

2024 Crop, Livestock, & Youth Demonstrations & Programs



Greene County Cooperative Extension Service

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2024 Crop, Livestock, & Youth Demonstrations and Programs

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2024 Top Notch Swine Judging Contest

Cooperating: Greene County Agriculture Instructors, Greene County Fair Association, Church of God, Greene County 4-H Foundation, Greene County Farm Bureau, Greene County 4-H Livestock Project Club members & volunteers, and participating collegiate livestock judging teams.

Lead Agent: Blake Davis

Objective: To provide an educational swine judging contest to promote growth in knowledge of the livestock industry through livestock evaluation and enhance competitive judging skills including animal selection and reasoning skills. To provide the opportunity for youth 4-H members to observe a collegiate-level swine judging contest and to promote development of youth communication, decision-making, note taking, speaking, and teamwork skills. To provide hands-on opportunity for youth 4-H members to conduct and manage a judging contest with a large, diverse audience.



Greene County 4-H members and volunteers gather before the event to hear final instructions.

Educational Method:

The contest consisted of eight swine classes for the collegiate teams to evaluate. Of those eight classes, four classes of oral reasons were presented to professionally qualified reasons takers in the livestock industry. The youth 4-H members observed the course and management of the contest. The youth and 4-H volunteers were given show management responsibilities to allow the 4-H members to “learn by doing” in a controlled and safe manner. Following the contest, the collegiate and youth 4-H members observed livestock evaluation and reasoning by a professional for each of the contest classes.



Greene County 4-H members drive swine classes as collegiate livestock judging team contestants surround the outside of the show ring evaluating.

Results:

Eleven collegiate livestock judging teams representing eight different states made 146 contestants participating in this third-year event. The event took place at the Greene County Fairgrounds and the Church of God facilities. Greene County 4-H youth were provided with an astounding amount of hands-on learning in diverse areas of focus. Throughout the management of the contest, responsibilities and tasks varied. Some of the responsibilities and tasks led by 4-H members and volunteers included: management of registration, leading and assisting contestants, driving and preparing (rinsing, watering, keeping animals cool) hogs to be judged, coordinating classes to and from the show ring, announcing and timekeeping, preparing the reasons rooms, keeping refreshment stations full, preparing boxed meals, and preparing the scantrons for scoring. These tasks varied in educational emphasis including animal science, health and food safety, and communication.



Local Greene County Farm Bureau joined forces with the Greene County 4-H program by sponsoring and cooking lunch for contestants, volunteers, and official committee members.

2024 Livestock Judging Team

Cooperating: Greene County 4-H Foundation, Arkansas 4-H Department, Arkansas Animal Science Departments, Greene County Agriculture Instructors, Greene County 4-H Livestock Project Club members & volunteers, and numerous livestock breeders across the country.

Lead Agent: Blake Davis

Objective: To train 4-H members in live animal evaluation of breeding and market animals. Teach youth the anatomy of the four species in which they are to evaluate: beef cattle, sheep, swine, and goats. Explain breed differences between the species. 4-H members will learn to make their own decisions based upon the best available information. Experience is given in developing their speaking ability by oral reasons and critical thinking skills.



Greene County 4-H team members sharpening their livestock judging skills at breeders' operations locally and across the country.

Educational Method:

Each contest and/or practice consists of placings, oral reasons, and questions classes. Youth are asked to rank four animals from best to worst using the knowledge gained from evaluation priorities. The oral reasons presentation justifies the contestant's placement of the class and can be the most beneficial part of the contest. They are to explain why they have placed animals in a certain order, which involves effective communication skills. Question classes help develop critical thinking skills as youth recall the animals previously evaluated. This helps youth to pay attention to key details that are relevant and accurate.

Results:

These 4-H'ers competed in several contests throughout the spring in preparation for the State 4-H Livestock Judging Contest. All their hard work paid off as they were named the State 4-H Champion Team in the Junior Division. Team awards included: High Team Overall, High Team in Reasons, High Team in Goats, 2nd High Team in Swine, 3rd High Team in Sheep, Individual awards included: 1st, 6th, 7th High Individuals Overall; 1st, 6th, 13th, and 16th High Individuals in Reasons; 3rd and 7th High Individuals in Swine; 4th and 9th High Individuals in Sheep; 1st High Individual in Goats. This was a great honor that took these members countless hours of studying, practicing, traveling, and competing to grow in their knowledge and skills of this competitive event. We are beyond proud of all 4-H youth who participated on the livestock judging team!



Left: Greene County 4-H team members named State 4-H Champion Team- Junior Division.

Right: Greene County 4-H team members pose for picture after Prairie Grove Wild Hog Invitational CDE livestock judging contest.

2024 Greene County 4-H Livestock Project Club

Cooperating: Greene County Fair Board, Greene County Community Fund, Greene County Farm Bureau, Local, State and National Businesses, Financial Supporters, Livestock Producers, and all 4-H Livestock Families.

Lead Agent: Blake Davis

Objective: Train youth in broiler and animal husbandry principles such as selection, nutrition, and preparation for show, parasite control, and herd/flock management. Assist youth in developing youth livestock projects tailored for competitive events in Arkansas and Nationally. Promote development of youth communication, record keeping, budgeting, and teamwork skills. Showmanship and sportsmanship are a major thrust of this educational program.

Livestock Show Events:

Greene County Fair, NEA Livestock Show, Arkansas Youth Expo, Arkansas State Fair, Buffalo Island Northeast District Jr. Livestock Show, Crowley's Ridge Classic Jr. Livestock Show, American Royal, North American International Livestock Expo, Mississippi Youth Expo, and numerous jackpot shows and national breed shows.

Educational Trainings:

On farm visits with extensive one-on-one training in health management, nutrition, skin and hair preparation, and showmanship.



Left: Jackson R. exhibited the Grand Champion Meat Pen at the Arkansas State Fair.



Right: Jackson R. and Beckett R. exhibited the Grand and Reserve Champion Single Fryer Rabbit at the Arkansas State Fair.

Youth Statistics:

We had over 30 4-H youth in Greene County that exhibited over 100 livestock projects throughout 2024. Numerous youths participated in all available shows and livestock training events, but a few of the younger Cloverbud members exhibited only at local shows.



Left: Cadence S. exhibited the 5th Overall Market Goat at the Arkansas State Fair.



Right: Tripp F. exhibited the Grand Champion Pen of Broilers at the Arkansas State Fair.

Project Statistics:

4-H members exhibited numerous livestock entries in 2024. Projects included swine, goats, sheep, cattle, broilers, and rabbits. Greene County 4-Her's received numerous scholarships throughout the 2024 show season. Many youths use these funds to finance other projects and to fund their college education. Scholarship programs have become a new innovative way to reward the 4-H youth for their hard work. This was another outstanding year for Greene County 4-Her's!



Left: Millie F. exhibited the Grand Champion Market Hog at the Arkansas State Fair.



Right: Millie F. exhibited the Reserve Champion Market Hog at the Arkansas Youth Expo.

Greene County 4-H had a total of five (5) youth members in the Arkansas State Fair “Sale of Champions”. They brought home over \$19,000 in premium money and scholarships.

Purple Circle Club:

Greene County 4-H also had a total of six (6) youth members that were inducted into the “Purple Circle Club” this year. The “Purple Circle Club” is a legacy and awards program that was created in 1952 to recognize junior livestock exhibitors who have earned championship honors at the Arkansas State Fair. Only 1% of livestock exhibitors at the Arkansas State Fair will get the honor of being inducted into this program.



Kynsleigh L., Beckett R., Elissa V., Millie F., and Tripp F. pose for picture at the 2024 Purple Circle Club Awards Banquet. (Not pictured: Jackson R.)

County 4-H Programming and Activities

4-H O-Rama:

For many, County 4-H O-Rama is one of the most important 4-H competitions of the year. This competition is a learning experience and a steppingstone to other more advanced 4-H O-Rama competitions. In Greene County, the 4-H County O-Rama competition is broken into an Indoor and Outdoor O-Rama event. The 4-H O-Rama contests include a wide variety of topics ranging from animal science to fashion review, gardening, safety, fishing, and much more.

This year, we had sixteen 4-H members participate in the Delta District O-Rama competition. Additionally, we had nine State 4-H O-Rama participants which is held at the University of Arkansas main campus in Fayetteville, AR.



State 4-H Orama Participants

Greene County 4-H Camp

The annual Greene County 4-H Camp is a twenty-four-hour overnight camp where 4-H'ers of all ages experience teamwork, fun, build friendships, adventure, all while learning a variety of skills and topics that align with the 4-H mission! This camp is always a summer highlight in our 4-H program, and this year we had 55 4-H'ers attend.



Greene County 4-H Camp volunteers and participants with their unique skill certificate.

4-H Week Proclamation:

To kick-off National 4-H promotion month, a few of our 4-H Club/Group officers and members were able to attend the signing of a proclamation that designated October 6th-12th as National 4-H Week in Greene County as well as the city of Paragould.

The 4-H members had the opportunity to hear from elected local community leaders who shared their words of wisdom about leadership and being a positive mentor.



Ralph Oglesby, Mayor of Lafe; Josh Agee, Mayor of Paragould; and Rusty McMillon, Greene County Judge signing the 4-H Proclamation.

Other 4-H Programs & Activities:

Additionally, we have had members participate in a wide range of contests and camps such as, various BB and shotgun shooting competitions, WHEP (Wildlife Habitat Education Program) State Contest, Beef Quiz Bowl Contest, Livestock Quiz Bowl Contest, State Horse Show, Food Challenge Contest, Campfire Cooking Contest, Poultry BBQ Contest, Beef Cooking Contest, Dairy Recipe Contest, Arkansas 4-H Giant Pumpkin & Watermelon Contest, Teen Leader Conference, and National 4-H Congress.



Greene County 4-H members prepare craft entries for the Greene County Fair



Greene County 4-H members compete at the Arkansas BB Championship



Greene County 4-H members prepare dish entry for the Dairy Recipe Contest



Greene County 4-H member preparing entry for Poultry BBQ Contest



Greene County 4-H members- Reserve Champion Junior Team at State Livestock Quiz Bowl



Greene County 4-H members named Champion Team at the State WHEP Contest

Arkansas Diamonds Perennial Trial–Greene County 2024-Year 1

Investigators: Randy Forst / Anthony Bowden **Site Managers:** Vicki Griggs / Hannah Allen
Alyssa Blakeney / Kristie Glass

Partners: -Arkansas Diamonds Team -Arkansas Green Industry Association
-Greene County Master Gardeners -Greene County Courthouse (Rusty McMillon)

Location: Paragould – Greene Co Courthouse **Soil Series:** Loring silt loam

Objectives: Note: Arkansas Diamonds status - locally grown plants proven to be tough in Arkansas

- Monitor perennials at several Arkansas sites to evaluate their adaptability, growth rate & size, flower and foliage show, and potential pest issues. The project will be conducted for two years.
- Spotlight perennials that could be successful additions to Arkansas landscapes.
- Support local Master Gardeners in beautification project efforts.

Perennials Evaluated:

Liatris “Blazing Star”

Verbenia “Homestead Purple”

Project Procedures & Set Up:

Trial plants were picked up at the State Extension Office May 17th after being dropped off by participating companies. The Greene County Trial was planted May 22nd (warm, sunny).

The test site (Greene County Courthouse) was one of the Greene County Master Gardeners (GCMG) sanctioned projects. The “First Responders” raised bed was used at this site. The site received full sun and had good drainage. The silt loam soil was in good condition from recent years of organic mulching. Trial plants were evenly placed (about two feet apart) in the project bed.

Fertility & Irrigation:

Osmocote (18-6-12) was incorporated into the soil around each plant (1 Tbs/square foot) at planting time. The slow release fertilizer sustained the plants all season long, resulting in good foliage color and flowering from May through October.

The GCMG team working with the plant trial study, followed a regular watering schedule, to make sure trial plants had adequate soil moisture throughout most of the season. Only once in early August did the plants show drought stress, due to miscommunication and a missed irrigation. A nice layer of pine bark mulch also helped to stabilize soil moisture and temperature in the project bed.



Hannah Allen is
GCMG project chair
for the Greene County
Courthouse beds

Weed Control:

The trial bed was weed free at planting time. It was also hand weeded by site managers as needed. Mulch put out at planting was very effective at keeping weeds from emerging.

Insect & Disease Observations:

No significant pest problems were observed at this trial site. No critical disease issues were seen for either of the entries, except some leaf rot reported in October for the Verbena.

Regarding insects, only mild damage from chewing was noted for the August through October reports. Also, some possible light spider mite symptoms were noted in the September report for Liatris. Overall, minor insect damage late in the season was found at this perennial trial site.

Results:

Thanks to our Greene County Master Gardener team coordinators (Vicki Griggs, Hannah Allen) at the Courthouse project site, for ensuring plant management and data collection. They trained a couple of our GCMG rookies (Alyssa Blakeney, Kristie Glass) to measure plants, assign flower and health ratings, and check for pest problems. Thanks to Alyssa and Kristy for diligently keeping records for the trial and for watering!



Anthony Bowden (left), Randy Forst, and Julie Treat distribute Arkansas Diamond Trial plants to participating counties.



Data collected included:

- Plant size (height & width)

- Percent flower rating- 1 = 0% 2 = 1% to 25%, 3 = 26% to 50%, 4 = 51% to 75 5 = 76% to 100%

- Plant health rating - (Rated 1 to 5 based on growth & color 1=Poor 3=Average 5=Excellent)

GCMG Vicki Griggs was the Chair for the AR Diamonds Perennial Trial in Greene County

Following is a brief summary for the two trial entries.

Liatris “Blazing Star”

Our Blazing Star perennial was a little dim this season when it comes to flower illumination! Both early on and late in the season it had very low flower show (1.7 average rating). We believe this is due in part to the drought stress received in August, and to trying to establish its first year.

At planting our Liatris was a little over a foot tall. By seasons end it had reached 2 foot. Average plant width increased only 30% by season’s end (from 10 to 13 inches). The plants received an above average (3.3 average for the season) health rating most of the season.

We are hoping in year 2 this perennial will bust loose with more blooms and leaves! For this season it did not show any significant pest issues but had some minor insect feeding.



Verbenia “Homestead Purple”

If you want a short ground cover, verbenia may be a fit! Our Homestead Purple grew well in its establishment year. At planting its width averaged 12 inches. By October it had reached over 50 inches! Checkin plant heights, they remained in the 8-10 inch range all season (expected from a vining plant).

The flower show on verbenia was fair to good (2.2 season average). It was nonexistent in August when the plants suffered from drought. We hope in year two to see more flowers.

Plant health was good (season average of 3.0) for our Homestead entry. Pest problems were also very slim all season, with just a bit of insect feeding observed.



Summary & Time Lapse Photos:

The AD perennials trial was a very beneficial project!

- It provided beautification to the local County Courthouse which receives regular public use.
- It helped promote the GCMG program.
- It generated valuable information for each of the trial entries that participating companies and groups can use to help with future retail and landscape efforts.

May Trial Pictures - Planting Day



June Trial Pictures – Plants 1 month after planting



Kristie Glass (right) and Alyssa Blakeney take plant measurements for the Arkansas Diamonds Perennial trial

July Trial Pictures – Plants 2 months after planting



August Trial Pictures – Plants 3 months after planting



GCMGs, Alyssa Blakeney (left) and Kristie Glass taking plant trial measurements.

