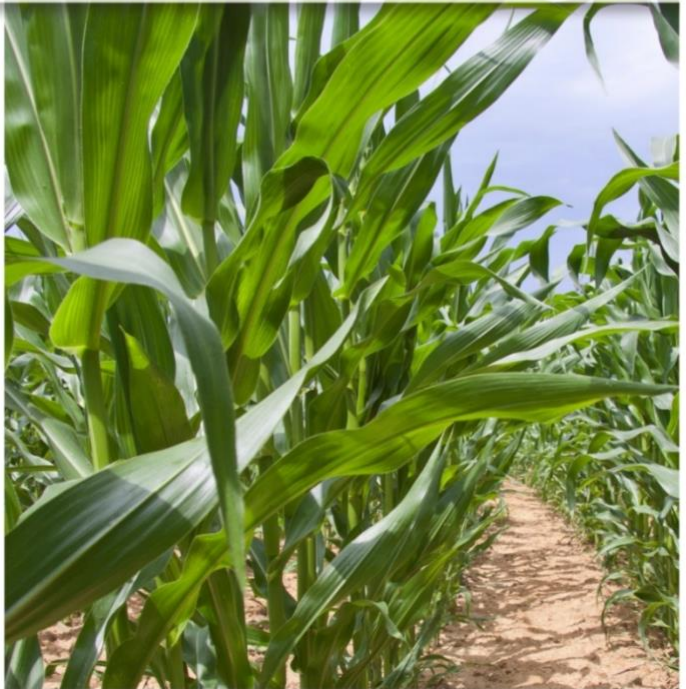


PRAIRIE
DEMO

COUNTY
BOOK



UofA DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

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The Prairie County Extension Service is dedicated to helping local producers maximize their profit by utilizing research-based University of Arkansas Extension recommendations and helping county residents by applying the sciences that affect how humans relate to their environment, whether it is their home, food, or finances. We want to thank the producers and residents of Prairie County for their continuous support of our organization and research.

This booklet contains a compilation of applied agricultural, 4-H, and Family & Consumer Science demonstration work conducted by the UA Prairie County Extension Service agents during 2024. All information reported was conducted in cooperation with Prairie County producers, agricultural business representatives, and appropriate UA specialists. We sincerely thank everyone involved. Our intent and hope are that the compiled results can be reviewed and used to make profitable decisions in the future.

We have included highlights of all Prairie County program areas of Agriculture, Family & Consumer Sciences, 4-H, and Community Development conducted in 2024.

This work would not be possible without the contributions of the following.

Amanda Stark – 4-H Program Assistant
Leslie Sullivan – Office Administrator

Sincerely,

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Cooperative Extension Service

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Annual Update

2024 Prairie County Extension Outreach

59,656 Total Educational Contacts

3,998 Total Volunteer Hours

\$152,580 Value of Volunteer Time (\$33.49 per hour)

Agriculture and Natural Resources

4,262 Direct Educational Contacts

254 Farm/Site Visits

15 Demonstrations

27 Master Gardener Members

9 Master Gardener Projects

724 Volunteer Hours Valued at \$24,246.76



Key Programs and Activities Conducted:

- 19,263 Acres enrolled in the DD50 Rice or Corn Program
- 15,805 Acres Soil Sampled, and 1,295 Soil Samples Submitted
- Facebook Page: 251 Direct Contacts, 4,368 Indirect Contacts, 4,619 Total Contacts
- 65 Private Applicators Trained In-Person
- IPM Insect Traps: 4 Southwestern Corn Borer Traps, 2 Corn Earworm Traps
- Monthly Online Newsletter: 47 Recipients, 43 Opens
- Crop Production Meeting: 73 Attendees

Community and Economic Development

474 Direct Educational Contacts

Key Programs and Activities Conducted:

