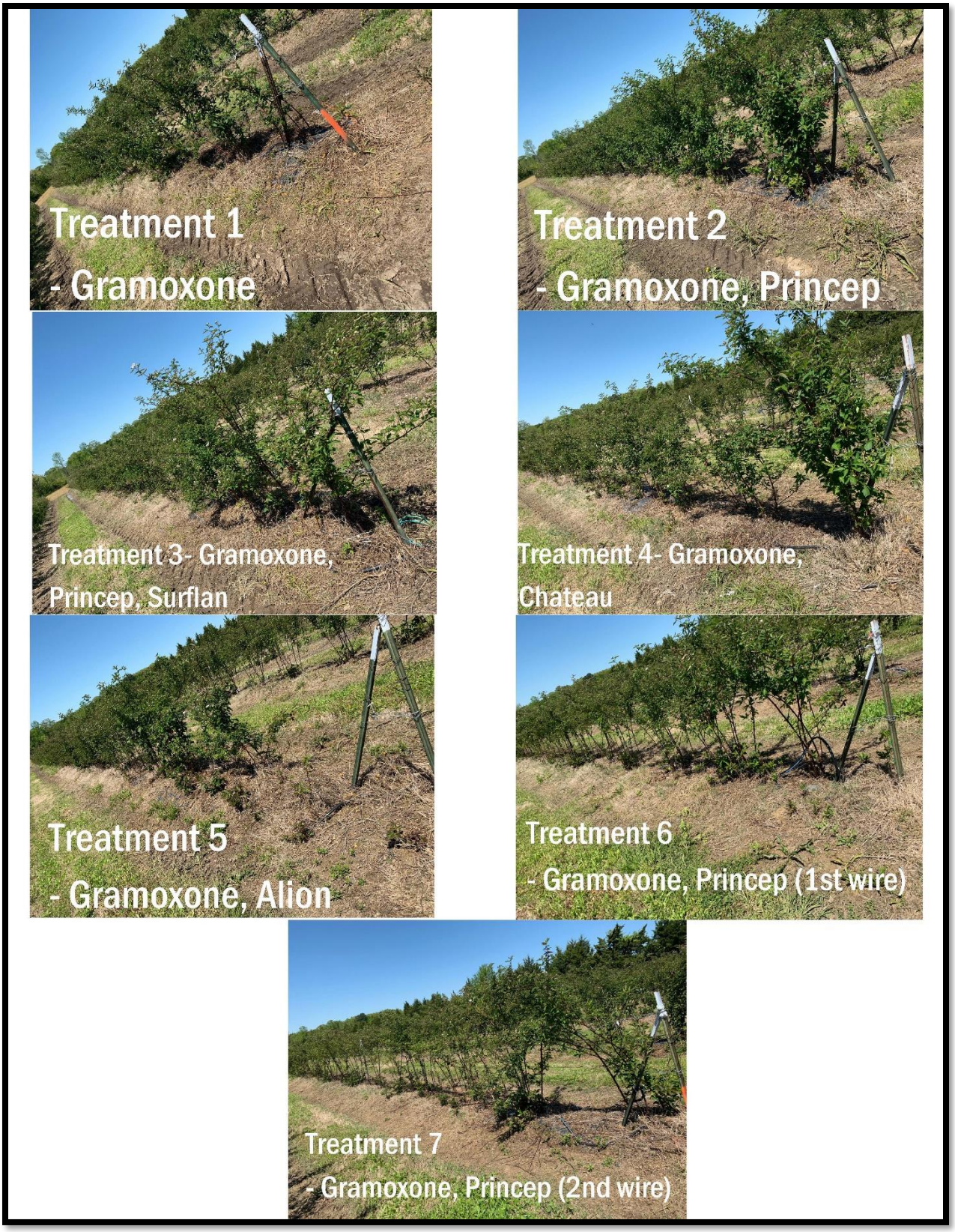
Six treatments were compared:
Treatment 1: Gramoxone (1 quart/acre)
Treatment 2: Gramoxone (1 quart/acre) and Princep (1quart/acre)
Treatment 3: Gramoxone (1 quart/acre), Princep (1 quart/acre), and Surflan (2 qt/acre)
Treatment 4: Gramoxone (1 quart/acre) and Chateau (6 oz/acre)
Treatment 5: Gramoxone (1 quart/acre) and Alion (6 oz/acre) – up to first trellis wire
Treatment 6: Gramoxone (1quart/acre) and Princep (1qt/acre) – up to first trellis wire
Treatment 7: Gramoxone (1 quart/acre) and Princep (1 quart/acre) - up to second wire

.25% surfactant on all treatments

Weeds present: dock, vetch, red deadnettle and chickweed

Note: plots were sprayed with Gramoxone, Princep and Surflan 30 days prior to treatment

Treatments were rated on 5/6/2020 and 6/25/2020, resulting in 20% cane tissue injury on Treatment 5 and 50% cane injury on Treatment 6. The “Cadillac treatment -#3”, was 80% effective however, most likely not cost effective. Treatments 1 and 2 demonstrated 75% weed control and were more economical than treatment 3.