September Trial Pictures – Plants 4 months from planting



October Trial Pictures – Plants 5 months from planting



University of Arkansas System, Division of Agriculture
Greene County Cooperative Extension Service, Master Gardener Program
2024 Arkansas Diamonds - Perennials Research Trial - Year 1



Site:	Greene County Courthouse	Partnering:	Greene County Court House (Rusty McMillon)
Investigators:	Randy Forst & Anthony Bowden	Master Gardener Managers:	Vicki Griggs, Hannah Allen
Planting Date:	May 22nd	Master Gardener Data Recorders:	Alyssa Blakeney, Kristie Glass

Plant Entry & Rating Dates - (monthly goal)	Height Inches	Width Inches	Flower Rating*	Health Rating**	Insect Issues	Disease Issues	Other observations
<i>Liatris "Blazing Star"</i>							
May 21st	14	10	1	5	None	None	
June 13th	16	11	1	3	None	None	One of 4 plants has damaged terminal
July 16th	24	13	3	4	None	None	Removed damaged plant from ratings
August 16th	23	13	2	3	Light	None	Drought damage, mild chewing damage
September 16th	24	19	2	2	Light	None	Possible spider mite light damage, recent big rains
October 16th	23	13	1	3	Light	None	Light insect damage
Season Average	20.7	13.2	1.7	3.3			

<i>Verbena "Homestead Purple"</i>							
May 21st	8	12	2	4	None	None	
June 13th	8	16	2	3	None	None	
July 16th	10	41	3	3	None	None	
August 16th	7	30	1	2	Light	None	Drought damage, mild insect damage
September 16th	8	43	3	3	Light	None	Mild insect damage on leaves, recent big rains
October 16th	9	51	2	3	None	None	Potential leaf rot
Season Average	8.3	32.2	2.2	3.0			

*Flower Rating - Estimate percent flowering - 1 = 0%, 2 = 1% to 25%, 3 = 26% to 50%, 4 = 51% to 75, 5 = 76% to 100%

**Plant Health Rating - Use a scale of 1 to 5 based on health of foliage, and plant growth - 1=Poor, 3=Average, 5=Excellent

Arkansas Diamonds Annuals Trial – Greene County 2024

Investigators: Randy Forst / Anthony Bowden
Julie Treat

Site Managers: Brenda Hester/Dr. Colin Hester
Leah Freeze

Partners: -Arkansas Diamonds Team
-Greene County Master Gardeners

-Arkansas Green Industry Association
-Greene County Fair (Dennis Hammon)

Location: Paragould – Greene Co Fairgrounds

Soil Series: Loring silt loam

Objectives: Note: Arkansas Diamonds status - locally grown plants proven to be tough in Arkansas

- Monitor summer annuals, new on the market, at several Arkansas sites to evaluate their adaptability, growth rate & size, flower and foliage show, & potential pest issues.
- Spotlight new annuals that could be successful additions to Arkansas landscapes.
- Support local Master Gardeners in beautification project efforts.

Annuals Evaluated:

Coleus “Red Slipper”

Vinca “Tattoo Black Cherry”

Project Procedures & Set Up:

Trial plants were picked up at the State Extension Office May 17th after being dropped off by participating companies. The Greene County Trial was planted May 21st (warm, sunny). Trial plants were evenly placed a foot apart in the raised bed. Coleus was planted on the east end, and Vinca on the west end.



The test site (Youth Teaching Garden (YTG) at Greene County Fairgrounds) was one of the Greene County Master Gardeners (GCMG) sanctioned projects. A 4' x 8' raised bed was used at this site. The site received full sun and had good drainage. The silt loam soil was also in good condition from recent years of receiving compost and organic mulching.

Fertility:

Osmocote (18-6-12) was incorporated into the soil around each plant (1 Tbs/square foot) at planting time. The slow release fertilizer sustained the plants all season long, with good foliage color and flowering observed through October.

Irrigation:

The GCMG team working with the plant trial study, set up a regular watering schedule, to make sure trial plants maintained adequate soil moisture throughout the season. A nice layer of pine bark mulch also helped to stabilize soil moisture and temperature in the project beds. Thanks to the GCMGs who helped with watering.

Weed Control:

The beds were freshly tilled and weed free at planting time. They were regularly hand weeded by site project managers. The layer of mulch put out at planting also helped a lot to keep weeds from emerging.

Insect & Disease Observations:

We did not observe any significant pest problems at this trial site. Some light insect feeding was recorded for the Coleus entry, but not enough to affect show. Neither trial entry had any disease issues.

Results:

A big thank you to our Greene County Master Gardener team leaders (Brenda Hester, and Dr. Colin Hester) who collected plant data for this trial.

Data collected included:

- Plant size (height & width)

- Percent flower rating- 1 = 0% 2 = 1% to 25%, 3 = 26% to 50%, 4 = 51% to 75 5 = 76% to 100%.

Note: for the Coleus entry, a foliage plant, flower ratings were not taken.

- Plant health rating - (Rated 1 to 5 based on growth & color 1=Poor 3=Average 5=Excellent)



Following is a brief summary for both trial entries.

Coleus “Red Slipper”

Red Slipper danced her shoes off all season! This Coleus entry immediately took off growing when the plants hit the ground in mid-May! By September (until storms arrived), they were busting up and busting out of the bed! At planting, they were 11 inches tall, and by October, were over triple that, at 37 inches! The average beginning and ending width recorded was 8 and 32 inches, respectively. We did see some plants leaning the last few weeks of the season following extreme weather from remnants of recent tropical storms.



Our Slipper entry also received a fairly clean bill of plant health! The mean rating (2.7) for the season ended up as average (good). Plant health ratings in August (drought stress) and October (storm damage) were lower than for the rest of the season. In addition, no significant insect or disease problems were seen.

Talk about an eye catcher! This burgundy colored foliage plant also has hints of light yellow making it a garden delight! A little over 2 months into the trial, it also showed an abundance of non-showy flower stalks that added a fine texture to the upper plant canopy!

If you want an eye-catching, fast-growing, healthy selection to help paint your landscape, Red Slipper would make a good dance partner for many other plants you may choose to use!

Vinca “Tattoo Black Cherry”

Our Vinca trial entry would be another winner for many gardens! It had strong growth all season! It measured 4 inches tall at planting and reached 16 inches by September. Width started out at 5 inches in May, and ended in September at 24 inches. This trial entry also reached canopy closure by mid-summer. Late season storm events cause some plant leaning for the Tattoos by October.



Our Vincas were vigorous from planting through fall! Their season average health rating (3.5) was good-excellent. In addition, we did not see any pest issues.

Flower show was amazing for our Tattoo Black Cherry entry! The season average flower rating was good-excellent (3.2). This entry can't help but catch one's eye with its vibrant green, glossy foliage! The consistent (all season until blow from Sept storms), abundant show of flowers also makes it a winner! It lived up to its name, providing cherry-colored flowers with dark centers!

Think about getting yourself some Tattoos! They may be just the work of art your garden needs!

Summary & Time Lapse Photos:

The summer annuals trial was a very beneficial project!

- It provided beautification to the local fairgrounds which receives regular public use.
- It helped promote the GCMG program.
- It generated valuable information for both trial entries that participating companies and groups can use to help with future retail and landscape efforts.

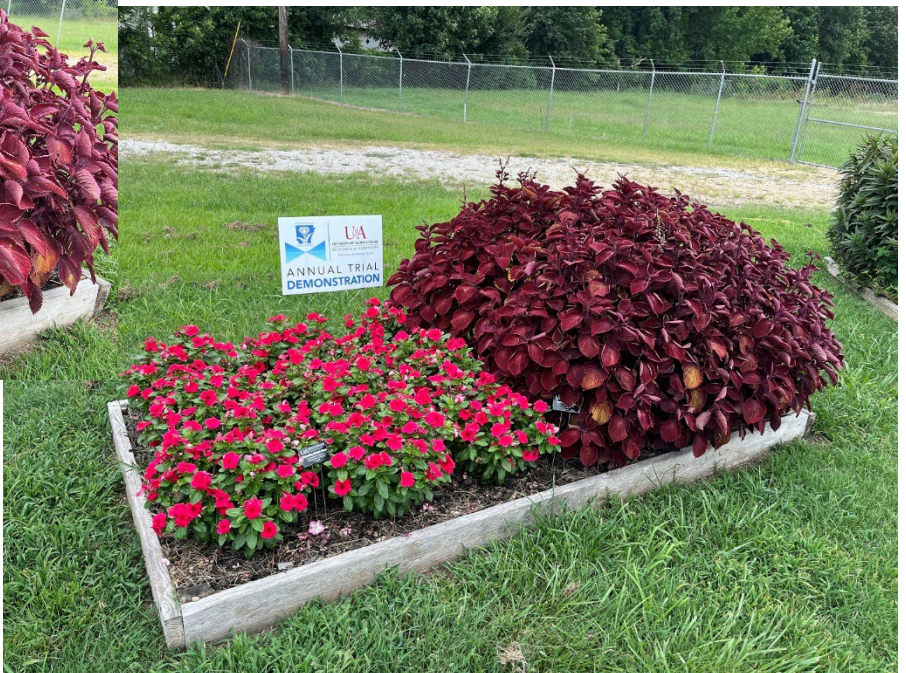
May Trial Pictures - Planting Day



June Trial Pictures – Plants 1 month after planting



July Trial Pictures – Plants 2 months after planting



August Trial Pictures – Plants 3 months after planting



September Trial Pictures – Plants 4 months from planting



October Trial Pictures – Plants 5 months from planting



University of Arkansas System, Division of Agriculture
Greene County Coopeative Extension Service, Master Gardener Program
2024 Arkansas Diamonds - Summer Annuals Research Trial



Site:	Greene County Fairgrounds	Partnering:	Greene County Fair (Dennis Hammon)
Investigators:	Randy Forst & Anthony Bowden	Master Gardener Managers:	Brenda Hester, Leah Freeze
Planting Date:	May 21st	Master Gardener Recorders:	Brenda Hester, Dr. Colin Hester

Plant Entry & Rating Dates - (monthly goal)	Height Inches	Width Inches	Flower Rating*	Health Rating**	Insect Issues	Disease Issues	Other observations
Coleus "Ruby Slipper"							
May 21st	11	8	NA	5	None	None	Green, healthy, good roots
June 11th	15	18	NA	3	Light	None	a few flower stalks
July 19th	33	25	NA	3	Light	None	grasshopper present
August 18th	35	24	NA	1	Light	None	Slight wilt & yellowing, lots of flower stalks
Septeember 26th	36	24	NA	3	NA	None	Plants past prime due to tight spacing
October 24th	37	32	NA	1	NA	None	Plants finished - Drought fb strom damage
Season Average	27.8	21.8	0.0	2.7			

Vinca "Tattoo Black Cherry"							
May 21st	4	5	2	5	None	None	Green, healthy, good roots
June 11th	5	7	4	3	None	None	
July 19th	15	19	4	3	None	None	
August 18th	16	22	5	5	None	None	Healthy plants, good flowering
Septeember 26th	16	24	2	3	None	None	Plants have fallen over from storms
October 24th	11	22	2	2	None	None	Some slight leaf yellowing-blotches
Season Average	11.2	16.5	3.2	3.5			

*Flower Rating - Estimate percent flowering - 1 = 0%, 2 = 1% to 25%, 3 = 26% to 50%, 4 = 51% to 75, 5 = 76% to 100%

**Plant Health Rating - Use a scale of 1 to 5 based on health of foliage, and plant growth - 1=Poor, 3=Average, 5=Excellent

Greene County Master Gardener 2024 Awards Winners

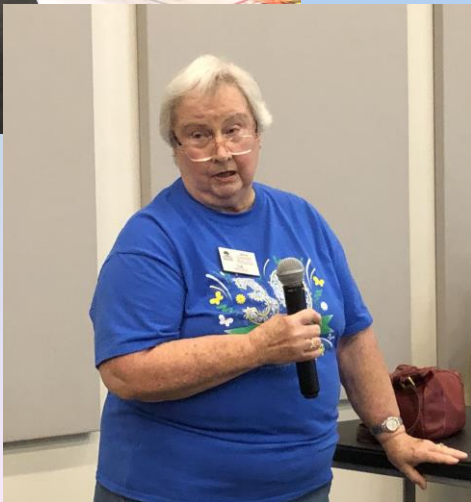


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Greene County Master Gardener 2024 Excellence in Education

- Brown Bag Lunch
- Project chair –
Linda Glickert



2024 Master Gardener Excellence in Education Award

The Brown Bag Lunch (BBL) program won the 2024 Arkansas Master Gardener Excellence in Education Award. Linda Glickert serves as chair for the BBL program. The program began in 2012 and has continued now for more than a decade.

In 2024, most of the monthly BBL sessions (9) were held at the Paragould Community Center. Attendance ranged from 5-30 (ave. of 15), with a total of some 150 attendees for the year. Over half those attending were youth from the local home-schooled program, while many others attending were senior citizens.

Various topics were used for the BBL program which is open to the public. They serve to educate local residents, promote the GCMG program, and to identify potential new members. Some speakers were local experts in gardening, such as one local microgreens farmer. He provided a hands-on demonstration for one of the monthly sessions.

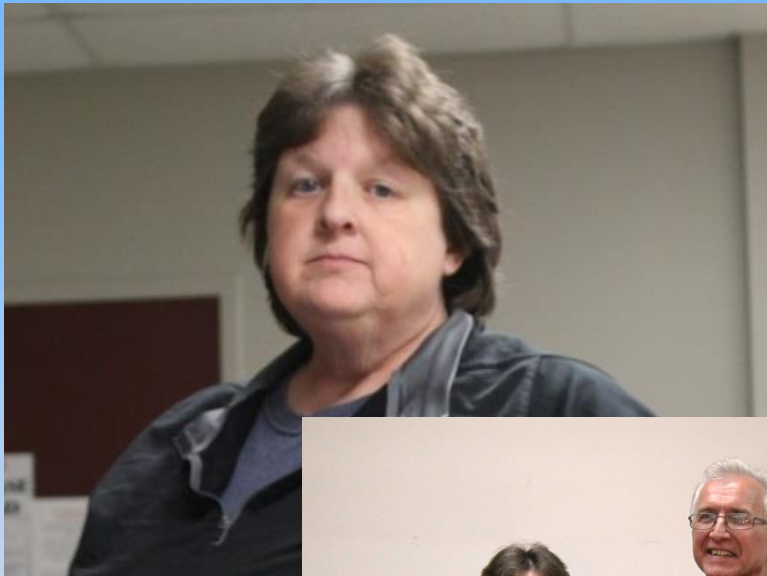
The BBL program is also used for new and existing Master Gardener members to earn work hours by preparing and giving talks in their area of expertise or passion. Kenneth Edman, one of our rookie members for 2024, gave a great talk on straw bale gardening! After his presentation, he was invited by a Craighead County MG (who was attending that day) to come give the program at their next monthly meeting. Another one of our new members, Reesie Tritch, gave a super talk on using tubs and growing media, with a hydroponic approach, to grow vegetables!

The BBL sessions are interactive, with discussion and questions encouraged. Many times the speaker and participants both have a strong interest in the topic being presented. This lends itself to sharing ideas, stories, successes, and failures! A good time is generally had by all in the hourly sessions that provide a great opportunity for horticulture learning and sharing!

Linda Glickert has done an excellent job for several years chairing the BBL project! She spends many hours planning topics and recruiting speakers.

Greene County Master Gardener 2024 Newsletter of the Year

- Greene Garden News
- Editor – Angela Loveless



2024 Master Gardener Newsletter of the Year Award

Angela Loveless serves as the editor for the Greene County Master Gardener Newsletter for the last few years. It is called the Greene Garden News, and is published monthly.

Angela does an excellent job providing Master Gardener updates in the newsletter. She also includes lots of pictures to update readers about what is going on with the program.

Timely topics on gardening are also included in the newsletter. Links to associated websites, as well as pictures showing plants, programs, and garden volunteers, make the newsletter much more enticing to read!

We have submitted an application for the Greene Garden News to compete for the 2024 Arkansas Master Gardener Newsletter of the year award. Good luck to Angela and the other local Master Gardeners who have contributed to the newsletter.

Greene County Master Gardener 2024 Individual Friend

- Miranda Reynolds
- Mainstreet Paragould-Director



2024 Individual Friend of Master Gardener Award

Miranda Reynolds won the 2024 Individual Friend of Master Gardener Award for Greene County. Miranda is the Executive Director for Main Street Downtown Paragould. Since stepping into this role a few years ago, she has promoted and partnered with the GCMGs to plan and conduct several events to help our local community shine and grow!

Some of the events the GCMGs teamed up with Miranda to conduct the last couple of years include the GCMG 25 Year Celebration, the annual GCMG Plant Sale, Springtime on the Mall Cleanup, and monthly GCMG meeting programs.

The GCMG program had their 25 year anniversary in 2023. Miranda helped us plan a celebration event at the new Community Pavillion. The event allowed several attending that day to visit with GCMG members about the program. In addition, local officials including Josh Agee, Paragould Mayor, and Rusty McMillon, Greene County Judge, spoke that day about the impact of the GCMG program.

Miranda has also coordinated with the GCMGs the last few years to plan the opening day of the Paragould Farmers Market with the annual Plant Sale. In 2024 the GCMG were provided ample room next to the Community Pavillion for the sale. The result was lots of exposure to the GCMG program, as well as bringing in a good return on plant sales that day, to be used for GCMG programs and student scholarships.

Each year, Springtime on the Mall brings several local groups together to help clean and spruce up the community. Miranda has worked closely with the GCMGs in this event. She teams up some of the groups with the GCMGs to get GCMG project beds into shape. Having the extra help to weed, mulch, and plant, always results in the projects being in great shape to begin the season!