- 350 Ballot Issue Books distributed for the 2024 Election
- 2024 Voter Education/ Ballot Issue Displays located at Des Arc Courthouse, De Valls Bluff Courthouse, Prairie County Fair, and Rice Festival
- Voter Education Activity at Hazen High School Constitution Day
- Staffed Educational Booths at County Fair, Rice Festival, Senior Center Field Day
- Conservation Day and Wildlife Education for Youth
- Participated in Fair Parade, Christmas Parade, Des Arc Elementary Fall Festival, Hazen Trunk or Treat, Hazen and Des Arc Elementary Professional Development



Family and Consumer Sciences

2,766 Direct Education Contacts
44 Extension Homemakers Members, 5 Clubs
3 70-year+ EHC members
3,355 Volunteer Hours Valued at \$112,359

Key Programs and Activities Conducted:

- Extension Get Fit – 5 Participants enrolled
2 certified volunteer leaders
- Innovative Cooking Solutions Demonstrations
 - Air Fryer – 2 sessions Des Arc and Hazen Public Libraries
 - Insta Pot – 2 sessions Des Arc and Hazen Public Libraries
 - Crockpot – 2 Sessions Des Arc and DVB Public Libraries
- Serve Safe Certification Classes
 - Manager - 5 certified
 - Food Handler – 6 certified
- SNAP-Ed Adult Nutrition Education – Lessons, newsletters, and/or displays provided to DHS, school parents, commodity distribution, Senior Centers and Christopher Homes Housing Authority.
- Youth FCS Educational Programming:
 - Get Real Here's the Deal – Des Arc Junior Class
 - Food Preservation – Hazen High School FACS Classes
 - County Fair Promotion – Hazen and Des Arc High School FACS Classes



4-H Youth Development

2,498 Direct Educational Contacts
41 4-H Members, 2 Certified Volunteers
4 Community Clubs
477 Volunteer Hours valued at \$15,975
3,596 Direct Facebook Contacts
41,633 Indirect Facebook Contacts

Key Programs and Activities Conducted:

- 22 Library Programs in Des Arc and De Valls Bluff
- County Events
 - 4 County Camps: Garden Camp – Jr and Cloverbud; Space Camp – Jr and Cloverbud
 - Poultry Chain and 1st Annual Auction – 16 youth
 - 3 Day Trips: Museum of Discovery & AGAF, Little Rock Zoo, Echo Duck Calls & ASU Vet Tech Program
 - Farmer for a Day at the County Fair – 56 Youth participants, 15 Teen Volunteers
- In School programs
 - Pre-K Programs – 10 sessions at Hazen and Des Arc Schools
 - Des Arc Elementary Field Day – 358 Youth
 - Wildlife Habitat – Hazen 5th Grade
- \$3,223 raised to support the Prairie County 4-H Program
- \$5,000 Grant from America's Farmers Grow Communities





4-H YOUTH DEVELOPMENT



2024 4-H HIGHLIGHTS

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CONSERVATION DAY

31 YOUTH
16 ADULTS

GARDENING CAMP

2 DAY CAMP
24 YOUTH
4 MASTER GARDENER VOLUNTEERS

SPACE CAMP

2 DAY CAMP
29 YOUTH

3 DAY TRIPS

MUSEUM OF DISCOVER AND
ARKANSAS GAME AND FISH
9 YOUTH
4 ADULTS

LITTLE ROCK ZOO

12 YOUTH
4 ADULTS

ECHO DUCK CALLS AND
ASU VET TECH PROGRAM

11 YOUTH
3 ADULTS



"YOU HAVE A GREAT GROUP OF KIDS AND WELCOME
TO COME BACK ANYTIME."

- RICK DUNN, ECHO DUCK CALLS

2024 4-H HIGHLIGHTS

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LIVESTOCK CLUB

10 MEETINGS WITH SHOW CLINICS
21 MEMBERS

PRAIRIE COUNTY FAIR

18 4-H MEMBERS SHOW

FAIR CLEAN UP

30 YOUTH VOLUNTEERS

FARMER FOR A DAY

79 YOUTH

POULTRY CHAIN

16 4-HERS
OUR FIRST POULTRY CHAIN AUCTION

FARM BUREAU YOUTH LEADERSHIP DAY

4 YOUTH



"LOOK I GOT MY FIRST EGG!"