Treatment 1
- Gramoxone
Treatment 2
- Gramoxone, Princep
Treatment 3- Gramoxone,
Princep, Surflan
Treatment 4- Gramoxone,
Chateau
Treatment 5
- Gramoxone, Alion
Treatment 6
- Gramoxone, Princep (1st wire)
Treatment 7
- Gramoxone, Princep (2nd wire)

Disease/Fungicide Demonstration on Commercial Blackberries

Cooperator: Ritter Farm
Specialist: Aaron Cato

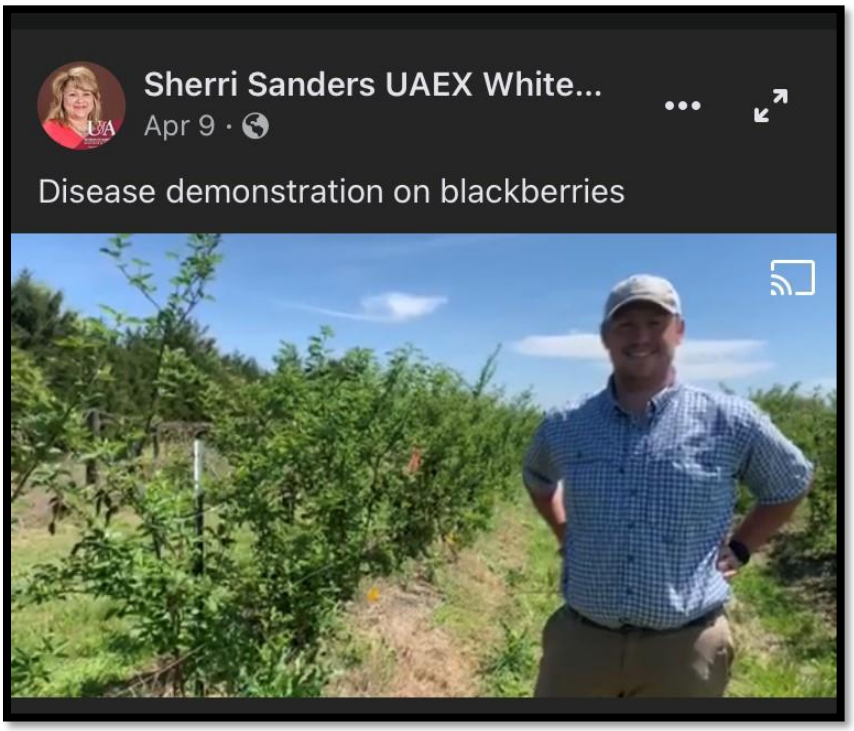
A disease demonstration was conducted on April 9 to assist a grower to develop a comprehensive plan and to assist with more efficient products and/or timing of sprays to eradicate or suppress anthracnose in commercial blackberries.

Treatments were:
Treatment 1 was not sprayed - UTC
Treatment 2 Captan 80 WDG 2.5 lb/A - 10.9g per gallon (32.7g for 3 gallon)
Treatment 3 Pristine 23 oz/A - 6.2g per gallon (18.6g for 3 gallon)

We sprayed every 14 days from 4/9 through 6/4.

We abandoned the project once the cooperator told us they planned to pull out the plants. These treatments were targeting the new primocanes that were growing. All had already received a dormant lime sulfur spray and one application of Pristine so we didn't expect to see a difference in this year's crop.

Videos and posts were shared on social media, and the White County Horticulture newsletter reaching over 8300 contacts.



Blackberry Demonstration – Primocane and Traditional Blackberries (multiyear project)

Cooperator: Pioneer Village – City of Searcy (Master Gardener project)

The University of Arkansas Fruit breeding program is responsible for releasing blackberry varieties that are

important to blackberry production across the United States and world.

The blackberries demonstrations were planted in 2017 with Osage, Ouachita and Prime-Ark® Traveler being the three main varieties used in our location. Tissue culture plug plants were used for the Osage, Ouachita and Prime-Ark® Traveler plantings. A standard fertility and pest management program was utilized and plants were allowed to establish over the 2018 season. During the 2019-2020 seasons the berries were harvested over several weeks and recorded the average weight of individual berries and recorded their observations.

The varieties included in this study vary in their fruiting characteristics and in ripening time, which allows for the possible extension of the blackberry season, especially with the combination of floricane (F) and primocane (P) fruiting varieties.