Finally, Miranda always keeps the GCMGs up to date on new efforts and upcoming events for the Downtown Paragould program. She sometimes serves as our monthly meeting speaker to tell us about all the good things going on in Paragould! The GCMG program is growing and gaining more visibility each year through partnering with community leaders like Miranda!

Greene County Master Gardener 2024 Business Friend

- Tractor Supply Co (TSC)
- Paragould Manager – Emily Hendren



2024 Business Friend of Master Gardener Award

Tractor Supply Co., Paragould, won the 2024 Business Friend of Master Gardener Award for Greene County. The manager is Emily Hendren. At the end of planting season, she donated seeds and planting supplies, that had not sold, to the Master Gardeners. We immediately began planning the programs we could use these treasures.

Our Fall Garden Seminar was approaching, and we knew that sharing the seed and supplies with our likeminded brothers and sisters would be a perfect use for some of the items. Several of our Master Gardeners tied seed packets together with twine to make useful and attractive gifts for each of the registrants. Some of the planting supplies were used as door prizes.

Our Teaching Garden used the seeds to grow some of the cool crop seeds: spinach, swiss chard, radishes, kale and lettuce. One of our new Master Gardeners and her mother talked to the kids about what they could grow in their Fall gardens. The students were shown on the back of the packets about planting dates, spacing, etc. Kids were given some of the seeds to take home for their personal gardens to plant and try to grow. October is the last month of the year for Youth Teaching Garden, so no one would have been there to harvest if planted in the Teaching Garden. We will enjoy hearing their success stories when we begin again next year.

Our members work hard preparing plants for our Spring Plant Sale. Many of the seeds and supplies were given to Master Gardeners who used them to share with new Master Gardeners (and some of the older members who may not have worked with seeds). We have one member who is very accomplished with vegetable gardening and was more than happy to share his expertise with other Gardeners. No matter how much research material you read, actually working with someone who can show you what to do is invaluable.

Two new projects of Greene County Master Gardeners involve native plants to attract and feed pollinators. Sowing seeds is a great way to begin. Seeding in the Fall has already been done, and additional planting will be done in the Spring. Expect more information in the future about these projects. The generous donations from Tractor Supply Co., Paragould, has helped Greene County Master Gardeners be able to use them at our Seminar, in our Teaching Garden, planting for Spring Plant Sale, and sowing seeds for pollinators. We thank Emily Hendren and Tractor Supply Co. for their generosity!

Greene County Master Gardener 2024 Mentor of the Year

- Susan Youngblood
- MG Membership & Training Chair
- 9 GCMG trained in 2023
- 8 GCMG in training 2024



DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

University of Arkansas System



2024 Master Gardener Mentor of the Year Award

Susan Youngblood won the 2024 Arkansas Master Gardener Mimi Cox Mentor of the Year Award for Greene County. Susan has directed much effort to recruiting, training, and mentoring for the Greene County program for the last couple of years. This has resulted in the program blossoming to a new level with much excitement by all!

It has just been a few years now since Susan retired from her nursing profession. Since then she has been diligently involved in the GCMG program, along with other groups focused on growing Paragould and the surrounding region. Youngblood also sits on both the City Beautiful and Tree City USA committees for Paragould, to represent the GCMGs.

Due to her knowing so many leaders and residents in this region, Youngblood has been able to encourage and sign up several folks to train and become Greene County Master Gardeners!

In the last two years, the Greene County Master Gardener program has grown from under 30 to just over 40 members! This 25 % increase is due in large part to the dedication and hard work of Susan Youngblood and the other GCMGs she has added to her team to recruit and mentor new members.

Youngblood concentrated on our mentoring program in an effort to make sure new members have a positive entry into the program. By the end of the online training window, Susan assigns each trainee their mentor, and the mentor makes contact with the new member.

Once the new year begins, Susan conducts a meeting at the Extension office for mentors and new members to meet for a morning session to get to know each other. At this session, an update about the county program is given by our GCMG president. In addition, online reporting training is provided by our online reporting manager. Those attending are also given an overview of the current sanction projects and educational programs where they can volunteer to earn their required work hours.

Each of the last couple of years, Susan has not only served as a mentor herself but has matched seasoned GCMG members to mentor the rookies for the upcoming year. All these mentors have done a fine job reminding their mentees about workdays and meetings, many times being right there to dig and learn with them!

Thanks to Susan and her team of mentors, the GCMG program is marching toward the 50-member mark! If we stay on track, we will soon move to that 50+ awards program group! Way to go Susan and friends!

Greene County Master Gardener 2024 Project of the Year

- Greene County Public Library
- Project Chair – Stephannie Rodrigues



2024 Master Gardener Project of the Year Award

The Greene County Public Library won the 2024 Arkansas Master Gardener Project of the Year Award for Greene County. It has been one of our most visible sanctioned projects for almost 20 years (began in 2006). In 2024, 10 or more of our GCMGs volunteered over 80 hours of time maintaining the library beautification beds. Stephannie Rodrigues chaired this project, working closely with our Greene County Public Library partners (Mike Rogers, Connie Whitman).

The doors of the library have been graciously opened to the GCMGs for the last two decades for meetings and programs! The Legacy room in the library was used to hold the GCMG monthly meetings for many years until the group outgrew the room around 2020. Many garden talks, savory meals, business meetings, and new officer inaugurations took place in the peaceful, progressive, and community spirited atmosphere of the Greene County Public Library!

Our library partners never fail to provide the support and resources needed for the Master Gardeners to maintain some of the most beautiful landscape beds in Paragould. Each spring and fall, Mike, and Connie work with our local Master Gardeners to clean up beds, prune plants, set out colorful annuls, and refresh mulch on all the beds.

The library is a place to go to if you are thinking about education. On the way in and out the doors, library patrons can stop to check out the various ornamental (all with plant labels provided by the GCMG) plants in the beautification beds. Connie Whitman, our project partner, has also provided a seed sharing program at the library, that some of our Master Gardeners support with their seed donations.

The Greene County Public Library project includes a large circular landscape bed at the road entrance to the library parking lot. It also includes beds that run to the exterior (6 feet deep all the way) of the library building, along the south side and front entrance (a run of over 200 feet). These beds have several hollies, crapemyrtles, and ornamental grass that must be maintained.

It has been a pleasure to work closely with the Greene County Public Library and their staff these last few years to enhance beautification, and provide horticultural learning opportunities, for our fast-growing community!

Greene County Master Gardener 2024 Rookie of the Year

- Alyssa Blakeney



2024 Master Gardener Rookie of the Year Award

Alyssa Blakeney won the 2024 Arkansas Master Gardener Rookie of the Year Award for Greene County. Alyssa has been excited about the Master Gardener program ever since meeting and being encouraged about the program by GCMG Richard Yeazel. She was one of the first to complete the online MG training the fall of 2023, in her class of 9 from Greene County!

Alyssa was very active in her rookie year, participating in several events and workdays! She even offered to serve in some key leadership roles her first year! She joins the program with experience working with youth since she used to teach at the Children's Home in Paragould. More recently she joined the team at the Paragould Chamber of Commerce, serving in several capacities to plan, promote, and conduct local community events!

Alyssa hit the ground running in 2024 by agreeing to serve on the GCMG executive board, to chair the County 76 Spirit Pole Effort for Greene County, and to provide some leadership (assisting her mentor) for the Arkansas Diamond Perennials trial in Greene County. She was also present to help at several work days, some including the Fall Garden Seminar, historical herb garden, and youth teaching garden. In addition, she stepped into a teaching role by giving one of the GCMG monthly meeting programs.

Blakeney did an excellent job serving as At Large Officer on the GCMG executive board to represent new members! She made most of the scheduled board meetings and always had good suggestions as a newer member and Chamber team member.

Alyssa also did great giving leadership to the GCMG spirit pole effort! She worked with our GCMG president, Kathy Graber, to help set up a Spirit Pole workday. A dozen or so poles were made and sold at the annual Plant Sale. Alyssa was also responsible for making and painting the Spirit Pole that was turned in from the GCMGs to County 76 to be sold at the Arkansas MG state convention to raise funds for that group.

Plant care and data collection were also provided by Alyssa and her rookie teammate, Kristie Glass, to conduct the Arkansas Diamond Perennial Trial program in Greene County. Vicki Griggs, their GCMG mentor, advised and encouraged them as they regularly took trial records, and cared for the plants. The trial was planted at the First Responders bed at the Greene County Courthouse.

Blakeney teamed up with several GCMG members to set up the meeting room and prepare participant packets for the Fall Garden Seminar. Around 60 participants from the NE AR region came to enjoy the event.

Hair Today, Fertilizer Tomorrow was the eye-catching title of the presentation Blakeney gave at the August GCMG monthly meeting. She showed slides of research she had conducted about using pet and human hair as an alternative source of fertilizer.

What a busy rookie year for this new Greene County Master Gardener!

Greene County Master Gardener 2024 Master Gardener of the Year

- Julia Wyss
- Plant sale chair



2024 Master Gardener of the Year Award

Julia Wyss won the 2024 Arkansas Master Gardener Master Gardener of the Year Award for Greene County. Julia completed training to become a Master Gardener in 2020. Since that time, she has become friends with many of our members, and is known for helping wherever needed, and for getting the job done!

Having recently retired with many years under her belt as a teacher in the public school system, Julia is great at working with people, whether they are adults or youth. She has served on some key GCMG committees and helps with some of our most visible projects, including the plant sale, fall garden seminar, herb garden, Paragould library, and South sign.

For the plant sale, Wyss organized our troops into teams. She also set up a display system for our new farmers market facility, the Community Pavillion. Plant Sale teams represented different plant groups, like vegetables, herbs, and annuals. There were also crafts and sales teams. The teams directed and assisted shoppers to whatever area they were trying to find. Julia also guided over 20 of our GCMG members volunteering to set up, take down, and clean up!

For the Fall Garden Seminar, Wyss was one of the key leaders in getting decorations in place, and helping attendees feel at home. She also worked with our seminar team to prepare participant packs and to secure door prizes.

Wyss also serves as the project chair for the historical herb garden which she completely updated in 2023. This year, she called multiple workdays to keep the beds looking good. Volunteers for the workdays helped clean up the herbs & perennials, and also put out new mulch. The herb bed is located at the Paragould Chamber building near downtown. On occasion, some of our local restaurant chiefs nearby have used herbs from the bed!

Julia was also present at several other beautification workdays and education projects! She helped pull weeds and clean beds at the library and south sign projects. She also participated in many of the Brown Bag Lunch sessions.

Julia is always positive, upbeat, and she makes gardening fun! She is continuously working, but also smiling, laughing, and encouraging other members! She has become good friends with most of our GCMG members and project partners!

2024 High Tunnel Survey Program

Investigator:

Taunya Ernst NRCS

Extension Agent:

Dave Freeze

Partnering:

(Kristie Glass)

Growers:

Holland (Jim, Sherry), McMillon (Jim, Gloria), Pillow (Tasha, Levi), Tritch (Reesie, Mindy, Jason), Williams (Frank, Jackie)

Location:

Greene County, AR

Background:

With the onset of COVID, many families now spending more time at home, turned their attention to homesteading. This generally included growing vegetables to provide available, affordable, wholesome food.

To provide support (information & resources), the NRCS recently began an Urban Agriculture program to assist families wanting to grow vegetables on a larger scale to provide food for their families and communities. The program was also for producers wanting to grow for profit, by selling their produce at local farmers markets or through other avenues.



A big component of the NRCS Urban AG effort was providing families with high tunnels (hoop houses) to allow for extended growing seasons, hopefully improving overall production. Many families applying for the highly subsidized tunnels, and being awarded a tunnel contract, knew very little about managing their new structures, or about growing vegetables.

Upon realizing the need for support and training for new tunnel growers, the NRCS partnered with the University of Arkansas System, Division of Agriculture (UADA), to develop an educational program on growing produce with high tunnels.

Objectives:

-Conduct an early season survey of local growers that have recently started growing vegetables in high tunnels, to evaluate what challenges they face and what successes they see with their new approach to gardening.

-Identify pests, their level of development, and their response to control measures following IPM practices.

-Monitor ventilation status within tunnels as it changes with the season, and the practices used to manage extreme temperatures and humidity.

-Assess management practices followed to provide nutrient and water needs for tunnel crops.



Kristie Glass gives talk on NRCS high tunnel program.



Taunya Ernst puts up high tunnel workshop sign.

Project Setup:

Kristie Glass, the local NRCS Urban AG Technician, teamed up with the Greene County Extension Service to work with tunnel growers (as her time permitted). During the spring, potential growers were recruited for the tunnel survey.

An initial visit was made to each grower's tunnel site to assess their setup for drainage and ventilation. Wind and sun status notes were also taken. In addition, soil samples were pulled and sent to the UADA soils lab for testing.

A schedule was setup with growers for regular scouting (generally every 3-4 weeks) of tunnels. During each scout visit, an assessment was made

of the current ventilation status. Plants were also given visual inspection to determine if nutrient and water needs were being meant. Finally, vegetables were checked for damage from insects, diseases, and rodents. Any weed issues were noted.

Taunya Ernst, Instructor - High Tunnel and Urban Agriculture Educator for the UADA, also worked with the local NRCS and Extension office, to plan and conduct two High Tunnel field days in Greene County.

Results and Discussion

Drainage Observations:

One of the key problems most of the new tunnel growers ran into was poor drainage. At most of the sites, the tunnels were built without any soil movement to provide an elevated base for them to sit on. This generally resulted in water running into the tunnel from its high side after big rain events.

At most of the sites, drain furrows had been prepared along the sides of the tunnels, but they were generally not big enough to handle the large volume of water coming off the tunnels during big rains. One grower even put in a French drain to help with seepage into his tunnel. Another grower put homemade gutters (large PVC pipe) on the sides of his tunnel. The bottom line is that a good drainage plan needs to be prepared before tunnel construction begins.



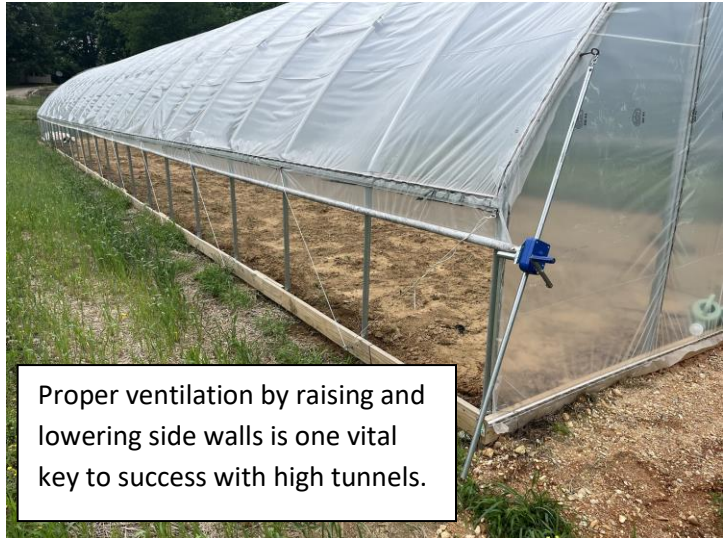
Taunya Ernst (left) visits with Tasha Pillow (center) and Kristie Glass about high tunnel management.

Ventilation Observations:

In the Midsouth, wide ranges in temperatures and humidity call for a well-managed plan for keeping tunnel plants healthy and growing at their best to make top crops. Most of the growers in this survey did a good job managing their side walls and end walls to allow for proper ventilation, as well as to capture and release heat as needed.

Considering the tunnels in this survey, the ones with higher side walls (5-6 foot) seemed to have had greater flexibility to move air in and out of their tunnels compared to the growers with shorter (3-4 foot) side walls. Also, the growers with larger doors, openings, and/or vents on their end walls, also had more flexibility in ventilation.

Most of the growers in the survey put out the needed shade cloth over their tunnels as temperatures rose going into May-June. Some growers opted to produce without shade cloth for their tunnels. They also took a summer break from growing.



Proper ventilation by raising and lowering side walls is one vital key to success with high tunnels.



Jim McMillon set up drip irrigation and fertigation in his high tunnel.

Nutrition Observations:

Most of the growers provided a good fertility program for their crops and made good production. For those who were able to pull soil samples and assess results, no lime was needed for most soils. For growers new to tunnels, make note to prepare your soil before building the tunnel. Make lime applications and incorporate as needed beforehand.

We also checked salt levels for the soil for one of the new tunnels, and it was good. As a caution to those who will get into tunnel production of vegetables, over time, salt levels can build up because within the tunnel, rain is not received to help flush the salts out of the soil. For this reason, soil samples should be regularly taken to check the salt level in the soil. Also, it is imperative not to over fertilize the crop and bring on a salt situation in a short time.