The plants have been fertilized, monitored for diseases and insects, and pruned according to the U of A recommendations. This demo has been promoted on Facebook, Twitter and in horticulture and Master Gardener newsletters, reaching 10,000+ people not including the visitors to Pioneer Village each year. The White County Master Gardener volunteers have assisted with maintenance and harvest each year. All the varieties used in the demonstrations have previously been tested extensively at the University of Arkansas Fruit Research Station in Clarksville, AR. Most of the average berry weights for the varieties tested reached the estimated average for that variety. Prime-Ark® Traveler (floricane) had the highest average berry weight followed by Ouachita and Osage.

Overall, Arkansas released varieties have shown to do very well in the state and to be adaptable to a wide range of areas. The importance of plant health for berry size and flavor were also observed. For more information on growing blackberries: https://www.uaex.edu/farm-ranch/crops-commercial-horticulture/horticulture/commercial-fruit-production/blackberry-school.aspx

Prohexadione Calcium on Blackberries Demonstration

Cooperator: Ritter Farms and Fruit Station in Clarksville
Assistance provided by: Amanda McWhirt, Blair Griffin, Jill Allen and followed North Carolina State's protocol

During the week of March 15th, we were able to put out two Prohexadione Calcium demos; one in Clarksville at the Fruit Station and one in White county at Ritter Farm.

This research has exciting potential for blackberry growers in Arkansas. Why is it exciting? Two years ago, while on an in-service training trip, I learned about this research that North Carolina State University was beginning in commercially grown blackberries. Under the direction of Gina Fernandez, NCSU was using Prohexadione calcium in a small plot of blackberries. Prohexadione calcium is a foliar applied plant regulator which reduces vegetative growth by inhibiting the synthesis of gibberellin, a naturally occurring plant hormone. Specifically, it decreases the length of shoot internodes.

In apples and pears, it decreases the need for pruning, allows more light to penetrate the tree canopy increasing fruit coloration, and, due to increased air circulation, decreases the incidence of fire blight, a bacterial disease of apples and pears. We hope to determine effects and interactions of P-Ca application timing and rate on floricane blackberry cane height.

Why is this a big deal? Labor costs can be decreased dramatically if we can demonstrate that this product is effective in the "tipping and pruning" management of canes. With less tipping and pruning we think it should lessen the disease incidence as well. To read more about the project and to see Gina's presentation at the Southeast Regional Fruit and Vegetable Conference in Savannah GA from January 10, 2019: https://bit.ly/3aESpzU

We are simply piggy backing onto NCSU's research to see if we get similar results here in Arkansas. It's our hope that our findings will be useful to them as well.

Our planned treatments:

1) Commercial control (includes tipping and standard management practices).
2) Three applications of 3 oz. P-Ca + water conditioner + surfactant starting at 1 to 3" floricane shoot length.
3) Three applications of 3 oz. P-Ca + water conditioner + surfactant starting 21 days after 1 to 3" floricane shoot length.
4) Three applications of 9 oz. P-Ca + water conditioner + surfactant starting at 1 to 3" floricane shoot length.

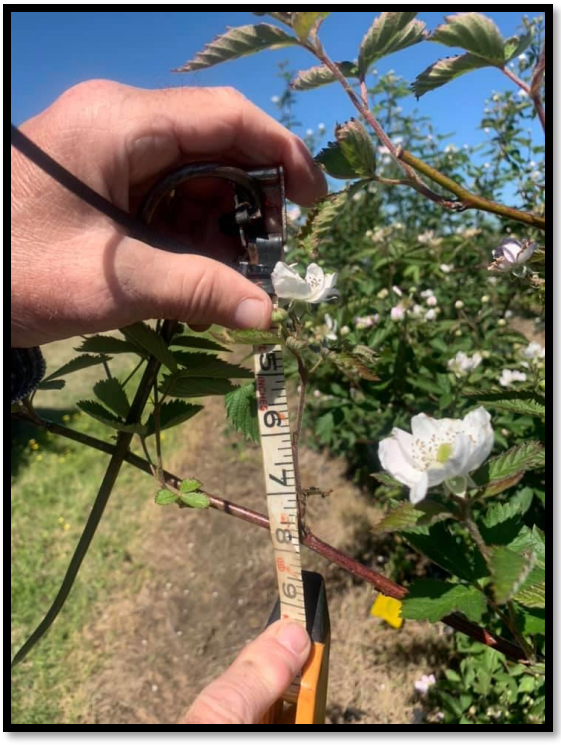
5) Three applications of 9 oz. P-Ca + water conditioner + surfactant starting 21 days after 1 to 3” floricane shoot length.

Three applications are to be made on 21 day intervals during a 6 to 8 hour period without rain. Applications are made to drip (minor runoff from canopy) to the entire canopy (both floricanes and primocanes) and applied on both sides of the row.