Irrigation Observations:

The tunnel growers in this survey all had irrigation set up to water their vegetables. Most used soaker hoses or drip irrigation to allow more time for soaking and a good irrigation. This also allowed plants to stay dry and help prevent spread of foliar diseases.

For new tunnel growers, make sure to plan for setting up drip irrigation. It will let you calculate to the gallon how much water the crop is receiving. It is also great to spoon feed your vegetables by injecting the fertilizer in the irrigation water.

Pest Observations:

Some of the pest insects seen in the tunnel survey were spider mites, aphids, squash bugs, cabbage loopers, and white flies. The growers sprayed as needed.

No major diseases were found while scouting tunnels this year, expect a little bit of early blight on tomatoes at one site. Fungicides were sprayed as needed.

Signs of rodents noted on our regular tunnel visits were deer, rabbits, and even moles! Preventative barriers were established as needed.

No significant weed issues were seen in this survey. Some of the tunnel growers used a weed fabric barrier between rows and/or in the bed/row.

Field Days:

We want to thank our two tunnel growers who hosted field days at their tunnel sites. In June a field day was conducted at Finch at Rhonda Gunn's tunnel. She showed attendees her tunnel and talked about the crops growing and her experiences with tunnel production up to that point.

The field day then moved down the road to Finch Baptist Church (thanks so much to them) where we heard PowerPoints from Taunya Ernst on tunnel production. The program concluded with lunch provided by Greene County Farm Bureau.

The second field day was held in October. It started off at the new Greene County Extension office with Taunya Ernst giving a PowerPoint show on tunnel production. Dr. Amanda McWhirt then spoke about plant nutrition and health for tunnel crops. Katy Brantley, State Urban Conservationist, then talked about conservation for high tunnel production. Next on the morning program was a panel discussion of local growers (Rex Barnhill, Brandon Emmons, and Tasha Pillow). Lunch was then served.

Jim and Gloria McMillon hosted the afternoon field stop for the workshop. Jim showed how he had set up their newly constructed tunnel! Ernst talked about tunnel design and the use of shade clothes. Dave Freeze gave a demonstration on using drip irrigation. Thanks so much to the McMillon's for hosting!

Potato aphids found on tomato leaf in a high tunnel.



June high tunnel field day at Finch. Attendees view Rhonda Gunn's set up.



Summary:

Using high tunnels to extend the growing season can be a great way to improve vegetable production. It is also a way to start early in the spring and go late in the fall, to grow crops.

To be successful with tunnels generally requires a lot of site planning and prep before building the tunnels. Once tunnels are up, and crops planted, daily management will be needed to monitor tunnel ventilation and water status. Pest pressure will also need assessed multiple times per week and action taken accordingly.

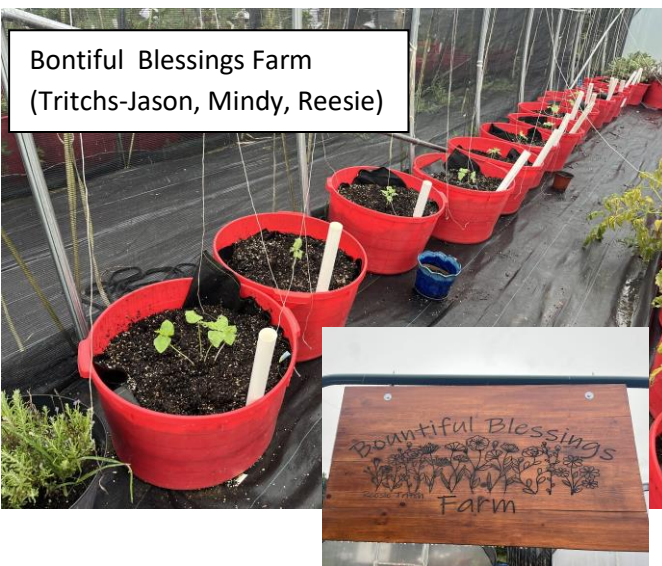
Make sure to visit your local NRCS rep and/or County Agent for suggestions on your future tunnel adventures. Visit the UADA high tunnel website at this link for more information.

<https://uaex.uada.edu/farm-ranch/crops-commercial-horticulture/horticulture/high-tunnel-production.aspx>



High tunnel workshop in October on the McMillon Farm.

Thanks to our Tunnel Survey Growers!



Former-Scatter Creek Berries
(Frank & Jackie Williams)

Pillow Farm (Levi and Tasha, and boys). Plants are being inspected by Taunya Ernst and Kristie Glass.



McMillon (Jim & Gloria) Farm. Jim visits with Taunya Ernst and Kristie Glass about tunnel construction.

Jim Holland (back center) enjoys helping his grandchildren grow Giant 4H Pumpkins!



Holland Farm (Jim & Sherry). By June, the Hollands had placed shade cloth on their tunnel.



Reesie Tritch, with Bountiful Blessings Farm, demonstrates how to use the tub wicking system to grow vegetables.

2024 Nitrogen Rate Study in Irrigated Bermudagrass

Partnering: Hill Hay Farms

Ext. Agent: Lance Blythe

Investigator: Dr. Bronc Finch

Location: Greene County

Variety: Midland

Soil Series: Beulah fine sandy loam

Objective:

The objective of this study was to evaluate the influence of nitrogen (N) application rate on the yield, quality, and return on investment of irrigated bermudagrass production.

Materials & Methods:

- A single site-year study was established in 2024 on an irrigated bermudagrass hay production field
- A randomized complete block design with 5 fertilizer application rates and one no-nitrogen control (Table 1), treatments were replicated 4 times.
- Nitrogen applications were made at Greenup and following the first and second harvest using Urea (46-0-0) broadcast applied.
- Two single application treatments were included to assess the impact of residual fertilizer nitrogen.
- Plots were harvested by mowing and collecting all biomass greater the 4 inches in height from the middle 42 inches of each plot. Biomass was weighed and sub-samples were collected for moisture and forage quality analysis.
- The UADA Fayetteville Agriculture Diagnostics Laboratory conducted the forage analysis.
- Statistical analysis was conducted using PROC GLM in SAS 9.4 to determine bermudagrass yield and quality response to N application rate within each harvest cycle ($\alpha = 0.05$).

Treatment ID	Application Rate 1 st – 2 nd – 3 rd	Total N (lb N ac ⁻¹)
0 ^{x3}	0 – 0 – 0	0
50 ^{x3}	50 – 50 – 50	150
100 ^{x3}	100 – 100 – 100	300
150 ^{x3}	150 – 150 – 150	450
200 ^{x3}	200 – 200 – 200	600
250 ^{x3}	250 – 250 – 250	750
100 ^{x1}	0 – 100 – 0	100
200 ^{x1}	0 – 200 – 0	200

Table 1. Nitrogen application rate treatments by harvest cycle and total season application



Plots prior to second harvest.



Dr. Finch taking samples.



Blythe spreading N.



Dr. Finch measuring N for plot treatments.

Results & Discussion:

Dry Matter Yield

- No influence of N application in the first harvest, due to slow growth and residual soil N.
- Second harvest showed response to N application, with no significant response to rate.
- Third harvest maximized yield at ≥ 100 lb N ac.
- Residual N showed no influence in the second or third harvest.

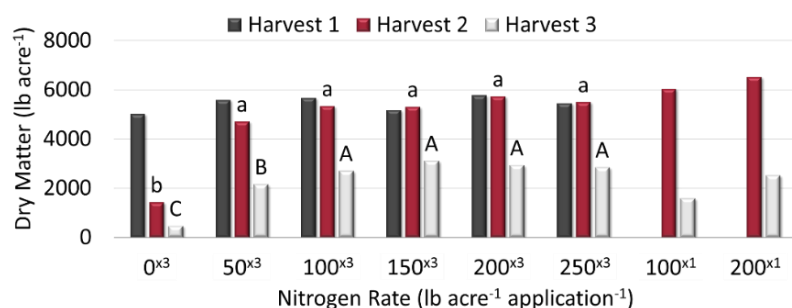


Figure 1. Dry matter yield (lb acre) for each nitrogen application rate by harvest. Letter coding represents treatment significance within harvests.



Dr. Finch & Cruz Hill discussing drone technology capabilities and use.



N plots prior to 3rd harvest.

Forage Quality Parameters

- Nitrogen application typically increased ADF compared to the control; however, was not influenced by rate.
- Crude Protein and TDN increased as N rate increased to 150 lb N acre or more.

Harvest	Crude Protein			TDN			ADF			NDF		
	1 st	2 nd	3 rd	1 st	2 nd	3 rd	1 st	2 nd	3 rd	1 st	2 nd	3 rd
----- (% of Dry Matter) -----												
0 ^{x³}	7.5 e	9.6 c	11.4 c	58.7 d	60.9	61.5 b	31.1 b	29.0 b	29.4	64.8	65.6	66.6 a
50 ^{x³}	10.2 d	10.7 bc	14.0 bc	59.5 cd	60.5	62.1 ab	31.9 ab	30.5 ab	30.4	64	65.6	66.4 a
100 ^{x³}	12.1 c	12.6 ab	15.9 ab	59.9 bc	60.9	62.9 ab	32.6 a	31.3 a	30.5	64.2	63.7	64.1 b
150 ^{x³}	13.3 b	13.4 a	16.5 a	60.7 ab	60.7	63.1 ab	32.3 ab	32.2 a	30.7	63.4	66.2	64.6 ab
200 ^{x³}	14.7 a	14.3 a	17.3 a	61.3 a	61.2	63.7 a	32.3 ab	32.1 a	30.3	62.9	63.9	64.1 b
250 ^{x³}	14.6 a	14.4 a	17.6 a	61.3 a	61.6	63.4 ab	32.3 ab	31.6 a	31	62.9	63.3	63.5 b

Table 2: Crude protein, total digestible nutrients (TDN), acid detergent fiber (ADF), and neutral detergent fiber (NDF) as percent of dry matter for each treatment in each harvest. Letter coding represents differences between treatments within harvest for each quality factor.



View of plots during second harvest.

Economic Return

- When dry matter yield did respond to N application rate economic return was maximized between 50 and 150 lb N ac on average.
- High applications >200 lb N acre always resulted in the lowest economic return.

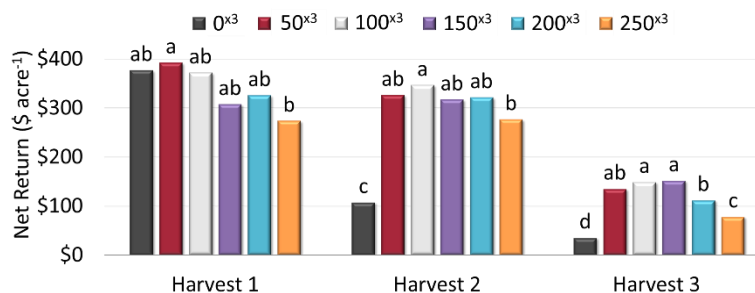


Figure 2. Net returns (\$ acre⁻¹) at \$0.54 lb N and \$150 per Ton dry matter for each nitrogen application rate by harvest. Letter coding represents treatment significance within harvests. The \$0.54 lb N is equivalent to \$500 per Ton Urea.



Dr. Finch harvesting N plots.

Conclusions

Results of this study show the potential benefits of increasing N rate recommendations for irrigated hay production. However, this study represents a single location in a single year and may not result in similar results under other conditions. Therefore, it is recommended to follow current UADA recommendations for N applications. More work is needed to identify the appropriate N rate recommendation for irrigated hay production.

We thank the Hill Family for allowing us to conduct this research on their farm, as they have been great to work with. This research is one area of study among several they have allowed us to conduct on their farm that will not only benefit local producers, but hay producers far beyond Greene County.



Cruz, Ronnie, and Steven Hill. Three generations and over 30 years of hay production in Greene County.

2024 Corn Hybrid Demonstration

<u>Partnering:</u>	Derek & Royce Boling	<u>Consultant:</u>	Shane Frost
<u>Investigator:</u>	Dr. Jason Kelley	<u>Ext. Agent:</u>	Lance Blythe / Dave Freeze
<u>Location:</u>	Paragould	<u>Soil Series:</u>	Calhoun Silt Loam
<u>Objective:</u>	Accumulate yield, agronomic, and disease tolerance support data of corn hybrids entered in the U of A System, Division of Agriculture, county performance trials. Determine local yield potential and adaptability of commercially available hybrids.		
<u>Previous Crop:</u>	Soybeans		

Tillage, Planting, & Demo Setup:

Conventional seedbed prepared and planted on 30-inch beds on April 9th. Included 17 hybrids and 5 conventional varieties - 8 rows of each planted.

Crop Development, Weather & Pests:

Planting and growing conditions were really good this year. Rainfall was timely and plentiful, except for a mild late-summer drought.

Pest pressure was very light this year. Outlook, Atrazine, and Acuron were applied for weed control. Besiege was used for insect control.

Fertility & Irrigation:

At planting, a 60-40-80-12 was applied. Sidedress fertilizer (160-0-30-12) followed around the 5-leaf growth stage. At pretassel, 46-0-0 was applied. Total units of fertilizer for the season were 265-40-110-24. Furrow irrigation was used on this field.

Discussion & Results:

The plots were harvested on Aug. 22nd. Yield data was collected using a weigh wagon and a moisture meter. Yields were adjusted to 15.5% moisture (Table 1). Hybrid yields ranged from 235-275 bpa. The conventional yields ranged from 247-253 bpa.



Planting Crew



Joe Conway harvesting plots.



Part of the harvest crew (LtoR): Chris Ouzts, Adam Rawls, Josh Stidman, Derek Boling, Danny Graham, & Lance Blythe.

**Table 1: 2024 Corn Hybrid Demonstraion
Greene County Cooperative Extension Service**

Grower: Royce & Derek Boling	Investigator: Dr. Jason Kelley
Location: Greene County	County Agent: Lance Blythe & Dave Freeze
Farm Manager: Boling Farms	Consultant: Shane Frost
Planting Date: 4/9/24	Soil Type: Calhoun silt loam
Harvest Date: 8/22/24	Previous Crop: Soybeans
Number Rows: 8	Row Length x Width: 1318 ft. x 30 in.

Fertility: (lb/ac)	N	P	K	S	Zn
— Preplant	60	40	80	12	0
— Sidedress	160	0	30	12	0
— Pretassel	46	0	0	0	0
Total Fertility:	265	40	110	24	0

Pesticides:
Atrazine
Outlook
Acuron
Atrazine
Besiege

Irrigation Type: Furrow Number of Times: Multiple

Hybrid	Adj. Yield ¹ Bu/Acre	Acres	Weight	Yield	% Moisture	Test Weight	Plant Stand ²	Lodging Score ³
Dekalb 68-35	275.2	0.605	9,526	281.2	17.3	61.6	36.00	1
AgriGold 647-79	268.2	0.605	9,262	273.4	17.1	58.6	36.00	1
Pioneer 17677 YHR	266.5	0.605	9,224	272.3	17.3	57.8	36.25	1
Beck's 6973 TCV2P	265.7	0.605	9,496	280.3	19.9	57.5	37.00	1
Beck's 6574 TCV2P	257.9	0.605	9,048	267.1	18.4	58.5	36.00	1
Dekalb 66-06	256.3	0.605	8,894	262.5	17.5	57.7	36.50	1
Dyna-Gro 58VC74	254.2	0.605	8,832	260.7	17.6	58.7	35.75	1
AgriGold 647-42	248.5	0.605	8,860	261.5	19.7	56.9	35.75	1
AgriGold 645-22	248.0	0.605	8,626	254.6	17.7	57.5	36.75	1
Beck's B6585 TCV2P	247.3	0.605	8,562	252.7	17.3	58.5	34.75	1
Progeny 2118 VT2P	246.1	0.605	8,582	253.3	17.9	59.8	36.25	1
Progeny 2215 TRE	244.7	0.605	8,440	249.1	17.0	58.3	35.75	1
Pioneer 1511 YHR	242.2	0.605	8,406	248.1	17.5	60.5	34.50	1
Dyna-Gro 56TC44	241.3	0.605	8,508	251.1	18.8	57.3	38.25	1
AgriGold 645-16	240.0	0.605	8,318	245.5	17.4	58.0	35.00	1
AgriGold 644-64	237.2	0.605	8,312	245.3	18.3	56.3	37.25	1
Beck's 6803 V2P	235.5	0.605	8,274	244.2	18.5	58.5	35.50	1
Hybrid Average	251.5							
Beck's 6774 (conv)	253.3	0.605	8,696	256.7	16.6	59.0	34.75	1
AgriGold 648-11 (conv)	250.1	0.605	8,940	263.9	19.9	57.3	35.75	1
Beck's 6374 (conv)	249.9	0.605	8,588	253.5	16.7	58.5	36.00	1
AgriGold 645-16 (conv)	249.1	0.605	8,510	251.2	16.2	57.8	36.25	1
AgriGold 646-30 (conv)	247.2	0.605	8,546	252.2	17.2	57.5	36.25	1
Conventional Average	250						36.01	

¹ Yield is adjusted to 15.5% moisture.

² Plant Stand is given as thousands of plants per acre.

³ Lodging score - 1 is no lodging, 10 is completely lodged.

Special thanks to Adam Rawls, Danny Graham, & Joshua Stidman for assisting with planting.

Special thanks to Adam Rawls, Josh Stidman, & Danny Graham for weigh wagon & harvest help.

2024 County Corn Hybrid Demonstration Program

Delta District Yield Summary

	-----Delta District Counties-----						
Hybrid	Chicot	Clay- East	Clay - West	Cross	Drew	Greene	Jackson
	-----Yield Bu/Acre-----						
Dekalb DKC 66-06	226	244	240		225	256	285
Dekalb DKC 68-35	236	258	216		229	275	262
Dyna-Gro 56TC44	216	263	260		214	241	255
Dyna-Gro 58VC74	203	239	260		210	254	246
Pioneer 1511YHR	219	255	263		200	242	243
Pioneer 17677YHR	214	263	270		206	267	253
Progeny 2118VT2	207	243	240		199	246	220
Progeny 2215TRE	211	235	230		199	245	260
Trial Mean	217	250	247		210	253	253
Row Spacing (in)	30	30	30		30	30	30
Planting Date	April 4	April 5	April 3		April 6	April 9	May 1
Soil Type	Sandy Loam	Silt Loam	Silt Loam		Silt Loam	Silt Loam	Sandy Loam

	-----Delta District Counties-----						
Hybrid	Lawrence	Lee	Lonoke	Poinsett	White	Woodruff	District Mean
	-----Yield Bu/Acre-----						
Dekalb DKC 66-06	227	204	289	264		229	244
Dekalb DKC 68-35	213	209	279	274		249	245
Dyna-Gro 56TC44	191	217	284	268		248	242
Dyna-Gro 58VC74	218	206	277	248		234	236
Pioneer 1511YHR	206	194	271	256		216	233
Pioneer 17677YHR	205	200	282	257		228	240
Progeny 2118VT2	184	186	281	253		231	226
Progeny 2215TRE	210	196	259	254		228	230
Trial Mean	207	202	278	259		233	237
Row Spacing (in)	30	38	30	38		30	--
Planting Date	April 6	May 20	April 16	April 5		April 8	--
Soil Type	Sandy Loam	Silt Loam	Sandy Loam	Silt Loam		Sandy Loam	--

2024 Arkansas Rice Performance Trials (ARPT)

<u>Partnering:</u>	Pigue Farm (Ron, Clint, Eric & crew)	<u>Investigator:</u>	Dr. Jarrod Hardke
<u>Crop Advisor:</u>	Lance Ramthun	<u>Program Associate:</u>	Donna Frizzell
<u>Location:</u>	Paragould (Greene County)	<u>Soil Series:</u>	Jackport silty clay loam
<u>Objective:</u>	Evaluate rice hybrids/varieties entered in the UADA Performance Trials, under farm level management. Determine local yield potential and pest (disease & insect) reaction of commercially available hybrids/varieties.		

Tillage and Planting:

Soybeans were planted on the trial field in 2023. It has been precision leveled, and flood irrigation (multiple input with polypipe) was used. Conventional tillage was used to prepare the field. The ARPT small plots were planted April 3rd.

Demo Setup & Weather:

The test included 28 Cultivars (8 drill rows of each), replicated 4 times. The plots came up to a good DD50 stand April 17th. The test was harvested with a small plot combine on August 22nd, a good 2+ weeks ahead of our typical harvest date. The farmer field was planted to RiceTec 753.

Fertility:

A custom, variable rate application of preplant, P & K fertilizer was used. Preflood N included 250 #s of urea (115 units N) and 50#s ammonium sulfate (10-0-0-12). A final boot application included 70 # of urea (32 units) and 30 # of potash. A total of 157 units of N was applied to the test plot field.

Pest Control:

For weed control, Command (16 oz) plus glyphosate was applied at planting. It was followed by an overlapping residual application of Bolero (48 oz) plus Prowl (40 oz). A final preflood herbicide application included Rinde (32 oz) plus Permit (1 oz), to help with barnyardgrass and yellow nutsedge. Overall, weed control was good.

No significant disease problems were seen. A fungicide (Amistar Top) application was made for protection from smuts. Regarding insects, stink bug numbers were very low this year, so no insecticide was used.



Results:

At this ARPT site, the average yield of all entries was 183 bushels per acre (bpa).

Nutrien had the highest yielding long grain hybrid entry at the Piguet location. DG3H2007 made 214 bpa. It was followed closely by RT 7302 (201 bpa), RT 7521 FP (200 bpa), and RT7331MA (194 bpa). Then came RT 7401 (191 bpa) and RTXP753 (190 bpa).

DG263L (192 bpa) was the top yielding pure line entry, followed not far by ProGold L4 (186 bpa), RTv7231MA (185 bpa), and Ozark (184 bpa).

Looking at the medium grain entries, RiceTec RT 3202 (210 bpa), ProGold M3 (192 bpa), CLM05 (190 bpa), and Taurus (189 bpa) were the top yielding cultivars. Review the tables that follow for more planting, yield, & milling results, for all entries in this trial and at other locations.

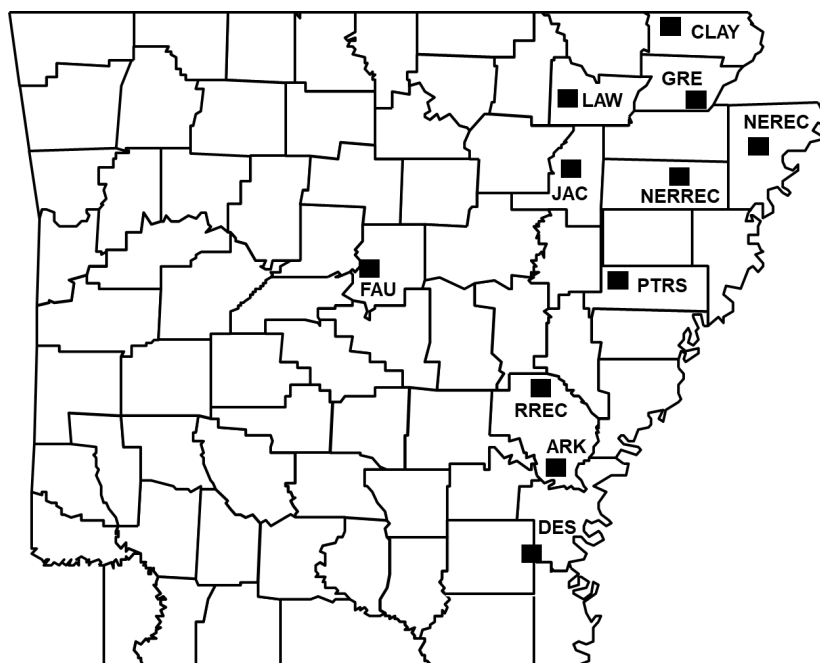


Arkansas Rice Performance Trials (ARPT)

Summary of Arkansas Rice Performance Trial Locations, 2024

University of Arkansas System Division of Agriculture

Site	Planting Date	Emergence Date	Harvest Date	Soil Type	Location Type
RREC, Arkansas Co., Stuttgart, Ark.	March 29	April 11	September 3	Dewitt silt loam	Research Station
PTRS, St. Francis Co., Colt, Ark.	April 24	May 6	September 24	Calhoun-Henry silt loam	Research Station
NEREC, Mississippi Co., Keiser, Ark.	May 29	June 7	October 14	Sharkey silty clay	Research Station
NERREC, Poinsett Co., Harrisburg, Ark.	April 23	May 6	October 2	Henry silt loam	Research Station
CLAY, Clay Co., McDougal, Ark.	April 5	April 15	August 28	Jackport silty clay	On-Farm
DESHA, Desha Co., McGehee, Ark.	May 21	May 28	September 23	Portland silt loam	On-Farm
LAW, Lawrence Co., Walnut Ridge, Ark.	April 16	April 28	September 10	Foley-Calhoun silt loam	On-Farm
JAC, Jackson, Co., Newport, Ark.	April 4	April 18	September 3	Dundee silt loam	On-Farm
GRE, Greene Co., Paragould, Ark.	April 3	April 17	August 22	Jackport silty clay loam	On-Farm
FAU, Faulkner Co., Conway, Ark.	April 16	April 28	September 23	Perry clay	On-Farm
ARK, Arkansas Co., Gillett, Ark.	April 15	April 24	August 26	LaGrue silty clay loam	On-Farm



Arkansas Rice Performance Trials (ARPT)

2024 Grain Yield Summary – All Locations

University of Arkansas System Division of Agriculture

Cultivar	Grain	RREC	PTRS	NEREC	NERREC	CLAY	DESHA	GRE	JAC	LAW	FAU	ARK	Mean
	Length ¹	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac	bu/ac
Diamond	L	204	184	160	176 ¹⁹	197	171	153	198 ¹⁸	181	171 ²⁹	193 ¹⁰	181
Ozark	L	200	187	131	172 ¹⁷	205	165	184	191	194	168 ¹³	204	182
ProGold L4	L	201	170 ⁵	126	153 ²⁸	199	171	186	190 ²⁵	179 ³⁹	161 ¹⁰	189	175
DG263L	L	210	198 ⁴⁸	171	182 ²⁵	191	197	192	222 ¹⁰	173 ³¹	195 ²³	186	193
RTv7303	L	210	188 ⁸¹	199 ¹³	157	204	185	175	221	168 ⁹⁰	188 ⁶	187	189
CLL16	L	217	176	122	196 ⁷⁵	181	161	169	187 ²⁰	169 ²⁰	176 ³⁶	183	176
CLL18	L	220	198	142	155 ⁴³	217	175	175	205 ¹⁵	186	178 ¹¹	191	186
CLL19	L	184	181 ¹³	146	152 ⁴⁰	205	165	166	182	179	156	203	175
CLHA03	L	179	167	106	155 ¹⁵	182	161	177	182	164	163 ³	193	166
PVL03	L	170	144	104	131	162	156	144	161	142	152	163	148
PVL04	L	179	177	136	163	178	171	161	195 ²⁷	156	180 ⁸	187	171
DG563PVL	L	212	198	150	209	176	180	165	197 ²³	177 ⁸³	174 ²⁵	196	185
RTv7231MA	L	183	178 ¹⁵	128	182 ²⁰	212	168	185	208	199 ⁴	154	217	183
RT7331MA	L	224	194 ²⁵	151	191	230	194	194	227	195 ⁵⁵	196 ⁵	219	201
RT7421FP	L	238	222 ¹⁶	139	216 ²⁷	210	198	179	236	182 ⁸⁸	187 ²⁵	227	203
RT7521FP	L	238	200	139	200 ²⁰	243	200	200	223	144 ⁸¹	170 ⁶⁶	195	196
RT7302	L	243	197 ⁷³	141	234 ⁷	232	213	201	240	173 ⁹⁵	182 ⁵³	198	205
RT7401	L	247	216 ¹⁸	144	213 ¹⁰	218	206	191	239	188 ⁹⁶	197 ¹³	197	205
RTXP753	L	211	201 ¹⁰	171	205	238	196	190	234	182 ⁵⁴	193	214	203
DG3H2004	L	256	200 ⁴⁸	142	216 ³⁰	226	218	186	235 ¹⁵	155 ⁹¹	163 ⁹⁸	204	200
DG3H2007	L	234	198 ⁶⁵	139	169 ⁶²	232	210	214	246	119 ⁹⁶	200 ⁸³	211	198
Titan	M	188	206	170	170	219	152	183	212	198 ²⁸	173 ⁷	194	188
Taurus	M	194	188	126	102 ⁶⁸	222	179	189	204	181 ²⁵	160 ²⁵	191	176
DG353M	M	218	182	132	168 ³⁰	185	161	175	179	181	178 ⁴³	186	177
ProGold M3	M	201	187	170	189	208	176	192	191	185	159 ¹⁶	191	186
RT3202	M	247	196 ²⁴	127	199 ²⁰	225	202	210	221 ²³	174 ⁷²	181 ⁴	214	200
CLM04	M	210	183 ²³	128	140 ⁶⁵	184	176	182	178 ⁶³	156 ⁷⁹	167 ²⁶	186	172
CLM05	M	209	192	113	198	195	174	190	190 ²³	190 ²⁸	182	189	184
Mean	--	212	190	141	178	206	181	183	207	174	175	197	186

¹ Grain Length: L=long grain, M=medium grain.

* Numbers in superscript beside yields represent percent lodging.

** NEREC had significant bird damage; ARK had volunteer rice present throughout; NERREC, LAW, and FAU had notable lodging affect yields for some cultivars.

Arkansas Rice Performance Trials (ARPT)

2024 Milling Yield Summary – All Locations

University of Arkansas System Division of Agriculture

Cultivar	Grain	RREC	PTRS	NEREC	NERREC	CLAY	DESHA	GRE	JAC	LAW	FAU	ARK	Mean
	Length ¹	HR-TR ²	HR-TR	HR-TR	HR-TR	HR-TR	HR-TR	HR-TR	HR-TR	HR-TR	HR-TR	HR-TR	HR-TR
Diamond	L	55-74	37-71	60-73	47-70	57-72	55-72	54-74	51-74	51-75	22-71	43-76	48-73
Ozark	L	55-74	43-71	64-73	48-70	60-73	53-71	55-74	56-73	51-75	25-71	49-76	51-73
ProGold L4	L	57-75	40-71	62-72	51-69	58-73	56-71	58-73	58-74	49-75	24-70	48-75	51-72
DG263L	L	59-72	40-69	54-69	40-68	54-71	59-70	57-72	54-72	40-72	31-69	39-74	48-71
RTv7303	L	62-71	41-68	61-70	45-66	53-71	59-70	59-71	56-71	46-72	28-68	47-74	51-70
CLL16	L	51-72	27-70	55-69	43-70	57-72	55-70	53-73	56-73	50-74	24-72	45-75	47-72
CLL18	L	56-73	42-70	58-71	41-68	56-71	53-70	55-72	54-73	51-74	27-69	46-75	49-71
CLL19	L	59-73	39-70	54-71	44-68	61-72	57-72	56-74	60-74	46-75	22-71	43-76	49-72
CLHA03	L	56-74	44-70	59-72	50-70	59-72	62-72	63-73	56-73	56-75	34-71	51-75	53-72
PVL03	L	61-75	33-70	57-71	46-70	55-74	58-73	57-75	57-74	45-76	25-72	46-73	49-73
PVL04	L	55-74	44-69	55-70	44-66	59-72	53-70	56-73	58-72	49-74	42-71	39-76	50-71
DG563PVL	L	63-73	44-69	56-68	50-68	56-71	62-70	59-70	59-73	46-72	36-70	50-74	53-71
RTv7231MA	L	53-72	15-70	42-68	27-67	54-74	51-70	54-72	48-73	36-74	13-68	46-75	40-71
RT7331MA	L	57-74	20-71	48-71	37-71	55-74	46-73	52-74	50-74	36-75	15-71	41-76	42-73
RT7421FP	L	50-74	32-70	55-70	41-70	51-72	50-69	52-73	46-73	26-74	14-70	50-75	42-72
RT7521FP	L	54-73	35-71	51-70	44-70	53-72	58-71	55-73	50-74	30-75	20-70	37-76	44-72
RT7302	L	59-75	21-70	50-70	43-70	55-73	51-73	54-74	50-74	24-75	18-71	39-76	42-73
RT7401	L	54-74	23-70	55-71	35-70	55-72	51-72	54-72	50-73	27-74	17-70	50-75	43-72
RTXP753	L	49-74	19-71	46-71	35-72	53-74	43-73	49-74	44-74	27-75	17-70	36-76	38-73
DG3H2004	L	58-74	27-70	42-68	43-70	52-72	50-71	51-71	49-74	30-74	20-66	37-75	42-71
DG3H2007	L	54-75	26-70	37-69	39-69	48-72	50-72	50-71	43-73	25-73	20-70	43-75	39-72
Titan	M	60-73	17-70	53-71	34-69	57-71	55-71	59-72	58-72	41-73	16-70	48-75	45-72
Taurus	M	62-74	21-70	57-71	36-69	62-72	57-72	67-73	54-73	41-75	22-69	47-76	48-72
DG353M	M	64-74	31-71	59-71	48-69	59-72	62-70	67-73	56-73	53-75	17-70	54-75	52-72
ProGold M3	M	67-74	41-70	62-70	56-68	63-71	63-68	68-72	60-73	54-73	31-70	57-74	57-71
RT3202	M	57-73	19-68	46-68	38-68	46-72	51-72	57-73	46-72	41-74	20-69	48-75	43-71
CLM04	M	64-74	29-70	62-70	47-69	59-72	64-69	69-72	56-73	42-73	22-69	66-74	53-71
CLM05	M	61-72	26-67	53-69	44-68	58-70	57-67	66-70	53-72	51-72	24-69	57-74	50-70
Mean	--	58-71	31-70	54-70	43-69	56-72	55-71	57-73	53-73	42-74	23-70	46-75	46-72

¹ Grain Length: L=long grain, M=medium grain; ² HR-TR = % Head Rice (whole kernel) and % Total Rice (total milled rice).