Weekly berry counts (Marketable yield, Cull fruit yield in grams and average 10 berry weight) between treatments were taken by Jill Allen, a seasonal employee in White county and by staff members at the fruit station. Sanders took all primocane length measurements in plots at Ritter Farm.

Harvest and primocane measurement data have been analyzed and we plan to continue our research at both locations. For detailed data results, please contact Sherri Sanders at ssanders@uada.edu or Amanda McWhirt at amcwhirt@uada.edu .

Videos and posts were shared on social media, the White County Horticulture newsletter, and the Arkansas Blackberry Growers newsletter, reaching over 48,000 contacts.



Pasture Weed Control for Livestock Peer to Peer Training

Cooperator: Ouida Cossey
Assistance: Blair Griffin

A pasture weed control demonstration to use as a training for livestock agents was conducted on February 20, 2020.

Plot size: 10 x 50 5 ft alley

Treatment 1:	2,4 D	1 qt
Treatment 2:	Metsulfuron	0.3 oz
Treatment 3:	Grazon PD	1 qt
Treatment 4:	GrazonNext	1 qt
Treatment 5:	Weedmaster	1 qt
Treatment 6:	Duracor	16 oz

Note: 45 deg rain within 1 hour
This was featured on social media and reached a total on 1124 contacts. Due to Covid this training was cancelled and therefore not rated.

Tomato Demonstration

Cooperator: Shauna Ritchie
Specialist assistance: Dr. Amanda McWhirt and Hank Chaney

Along with agents statewide, I conducted a tomato demonstration in White County. I was one of five model sites for Arkansas. The purpose of the tomato demonstration was to compare five different varieties. Soil samples were taken, and the area was amended according to our U of A recommendations. The demo was planted on April 28, 2020 with 6 plants each of Celebrity, Red Defender, Mountain Magic, Mountain Spring and Phoenix. The cooperator experienced some setbacks and the plot at her residence was abandoned. However, Brian Haller and I ended up with some extra plants and used them at our homes. Social media posts were shared and 8934 contacts were made.

Tri-County Pecan Orchard

Agents: Jan Yingling, Sherri Sanders, Amy Tallent, Brent Griffin, Keith Perkins, Max Coffin

Cooperator: Johnny & Jeffery Reidhar
Purpose of Demonstration: To demonstrate how to grow pecans while using best management practices and University of Arkansas recommendations for homeowners

Type/Design of Demonstration: 24 trees were selected out of a mature pecan orchard

Materials and Methods:
Demo Size: 24 trees
Variety: Stewart & Desirable
Planting date: Mature Orchard (20 years old)
Harvest date: November 20th, 2020

Discussion: The tri-county pecan orchard demo was a collaborative effort between Prairie, Lonoke and White county and born from a basic pecan growers informational meeting the group conducted. The pecan orchard was soil sampled on April 9th and recommendations were made on overall fertilization. An initial fertilizer application of 350 lbs. of 30-46-60-1-12 was made. The demo was marked and trees to be included in the demo were selected.

The cooperators purchased an Agri Mist 1000 that was then calibrated by Jason Davis and the county agent team. Spray cards were strategically placed in the canopy of the mature trees to ensure proper coverage using the new equipment. The initial pre-pollination fungicide spray was made on April 18th. Quilt Xcel was applied at a rate of 17.5 oz/acre. Recommendations were made to help control weeds throughout the orchard with an application of Select and Roundup. A 14-day fungicide spray schedule was created for the producers that alternated between two modes of action to prevent pecan scab. The first cover fungicide spray was applied on May 4th. An application of Super Tin 4L at 7 oz./acre was made. The orchard was mowed as needed to help with sanitation of fallen branches and plant material. On May 29th, the second cover fungicide spray was applied. An application of Quilt Xcel at a rate of 17.5 oz./acre was applied.

On June 12th, the county agent team deployed *6 Dead Inn Yellow Stink Bug traps, 3 Wire Circle Pecan Weevil traps, 6 Dead Inn Black Pyramid Pecan Weevil traps, 4 Pecan Nut Casebearer Hanging Traps, and 3 Clear Sticky traps in the orchard*. These traps were monitored weekly with the appropriate lures and pheromones being changed out as necessary. On June 19th, the third cover fungicide spray of Quilt Xcel at 17.5 oz./acre was applied. Pecan foliar samples were taken on July 13th and sent to the Agricultural Diagnostic Lab in Fayetteville. No additional fertilizer recommendations were made for the orchard. Black aphids were found at treatment levels on July 17th and an application of Mustang Maxx at 4 oz./acre was made to help control the population. The orchard was prepped for harvest on October 13th by mowing fallen limbs and pulling of the insect traps. Harvested started on November 20th and continued to December 5th. The orchard did not produce a decent nut crop this year due to unforeseen circumstances. The demo will be repeated with an additional location added.