2024 Most Crop Per Drop Program

<u>Investigators:</u>	Dr. Chris Henry, Russ Parker	<u>Extension Agent:</u>	Dave Freeze
<u>Partnering:</u>	Finch Farms (Braden, Shaun)	<u>NRCS IR Specialist:</u>	Jake Rieves
<u>Location:</u>	Walcott, AR	<u>Extension Technician:</u>	Harper Martin

Background:

To produce profitable soybean yields in Arkansas requires supplemental irrigation most years. For this reason, most fields (estimated over 90 %) in the Arkansas delta have been set up (wells placed, fields leveled) to provide crop irrigation.

Meanwhile, long term monitoring of Arkansas groundwater in the delta and grand prairie regions, documents that water levels continue to drop yearly as water is removed for commercial and domestic use, as well as for crop irrigation. As the demand for water increases, and availability becomes more limited, steps must be taken to conserve groundwater supplies that remain.

Adopting and implementing practices to improve water use efficiency is one avenue farmers can use to move toward achieving a sustainable supply of groundwater. Participation in the UADA “Most Crop Per Crop (MCPD)” program is one way to learn about adopting irrigation management practices to improve water use efficiency.

Objectives:

Increase awareness of the UADA “Most Crop Per Drop” program by signing up local farmers to participate.

Improve farmer awareness of soil water availability status for his crop from season beginning to end.

Demonstrate how to monitor soil moisture sensors and interpret the need to irrigate based on sensor readings, and associated apps & charts showing expected water use.

Project Setup:

The contest field was chosen early in the growing season, and irrigation set up evaluated. Irrigation water supply was determined by installing a flow meter at the well to document flow rate in gallons per minute (GPM). The electric powered.



well had a small discharge pipe (6 inches), requiring the same size flow meter. The initial flow rate recorded was 350 GPM. This same flow level was used by the farmer to irrigate throughout the season.

Jake Rieves, Greene County Conservation District Irrigation Specialist, then used Delta Plastic's PipePlanner program to help the farmer plan hole sizes needed for polypipe used for the contest field. In addition, he advised the farmer on the need for build ups along the polypipe path as determined by the program, due to elevation changes and other field/well dynamics.

The contest field was irrigated in two sets (each with 12 acres to be watered in just under 48 hours). The two hole sizes used, as directed by the PipePlanner plan for the field, were 3/8 and 5/16 inches, for both sets. Set 1 also required the use of one buildup due to elevation change, while set 2 required 2 build ups. The field seemed to water out uniformly for each set throughout the season.

Once the crop was established, a set of 4 Watermark soil moisture sensors, and an Aqua Trac telemetry unit, were strategically placed in the contest field. The sensors were installed on the top of beds, between plants in the soybean row. Sensors were spaced a foot apart in the row, at soil depths which included 6, 12, 18, and 30 inches.

Soil moisture status was monitored weekly by tracking sensor readings at each sensor depth. These data were evaluated using charts generated from the online AgSense program which was regularly receiving soil moisture readings via the Aqua Trac unit in the contest field.

The UADA Soil Moisture Sensor Calculator app (SMC) was another online tool used to help determine when to irrigate. Sensor readings, effective rooting depth, soil type, allowable soil water depletion, and crop growth stage were regularly keyed into this program to predict what day to start irrigation on the contest field.



Soil Assessment:

The soil profile and texture for the contest field were also given careful consideration. Soil physical properties generally play a key role in the ability of a soil to store water, as well as how readily water moves within a soil.

Soil samples were collected from the contest field and sent to the UADA soil testing lab to help determine physical properties for the contest field. In addition, the Soil Web Survey app, from the NRCS, was used to identify the classes of soil in the field, which helped predict their physical properties.

Finally, a slide hammer was used to retrieve soil cores to 30 inches deep to view soil textural changes from the top to the bottom of the soil profile. These cores were taken in different parts of the field having different classes of soil based on the Soil Web Survey.

Soil sample results from the UADA lab for the Finch contest field showed it had very low levels for both P and K. In addition, the estimated CEC was 7, which falls into a sandy loam texture for this topsoil sample.

The Soil Web Survey mapped the field as having 69 % Calloway silt loam and 31 % Fontaine silt loam. The Calloway series is listed as having a silt loam soil texture in the first 3 feet of the soil profile. The Fontaine series is described as having a silt loam texture in the first foot of the soil profile, while the 2nd and 3rd foot are silt loam stratified with layers of sand to fine sandy loam. The Fontaine series was considered more restrictive on holding soil moisture compared to the Calloway series, so the soil moisture sensors were placed in this part of the field.

Throughout the growing season a slide hammer was used to truth check the moisture sensors. Each time the soil cores were collected with the slide hammer, they had moist and dry sections that were comparable to the sensors readings for all depths.

Planting & Crop Development:

Gateway 743XFS soybeans (4.7 maturity rating) were planted on April 30th. A moist, clean seedbed at planting, resulted in the crop emerging to a nice, uniform stand on April 7th. The production system included conventional tillage with beds, using a 30 inch row spacing. Soybeans were grown on the field in 2023.

<u>Crop Growth:</u>	<u>Observed</u>	<u>UADA SoyStage</u>	<u>MSU SoyPheno</u>
Emergence	May 7		
R1 (first flower)	June 10	June 14	
R3 (begin pod)	June 25		
R5 (begin seed)	July 28	July 16	
R6 (full seed)	Aug 16		Aug 9
R6.5 Estimate		Aug 21	
R7 (begin maturity)	Sept 4	Sept 2	



Water Use:

Total water use for the season was determined by combining irrigation and effective rainfall received.

Regarding irrigation, flowmeter data documents that a total of 267.43 acres inches (AI) of irrigation water was used on the field for the season. That pencils out to an average of 11.27 AIs of irrigation water per acre. This was a bit better than the average for all soybean fields (11.78 AIs) in the MCPD contest in 2024.

Considering rainfall, Farmlogs, a commercial rain prediction service was used to determine

the effective amount of rain received at the contest

field. Rain amounts were totaled from the date of crop emergence to the R6.5 growth stage (seed membrane beginning to pull away from pod wall). A total of 12.22 inches of rain was received during this period.

Combining the total amounts for irrigation and rain shows the contest field used 23.49 inches of water for the season. Table 1 shows more details on irrigation dates, AIs used for each irrigation, SMC predictions.

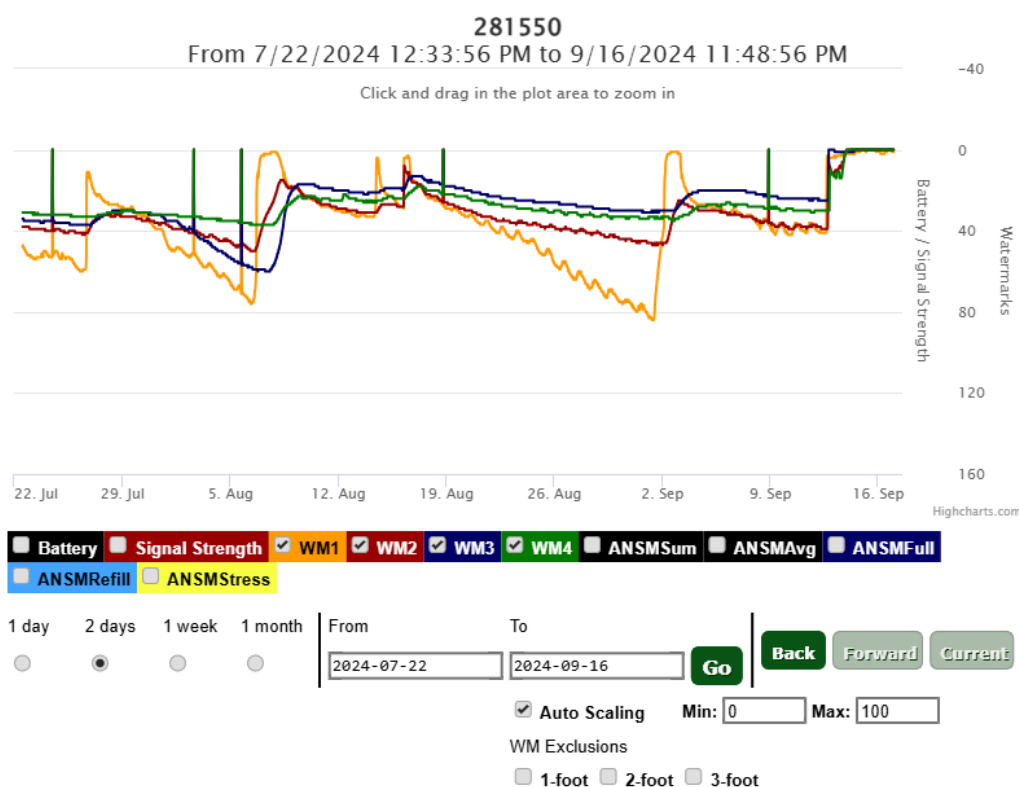
Yield & Contest Results:

The contest field was ready for harvest by mid-September, but harvest was delayed until September 26th due to wet conditions caused by remnants of seasonal hurricanes. Yield was determined by harvesting strips in the field that totaled over the 3-acre minimum required for the contest. Final adjusted yields were figured after obtaining grain weight, moisture, and foreign matter at a local elevator with certified scales.

The Finch contest field made 68.08 bushels per acre. Dividing yield by total water used shows the water use efficiency (WUE) on this contest field was 2.90 (bushels of soybeans / inch water received). This value matched the average for all soybean fields entered in the MCPD contest in 2024.

Summary:

By participating in the MCPD contest, we were able to know in more detail at any time how much water was still available in the soil for the crop, as well as how many days of water supply was in the soil until it needed replenished with rain or irrigation.



The soil moisture sensors helped show how deep in the soil profile moisture was being used by the crop. For this contest field, from late June until the crop was mature in mid-September, all 4 sensors moved weekly, indicating during this time the crop was using soil moisture in the first 3 feet of the soil profile.

Using soil moisture sensors and the AgSense app were very helpful at the beginning and end of the irrigation season. We were more confidently able to time the first irrigation, and also able to closely evaluate the need for a final irrigation.

When using the UADA Soil Moisture Sensor calculator, selecting the soil texture that most correctly matches the soil texture of the field is very important to best estimate how many days until a crop needs rainfall or irrigation. For example, if sandy loam (holds 1.4 inches water/foot of soil) is selected, then irrigation may be called for in 2 days, whereas if a silt loam (holds 2.4 inches/foot of soil) texture is plugged in, then irrigation may be suggested for 6 days out. Over the season, this might result in an extra irrigation or two, or maybe, cut the crop short on irrigation water, depending which texture is used.

Table 1: Finch MCPD Contest Field Soil Moisture Sensor, SMC, & Irrigation Records

Date Sensor Reading	Ave - cb Sensor Reading	Crop Growth Stage	Days to go to Irrigate	Daily H2O use Inches	Amt to Finish Inches	Irrigation Number	Full or Partial	Start Date	AI Used
June 21st	36	R3	4	0.26	11.5	1	P	June 25th	0.57
July 2nd	52	R3	0	0.26	11.5	2	F	July 3rd	3.36
July 3-22	Unit	Not	Working			3	P	July 14th	0.95
July 24th	34	R4	3	0.3	9.4	4	P	July 26th	0.72
Aug 1st	39	R5	4	0.24	6.8	5	F	Aug 6th	2.93
Aug 9th	21	R5	6	0.24	6.8	6	F	Sept 1st	2.61
Aug 16th	13	R6	11	0.22	4.7				
Aug 29th	44	R6	3	0.22	4.7				
Sept 4th	26	R7	Not Rec	0.1	0.8				
Total									11.27

2024 Most Crop Per Drop Program

Investigators: Dr. Chris Henry, Russ Parker

Extension Agent: Dave Freeze

Partnering: Wall Farms (Luke, Steve, Dean)

NRCS IR Specialist: Jake Rieves

Location: Walcott, AR

Extension Technician: Harper Martin

Background:

To produce profitable soybean yields in Arkansas requires supplemental irrigation most years. For this reason, most fields (estimated over 90 %) in the Arkansas delta have been set up (wells placed, fields leveled) to provide crop irrigation.

Meanwhile, long term monitoring of Arkansas groundwater in the delta and grand prairie regions, documents that water levels continue to drop yearly as water is removed for commercial and domestic use, as well as for crop irrigation. As the demand for water increases, and availability becomes more limited, steps must be taken to conserve groundwater supplies that remain.

Adopting and implementing practices to improve water use efficiency is one avenue farmers can use to move toward achieving a sustainable supply of groundwater. Participation in the UADA “Most Crop Per Crop (MCPD)” program is one way to learn about adopting irrigation management practices to improve water use efficiency.



Objectives:

Increase awareness of the UADA “Most Crop Per Drop” program by signing up local farmers to participate.

Improve farmer awareness of soil water availability status for his crop from season beginning to end.

Demonstrate how to monitor soil moisture sensors and interpret the need to irrigate based on sensor readings, and associated apps & charts showing expected water use.

Project Setup:

The contest field was chosen early in the growing season, and irrigation set up evaluated. Irrigation water supply was determined by installing a flow meter at the well to document flow rate in gallons per minute (GPM). A diesel unit was used for the well with a small discharge pipe (6 inches), requiring the same size flow meter.

The initial flow rate recorded was 1200 GPM. After his first couple of irrigations, to extend irrigation time, the farmer slowed his irrigation unit down resulting in a 1100 GPM flow rate, used the rest of the season.

Jake Rieves, Greene County Conservation District Irrigation Specialist, then used Delta Plastic's PipePlanner program to help the farmer plan hole sizes needed for polypipe used for the contest field. In addition, he advised the farmer on the need for build ups along the polypipe path as determined by the program, due to elevation changes and other field/well dynamics.

The contest field was irrigated in two sets (set 1 was 16 acres with a 19 hour time to irrigate, set 2 was 25 acres with 28 hours to complete). The two hole sizes used, as directed by the PipePlanner plan for the field, were $\frac{3}{4}$ inch for set 1, and $\frac{5}{8}$ inch for set 2. Neither set required a buildup due to little elevation change on the polypipe pad. The field watered uniformly for each set throughout the season.

Once the crop was established, a set of 4 Watermark soil moisture sensors, and an Aqua Trac telemetry unit, were strategically placed in the contest field. The sensors were installed on the top of beds, between plants in the soybean row. Sensors were spaced a foot apart in the row, at soil depths which included 6, 12, 18, and 30 inches.

Soil moisture status was monitored weekly by tracking sensor readings at each sensor depth. These data were evaluated using charts generated from the online AgSense program which was regularly receiving soil moisture readings via the Aqua Trac unit in the contest field.

The UADA Soil Moisture Sensor Calculator app (SMC) was another online tool used to help determine when to irrigate. Sensor readings, effective rooting depth, soil type, allowable soil water depletion, and crop growth stage were regularly keyed into this program to predict what day to start irrigation on the contest field.



Soil Assessment:

The soil profile and texture for the contest field were also given careful consideration. Soil physical properties generally play a key role in the ability of a soil to store water, as well as how readily water moves within a soil.

Soil samples were collected from the contest field and sent to the UADA soil testing lab to help determine physical properties for the contest field. In addition, the Soil Web Survey app, from the NRCS, was used to identify the classes of soil in the field, which helped predict their physical properties.

Finally, a slide hammer was used to retrieve soil cores to 30 inches deep to view soil textural changes from the top to the bottom of the soil profile. These cores were taken in different parts of the field having different classes of soil based on the Soil Web Survey.

Soil sample results from the UADA lab for the Wall contest field showed it had low levels for both P and K. In addition, the estimated CEC was 8, which falls into a silt loam texture for this topsoil sample.

The Soil Web Survey mapped the field as having 52 % Calhoun silt loam and 39 % Calloway silt loam. The



Calhoun series is described as having a silt loam texture in the first foot of the soil profile, while the 2nd and 3rd foot are listed as a silty clay loam. The Calloway series is listed as having a silt loam soil texture in the first 3 feet of the soil profile. The Calhoun series was considered more restrictive on holding soil moisture, as well as moisture movement, compared to the Calloway series, so the soil moisture sensors were placed in this part of the field.

Throughout the growing season a slide hammer was used to truth check the moisture sensors. Each time the soil cores were collected with the slide hammer, they had moist and dry sections that were comparable to the sensor readings for all depths.

Planting & Crop Development:

Gateway 477E soybeans (4.7 maturity rating) were planted stale seedbed on May 2nd. The soybeans emerged to a uniform stand on May 9th. The production system included a 30-inch row spacing, and 60-inch beds. Corn was grown on the field in 2023.

Crop Growth:

Emergence
R1 (first flower)
R3 (begin pod)

R5 (begin seed)
R6 (full seed)
R6.5 Estimate
R7 (begin maturity)

Observed

May 9
June 15
June 27

UADA SoyStage

June 16

July 18

Aug 22
Sept 4

MSU SoyPheno

Aug 10

Water Use:

Total water use for the season was determined by combining irrigation and effective rainfall received.

Regarding irrigation, flowmeter data documents that a total of 423.54 acres inches (AI) of irrigation water was used on the field for the season. That pencils out to an average of 11.45 AIs of irrigation water per acre. This was a bit better than the average for all soybean fields (11.78 AIs) in the MCPD contest in 2024.

Considering rainfall, Farmlogs, a commercial rain prediction service was used to determine the effective amount of rain received at the contest field. Rain amounts were totaled from the date of crop emergence to the R6.5 growth stage (seed membrane beginning to pull away from pod wall). A total of 10.78 inches of rain was received during this period.

Combining the total amounts for irrigation and rain shows the contest field used 22.23 inches of water for the season. Table 1 shows more details on irrigation dates, AIs used for each irrigation, and SMC predictions.

Yield & Contest Results:

The contest field was ready for harvest by late-September, but harvest was delayed until October 5th due to wet conditions caused by remnants of seasonal hurricanes. Yield was determined by harvesting strips in the field that totaled at least the 3-acre minimum required for the contest. Final adjusted yields were figured after obtaining grain weight, moisture, and foreign matter at a local elevator with certified scales.

The Wall contest field made 68.62 bushels per acre. Dividing yield by total water used shows the water use efficiency (WUE) on this contest field was 3.09 (bushels of soybeans / inch water received). This value was a bit better than the average for all soybean fields entered in the MCPD contest in 2024.

Summary:

By participating in the MCPD contest, we were able to know in more detail at any time how much water was still available in the soil for the crop, as well as how many days of water supply was available until we needed a rain or irrigation.

The soil moisture sensors helped show how deep in the soil profile moisture was being used by the crop. For this contest field, from late June through the end of July, only the top 3 sensors moved with an irrigation event. Finally, with the 6th irrigation in early August, the 30 inch sensor started to move. This was good to know we could depend on deep moisture for the crop at the end of the season.

Using soil moisture sensors and the AgSense app were very helpful at the beginning and end of the irrigation season. We were more confidently able to time the first irrigation, and to closely evaluate the need for a final irrigation.

When using the UADA Soil Moisture Sensor calculator, selecting the soil texture that most correctly matches the soil texture of the field is very important to best estimate how many days until a crop needs rainfall or irrigation. For example, if clay (holds 1.4 inches water/foot of soil) is selected, then irrigation may be called for in 2 days, whereas if a silt loam (holds 2.4 inches water/foot of soil) texture is plugged in, then irrigation may be suggested for 6 days out. Over the season, this might result in an extra irrigation or two, or maybe, cut the crop short on irrigation water, depending on which texture is used.



Table 1: Wall MCPD Contest Field Soil Moisture Sensor, SMC, & Irrigation Records

Date Sensor Reading	Ave - cb Sensor Reading	Crop Growth Stage	Days to go to Irrigate	Daily H2O use Inches	Amt to Finish Inches
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June 21st	48	R3	5	0.26	11.5
July 2nd	65	R3	1	0.26	11.5
July 12th	55	R3	1	0.26	11.5
July 17th	69	R4	0	0.3	9.4
July 24th	50	R4	2	0.3	9.4
Aug 1st	22	R5	6	0.24	6.8
Aug 9th	54	R5	3	0.24	6.8
Aug 16th	35	R6	6	0.22	4.7
Aug 27th	75	R6	1	0.22	4.7
Sept 4th	40	R6.5	7	0.2	2.9

Irrigation Number	Full or Partial	Start Date	AI Used
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1	P	June 25th	0.66
2	F	July 3rd	1.3
3	P	July 14th	0.65
4	F	July 18th	1.2
5	F	July 23rd	1.85
6	F	July 31st	1.48
7	F	Aug 9th	1.53
8	F	Aug 29th	2.16

Total				11.45
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Expanded Food and Nutrition Education Program

The Expanded Food and Nutrition Education Program (EFNEP) in Greene County, Arkansas, aims to improve the health and well-being of limited-resource families and youth by providing nutrition education, physical activity guidance, and food resource management strategies.

Program Activities and Outreach:

During this reporting period, EFNEP in Greene County implemented the following curriculums: Adults- Eating Smart Being Active, Youth- Teen Cuisine and Kids in the Kitchen. Through educational sessions and community engagement efforts were made to promote healthier lifestyles. The following key activities were conducted:

1. Nutrition Education Classes:

- Total Sessions Conducted: 36
- Number of Participants: 30
- Topics Covered: MyPlate guidelines, meal planning, food safety, shopping to save and physical activity

2. Youth Engagement:

- Schools and Community Centers Reached: 3
- Number of Participants: 106
- Hands-on Activities: Cooking classes, My Plate recommendations and nutrition information, physical activity challenges and games

3. Collaborations and Partnerships:

- Partner Organizations: The Way, Agape Women, Agape Men, Grace Mission Bible Training Center, Greene County Tech Elementary and Jr. High, Crowley's Ridge Christian Homeschool Co-op, 4-H Food Challenge Group



GCT Jr High FACS class



Teen Cuisine – Food Challenge activity

Program Impact:

EFNEP's efforts in Greene County aim to support positive changes in participant knowledge and behaviors. The program strives to achieve key outcomes such as:

- Encouraging increased consumption of fruits and vegetables.
- Promoting improved meal planning and budgeting skills.
- Supporting higher levels of physical activity among families.
- Fostering enhanced food safety practices at home.

These goals reflect EFNEP's commitment to helping participants make healthier choices.



Eating Smart, Being Active Women's Group activity



4-H Summer Day Camp Volunteers



*Greene County Tech Elementary
 Kids in the Kitchen class*



Greene County Cooperative Extension Service

Past, Present, and Future

The recent construction of a new Greene County Extension Office has given us a unique opportunity to reflect on how we got here. So, we decided to compile a brief history of the Cooperative Extension Service. Furthermore, discuss its role in Greene County to help our clientele understand where we came from, who we are, and what role we play in our community.

Explaining how the Cooperative Extension Service was established would be difficult without looking back at the progression of agriculture in the United States of America and some major legislation that took place prior to its establishment.

In 1796, President George Washington's last annual message to congress stated the following:

“It will not be doubted that with reference either to individual or national welfare agriculture is of primary importance. In proportion as nations advance in population and other circumstances of maturity this truth becomes more apparent, and renders the cultivation of the soil more and more an object of public patronage. Institutions for promoting it grow up, supported by the public purse; and to what object can it be dedicated with greater propriety?

Among the means which have been employed to this end none have been attended with greater success than the establishment of boards (composed of proper characters) charged with collecting and diffusing information, and enabled by premiums and small pecuniary aids to encourage and assist a spirit of discovery and improvement. This species of establishment contributes doubly to the increase of improvement by stimulating to enterprise and experiment, and by drawing to a common center the results everywhere of individual skill and observation, and spreading them thence over the whole nation. Experience accordingly has shown that they are very cheap instruments of immense national benefits”.



That speech helped lay the groundwork for many advancements that would be implemented around agriculture and agriculture education. Since then, there have been numerous individuals and groups have put forth much effort to improve and promote agriculture education in our society.

A rather comprehensive book on the history of agriculture and the development of the Cooperative Extension Service is the book *Taking The University To The People* by Wayne D. Rasmussen published in 1989. The following are some abbreviated excerpts from that book.

Prior to the creation of the Cooperative Extension Service, there was the establishment of Land Grant Colleges and Agricultural Experiment Stations. The Morrill Land-Grant College Act was passed by Congress and signed by President Lincoln on July 2, 1862. This act granted each state 30,000 acres of public

land for each of its Senate and House members. Most states didn't have that much unsold land within their state borders, so they were given a scrip to the public domain in states and territories having excess unclaimed acres. Income from the sale of these lands was to be used to set up a trust fund to endow a college where practical education in agriculture and engineering would be emphasized. These were agriculture and mechanical (A&M) colleges.

Early on, there was a need for research to be done on experiment stations to help provide basic information from which college courses could then be developed. So, in 1887 the Hatch Act was approved by Congress and signed by President Grover Cleveland. The Act provided for an annual grant for each state to support an agricultural experiment station.

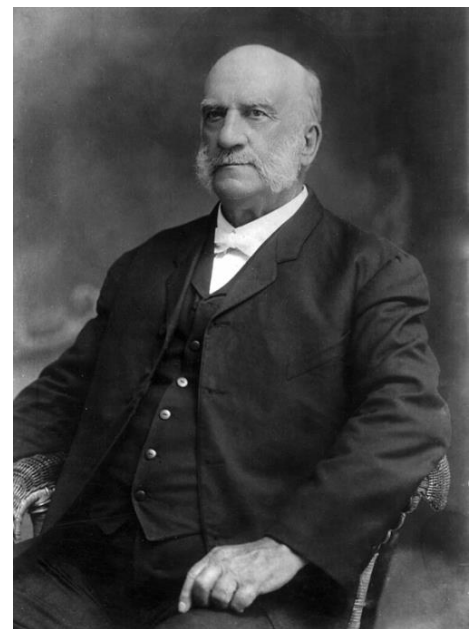
The second Morrill Land-Grant College Act was passed in 1890. In addition to what the 1862 Act provided, it prohibited racial discrimination in admissions to colleges receiving the funds. Arkansas was one of seventeen states that has what is known as an 1890 college. In Arkansas, this is the University of Arkansas in Pine Bluff.

After colleges and experiment stations were established, there was a need to get this new information to the farmer and farm families. Several different groups around the county like the U.S. Department of Agriculture, Farmers Cooperative Demonstration Work, state colleges, and farmers institutes, among others, were trying to do this.

Additionally, individuals like Edmund Hitchcock, Perry G. Holden, Wilbur O. Atwater, Alfred C. True, J.M. Rusk, James Wilson, John Hamilton, George Washington Carver, Seaman A. Knapp, Thomas C. Campbell, Alister MacDougall, and donors like the John D. Rockefeller organization all made major contributions to this effort. Some examples of ways to reach farm families were farmers bulletins, newspapers, college short courses, demonstration trains, movable schools, farm trains, boys & girls clubs, demonstration wagons, agriculture trucks, and demonstration farms. Many of the methods are still used by the Cooperative Extension Service and county agents today.

Another informative text documenting the history of the Cooperative Extension Service and the life of Dr. Seaman Knapp is the book *Recollections of Extension History* by J.A. Evans. The following are excerpts from that book:

In 1896, Dr. Seaman Knapp resigned his position as the president of Iowa State Agriculture College to go to work for a company that was trying to get people to migrate to Louisiana to settle and start farming a large tract of land there. The local people of that area grazed cattle and believed the land was not fertile enough to farm. Dr. Knapp was tasked with coming up with a way to prove to the people of that area that the ground was fertile and could be farmed. So, subsidized a few good farmers from the Midwest and have one of them farm in each township. After 2-3 years they were able to prove that the soil was productive, and it became a rich and prosperous agriculture area. This may have been the actual beginning of his demonstration philosophy.



Dr. Knapp also believed that rice would be the best cash crop for that section. So, he was sent by Secretary Wilson to China, Japan, and India to find better varieties of rice. He did this and found one or two varieties that became very popular in that section of Louisiana. He also introduced many other plants and seeds.

Dr. Knapp then took a permanent position in the Bureau of Plant Industry of the United States Department of Agriculture. Many of the methods the Bureau was using to get farmers to adopt better practices were not working. From his experience, Dr. Knapp suggested demonstration farms. So, in 1902, the Bureau started two distinct lines of demonstration work in the south. Dr. Knapp was in charge of “demonstration farms” designed to show how to increase yields and Dr. Spillman was in charge of “diversification farms” to teach the value of possible new cash crops. These farms were on government lands, but Dr. Knapp felt it would be better to take these demonstration farms to the farmer.

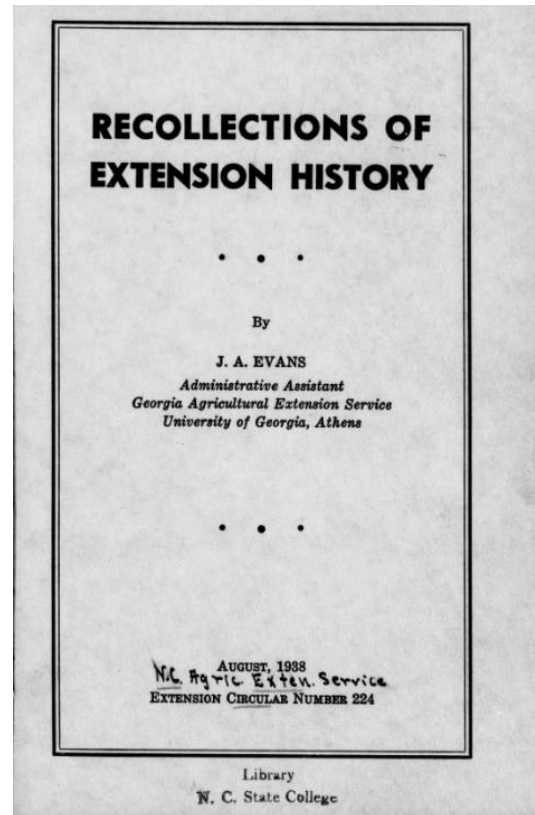
In 1903, Dr. Knapp was asked to meet with some businessmen in Terrell, TX to discuss his “Community Demonstration Farms” idea. The result was the first of its kind called the “Porter Community Demonstration Farm”. Walter C. Porter, a farmer near Terrell, agreed to farm 70 acres of his land according to Dr. Knapp’s instructions and keep records of costs, yields and receipts. That farm attracted much local attention and at the end of the year, Porter reported that he had made \$700 more by farming according to Dr. Knapp’s instructions than he would have made if he had followed his former practices. In much extension literature it is said that this incident was the beginning of the “Farmers’ Cooperative Demonstration Work”.

This type of demonstration work became very popular and spread across the southeast where “agents” were hired to help conduct these programs. By 1910, demonstration work was carried out in 455 counties in 12 southern states by 450 agents.

One of Dr. Knapp’s more famous quotes was “What a man hears, he may doubt; what a man sees, he may possibly doubt; but what a man does himself, he cannot doubt”. This quote along with his education method of on-farm demonstrations, is still used today in Arkansas and is known as the Arkansas Research Verification Program.

Seaman Knapp, often referred to as the “father” of the Extension Service, made enormous contributions to improving the lives of rural Americans through agriculture education via farm demonstration work, boys corn clubs, girls tomato clubs, and home demonstration work. Unfortunately, Dr. Knapp passed away on April 1, 1911, and was not able to see his life’s work become a nationally recognized educational program, but he laid the groundwork for it to become a success.

The following is from the foreword of *Taking The University To The People* and addresses the official creation of the Cooperative Extension Service:



When President Woodrow Wilson signed the Smith-Lever Act on May 8, 1914, he called it “one of the most significant and far-reaching measures for the education of adults ever adopted by the government.” Its purpose, clearly stated by Congress, was “to aid in diffusing among the people of the U.S. useful and practical information on subjects related to agriculture and home economics, and to encourage the application of the same.”

Extension work was to “consist of giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise.”

The underlying philosophy of the system was to “help people help themselves” by “taking the university to the people”.

In Rasmussen's book, he continued by explaining cost sharing and how the federal, state, and county governments cooperate together in the system. He also explains the tripartite arrangement with the land grant university, agriculture experiment station, and the cooperative extension service (CES)- and how this is a uniquely American institution.

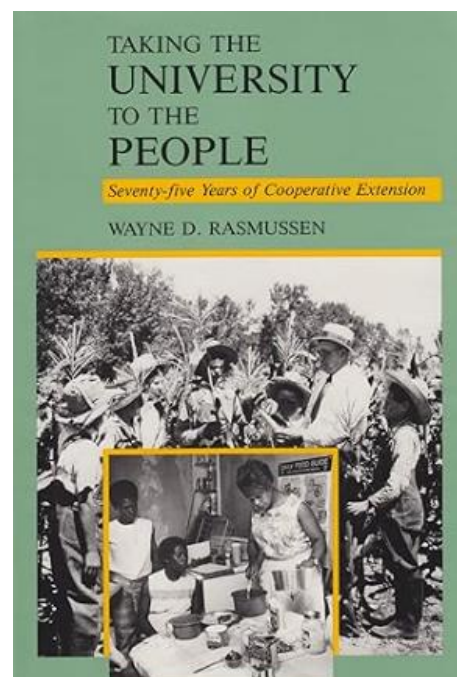
Rasmussen's book documented the pivotal roles Extension Services played in the nation's survival through three major emergencies- World War I, the Great Depression of the 1930's, and World War II. Furthermore, how the Extension Service's had the ability to adapt to local, state, and/or national issues and how this has continued to be a source of strength and resilience in times of crisis. He also discusses the importance of its volunteers and how it continues to be a “grass-roots” organization with its unique ability to meet local needs and many times transmit these needs to higher levels of government.

Taking The University To The People goes on to discuss roles that the Extension Service played with the processes like the development of Farm Bureau, assistance with REA and helping get electricity to rural America, and so much more. If you're interested in the history of our country and/or interested in how the University System came to be, we highly recommend reading *Taking The University To The People: Seventy-five Years of Cooperative Extension* by Wayne D Rasmussen.

Greene County History

There's a historical document that was found in the extension office several years ago that records some interesting history of the Cooperative Extension Service in Greene County. Unfortunately, we do not know who compiled the document or exactly when the document was created (we think around the early 1940's). The following is from that document.

The first County Agriculture Demonstration Agent in Greene County was Mr. T.B. Williamson, in 1912 and was followed by Mr. T.J. Bentley, in 1914.



“The first Home Demonstration Agent in Greene County, Elizabeth Dearing, spent only one week here after which she resigned and was succeeded by Grace Evans, who according to Mr. Bentley contributed much towards selling the work to the farm women of Greene County. According to Mr. Bentley she made home visit after home visit and many times had the door closed in her face or was asked to leave, but by her good will and persistence she gained entrance to the home and sold the farm homemaker on the Extension program. Most of the work of the Home Agent at that time was done by personal visitation and the qualities of a good missionary were essential in promoting a successful program. Today the method of teaching in home demonstration work is largely through the giving of the 44 demonstration clubs, 18 4-H Clubs and various other community wide meetings, with the volunteer assistance of 439 trained local leaders”.

We also found this interesting paragraph from an article in the Paragould Daily Press dated Monday, August 19, 1983.

“In December (1916), Kate Clarida became the agent and organized 4-H clubs in the county. In 1918, she bought a Model T Ford for \$585 and became the county’s first woman driver. She still lives in Hornersville, MO”.

Below is a continuation of the Greene County Extension Office document:

During 1916 Elizabeth Dearing and Grace Evans succeeded each other as home demonstration agents. Yearly changes took place with no workers in charge part of the time until 1928. Mrs. Effie Rogers assumed her duties as home demonstration agent. She remained in the county seven years, building the home demonstration work from a few individual demonstrators to a county wide organization of 14 clubs having a membership of 250 farm women. Miss Mildred Schultz was home demonstration agent for 15 months prior to the writer’s assuming the work in January 1936.

The change in teaching given above for home demonstration paralleled by similar changes in county agent records of similar changes in county agent methods of teaching. The present-day county agent due to improved roads and methods of travel, possibly makes as many visits and many more personal contacts than the county agent before 1920, but his chief method of teaching is training local leaders and conducting various community and county-wide meetings.

The accumulative influence of Extension teaching cannot be accurately determined because other agencies have helped multiply various practices and programs sponsored by the Agricultural Extension Service in the county. One of the earliest Extension reports that is available show that one man seeded lespedeza in the county in 1915. Today there are approximately 3000 farmers who plant lespedeza regularly. Another practice that was started in 1917 by five demonstrators in the county was soybean growing. This practice has spread to practically all farms in Greene County.

When home demonstration work began in the county the use of a pressure cooker was unknown and when Mrs. R.B. Rogers gave demonstrations in canning with the pressure cooker farm women who attended the demonstration stayed out in the yard for fear of an explosion. They likewise questioned her statements about a year-round garden says, J. L. Lam, veteran home demonstration club women, however, year-round garden[s] are common now.



Photo courtesy R.O. Clarida
 Kate Clarida Remby about 1917,
 wearing her 4-H uniform
 WORK HAS BEEN

During the world war the function of the Agriculture Extension agents centered around increased production, as well as the carrying out of new and old demonstrations. Under the new deal program, the Agricultural Extension Agent was drafted to administer the AAA program under its various titles and to assist with the educational work of various other agencies. The home demonstration program during the new deal has been one of rapid expansion and as a result the number of people reached today is at least twenty times as great as in the years preceding 1920. The responsibilities of the Extension agents have multiplied during the new deal period by leaps and bounds and the contact made by him with farm people is fifty times as great as in the pre-war period.

The growth of Extension work in the county is indicated by the growth of the organizations which are part of the Agricultural Extension program. The first 4-H club work in Greene County shows an enrollment of 200 corn and pig members in 1916. Home demonstrations club work at the beginning had a few members whereas today there are 44 clubs with a membership of 1,641. Farm organization growth has been erratic in its development. A few years ago, the Farmer's Union was a strong organization in the country but the membership at the present time is small and inactive. In 1935, the Farm Bureau was organized with 45 members and today the membership is 307. All farmers in the county except 61 have cooperated with the Soil Conservation program in 1939 and 315 farmers are cooperating with the Greene County section of the North Crowley's Ridge Soil Conservation District.

After carefully analyzing the possibilities in the Agricultural Extension Service in comparison with other agricultural work we chose the Extension Service because of the opportunities to serve all farm people in all phases of farm and farm homemaking. More courses should be provided in our Land Grant Agricultural Colleges for professional improvement in the various lines of work conducted by Extension agents, and the credit given toward advance degrees with some arrangement for leave with part pay during the time of study. More training is needed for conducting group discussions and training local leaders.

This paper also documents two time periods when the Greene County Extension Office was closed, those being from 1943-1945 (WWII) and again February 1- April 30, 1981 (due to lack of appropriations from the Greene County Quorum Court).

It also documents every employee that has worked for the Cooperative Extension Service out of the Greene County office over its history. To summarize, there have been 73 agents, 6 program assistants, 28 clerical employees, and 5 other positions held, for a total of 113 Extension employees in 113 years.

The history of the 4-H Clubs, Extension Homemaker Clubs, and the Master Gardener program are all a huge part of the impact and sustainability of the Cooperative Extension Service in Greene County. This past is way too long and detailed to add to this document. Each one of these groups could write a book about its past, present, and future. We would like to document this in future writing. If you or someone you know has pictures, newspaper articles, and/or stories that would like to share, please let us know.

In summary, we are very grateful for the many that came before us and for them carrying out the mission of Cooperative Extension Service. We are also thankful to the citizens and community leaders that continue to support what we do!

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ARGenWeb

- <https://www.argenweb.net/index2.html>
- <https://www.argenweb.net/greene/NEWSPAPERS/section2pg13prm.htm>





**DIVISION OF AGRICULTURE
RESEARCH & EXTENSION**

University of Arkansas System

2024 Greene County Extension Laboratory Trends

**9,289 soil samples were submitted to
the UofA Soils Lab for analysis from
Greene County during the 2024
program year***

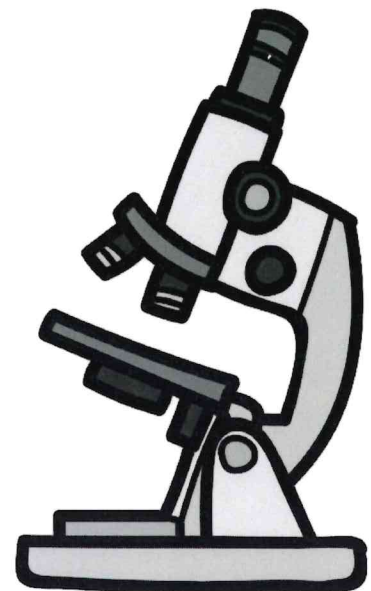


**Total of 54,261 acres were
represented by samples**

***as of October 1, 2023- September 30, 2024**

**Other specimens analyzed
regularly for Greene County:**

Feed & Forage
Pests
Plants
Litter & Manure



Your Greene County

Cooperative Extension Service

www.uaex.uada.edu/counties/greene



**DIVISION OF AGRICULTURE
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Annual Update

2024 Greene County Extension Education Outreach

- Total Educational Contacts: 9,457
- Total County Volunteer Hours: 2014
- Value of Volunteer Efforts: \$67,448

Greene County 4-H Program

Overview of Programs

- 175 4-H Members
- 40 4-H Volunteers
- 17 4-H Clubs/ Project Groups
- Total Educational Contacts: 2,848

Key Programs & Activities Conducted:

County Events:

- 4-H Kick-Off Night, 4-H County Day Camp, Fall Farm Mudder, Christmas Community Service Activity, Poultry BBQ Contest, Beef Cooking Contest, Dairy Recipe Contest, Rice is Nice Cooking Contest, Ross Photography Contest, Citizenship Community Service Project at Memorial Gardens, Youth Teaching Garden Educational Sessions, 4-H Craft Night, Fair Entry Prep Night, and 4-H O'Rama Competitions
- Intercollegiate Swine Judging Contest with 149 contestants from 11 different colleges representing nine different states. Over 50 4-H youth and volunteers were involved in planning, hosting, serving, and conducting the event.

Leadership & Achievements:

- 2 youth named Arkansas 4-H Teen Stars
- 3 youth received district-level record book awards

Community Economic Development

Key Programs & Activities Conducted

- Assisted with & conducted community beautification projects, Paragould Farmers Market, Paragould Community Garden, and Leadership Paragould Committee
- Partnered to establish Paragould as a "Tree City USA" community

Expanded Foods and Nutrition Education Program (EFNEP)

- 975 Direct Contacts by Educational Classes
- 30 Indirect Contacts by Social Media
- 11 Meetings, Staffed Displays and Field Day/Tour/Camp
- 8 Demonstrations



Agriculture & Natural Resources

Overview of Program

- Educational Contacts: 4932
- 100's Farm/Site Visits
- 14 Demonstrations
- 35 Master Gardener Members (9 new trained)
- 10 Master Gardeners Beautification Projects



Key Programs & Activities Conducted

Rice:

- Arkansas Rice Performance Trial (Cultivar Test)
- IPM survey & scout reporting - 5 fields
- Sedge herbicide resistance screening - 5 fields

Soybean:

- Irrigation management program - 2 fields
- IPM Survey & scout reporting (disease & insect) - 5 fields
- Grow for the Green Soybean Yield Challenge- 4 fields
- Corn earworm moth trapping program – 6 sites checked weekly (June- August)



Corn:

- Hybrid Trial
- Poultry litter rate study
- Southwestern Corn Borer Moth Trapping – 6 sites checked weekly (June- July)

Horticulture:

- High Tunnel IPM survey – 5 sites
- Fall Garden Seminar
- Brown Bag Lunch – 8 garden-education sessions
- Monthly Master Gardener Newsletter
- Diamond Trials (evaluate annuals & perennials)
- Turfgrass weed control demonstration



Livestock & Forages:

- Monthly Livestock & Forage Newsletters
- Forage IPM Survey & Scouting Reports (multiple farms; weekly reports May-August)
- Forage Production Education Programs & Services
- Spring & Fall Brucellosis Calfhood Vaccinations & Breeding Soundness Exams
- Weed Control Demonstrations- 9 farms
- Nitrogen Rate Study in Irrigated Bermuda
- Potash Exclusion Study
- Bahiagrass Survey
- Preemergent Herbicide Rate Study- 4 Farms
- Cow Herd Improvement Programs- Multiple Farms
- Beef Quality Assurance and Pesticide Application Trainings



Program Partners

We want to thank the many businesses & individuals who contributed to our 2024 Greene County Extension Crop, Livestock, & Youth Demonstrations, Programs, & other Projects. Many are listed below.

Farmers:

Derek & Royce Boling, Ryan Boozer, Nathan Davis, Johnny Distretti, Shawn & Brandon Finch, Tyler & Raney Nutt, Clint Pigue, David Pigue, Eric Pigue, Ron Pigue, Chris & Allen & Randy Russom, Frank Williams, Dean Wall, Luke Wall, Steve Wall, Steven, Cruz, & Ronnie Hill, Jerry Gilliam, Stacey Speer, John Lane, Terry & Clay Smith, Greg Spaunhurst, Jason Martin, Children's Home Inc, Tim Wells

Consultants:

Sterling Clifton, Jack Cox, Brandon Davis, Dustin Engler, Shane Frost, Austin Miller, Chris Murray, Lance Ramthun, Mike Simmons, Charles Wood, Luke Zitzelberger

Business Supporters:

AgriGold, Baker Implement Company Inc., BASF, Delaplaine Seed Company, Delta Livestock Diagnostics, Final Drive Genetics, GreenPoint AG, Horizon AG LLC, Kin Co AG Aviation Inc., Legacy Equipment, MFA Agri Services, Nutrien Ag Solutions, Riceland Foods, Inc., S SMART Reproduction, Steve Cobb & Family; Sugar Creek Ranch, Progeny Ag, RiceTec, Syngenta, Corteva Ag Science, Rice Stewardship Partnership, Tim Wells Excavation, Simmons Bank, Agoro Carbon Alliance, Rantizo, C&H Insurance Services, The Ridge Retreat & Adventure Center, Beck's Seed, Pioneer Seeds, Bayer Crop Science

Community Supporters:

City of Paragould, Greene County Cattlemen's Association, Greene County Conservation District, Greene County 4-H Foundation, Greene County Fair Association, Greene County Farm Bureau Board, Greene County Tech FFA, Greene County Quorum Court, Paragould City Council, Paragould Church of God, Paragould Parks & Recreation, Paragould Regional Chamber of Commerce, The Crossing, USDA Natural Resources Conservation Service, Walcott State Park, Lake Frierson State Park

University Staff:

Scharidi Barber, Jerry Clemons, Sherry Beaty-Sullivan, Carla Due, Dr. Mike Daniels, Dr. Jason Davis, Chris Elkins, Dr. Travis Faske, Dr. Shane Gadberry, Dr. Jarrod Hardke, Allison Harmon, Dr. Jason Kelley, Dr. Jason Norsworthy, Dr. Dan Quadros, Stewart Runsick, Dr. Jeremy Ross, Kenny Simon, Ples Spradley, Scott Stiles, Dr. Glenn Studebaker, Priscella Thomas-Scott, Tanya Ernst, Mike Hamilton, Russ Parker, Chris Henry, UADA Diagnostics Lab, UADA, 4-H Department, UADA Animal Science Department, Dr. Bronc Finch, Dr. Kelly Loftin, Dr. Maggie Justice

Individual Partners:

Josh Agee, Ron Bellomy, Steve Cobb & Family, Steve Copeland-DVM, Adam Eades, Danny Graham, Cody Gray, Terry Gray, Sherry & Jim Holland, James Kashak, Jordan Leatherman, Patrick Lenderman, Doug Manning, Jeremy McClelland, Rusty McMillon, Paula Norman, Blaine & Vicki Nunn, Bill Pollard, Adam Rawls, Dr. Jerica Rich, Stephen Riggs, Casey Rogers, Mindy Tritch, Scott Watson, Richard Yeazel, Tasha Pillow, Jim McMillon, Jake Rieves, Gary Cupp, Gary Money, Adam Rawls, Josh Stidman

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