-ADDILYN SPENCER

LIVESTOCK MEMBER AND POULTRY CHAIN GRAND CHAMPION

2024 4-H HIGHLIGHTS

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LIBRARY PROGRAMS

DES ARC AND
DE VALLS BLUFF LIBRARIES
24 PROGRAMS

PRE K PROGRAMS

HAZEN PRE K
DES ARC PRE K
DES ARC HEAD START

SCHOOL PROGRAMS

HAZEN AND DES ARC SCHOOLS
STEM, HEALTHY LIVING, FINANCIAL PROGRAMS,
CITIZINSHIP AND AGRICULTURE PROGRAMS

VOLUNTEER CONFERENCE OF THE SOUTHERN STATES

EMILEE MOODY AND AMANDA SINKEY
PRESENTED ON THEIR CUPCAKE WAR
PROGRAM IN GEORGIA



"THE 4-H LIBRARY PROGRAM HAS BROUGHT MORE
YOUTH INTO OUR LIBRARY AND THE KIDS LOOK
FORWARD TO EACH PROGRAM."

-KAREN TIPTON, LIBRARIAN



FAMILY & CONSUMER SCIENCES



2024 FCS Highlights

ServSafe Certifications

6 Manager Level

6 Handler Level

Food Preservation Classes

48 Youth

Food Preservation classes are about more than making pickles.

Practical Life Skills: Planning, Measuring, Following Directions, Problem Solving, and Teamwork

Science Concepts related to

Microbiology and Chemistry:

Controlling Microorganisms, Chemical Changes, Temperature, and Food Safety

Agriculture Awareness: Gardening, Finances, Minimizing Food Waste

Childcare Provider Training

Babysitting Basics - 20 Youth

The Best Care - 63 Adults



Health and Wellness Programs

Chronic Pain Management - 27 Adults

Mental Health Program - 9 Adults

Mental Health Fair Exhibit



"I didn't realize how much was involved in Babysitting. I really learned a lot."

Modern Kitchen Appliances Series

- 2 Air Fryer Lessons - 26 Adults
- 2 Instapot Lessons - 20 Adults
- 3 Crock Pot Lessons - 29 Adults

- In this series conducted at all three Prairie County Libraries, participants learned about trending kitchen appliances, their advantages and disadvantages, and how to use them.
- With such popularity, participants have asked for more lessons with requests including Breadmaking, Grilling, and Dehydrating.
- Due to the success of these programs, FCS Agent Emilee Moody was invited to film lessons on Air Fryers and Instapots at Extension State Office. These lessons will be available on the Cooperative Extension Website in 2025.



"The recipes were so practical and I feel much more comfortable using my Instapot now that I know it has so many safety features."

Get Real Youth Financial Program

Des Arc High School Juniors

42 Youth

10 Community Volunteers

- Get Real is a hands-on experiential simulation that allows youth to experience their future in a financial decision-making mode. Participants are encouraged to make wise financial lifestyle choices like those that adults face each month based on their family size and affordability.
- Before the simulation, there are three lessons to prepare students. They gain knowledge about personal financial management. Obtain skills in check writing, debit cards, online banking, and balancing a transaction register. Participants become aware of the taxes and other deductions taken from their gross income to make the net deposit.

* Get Real was conducted at Hazen High School in 2023 and Des Arc High School in 2024. The goal is to conduct Get Real with Juniors in both schools every year moving forward.



"This program helped me realize how hard it can be... and also how much everything in life our parents pay for really costs them."



AGRICULTURE AND NATURAL RESOURCES



PRAIRIE COUNTY MASTER GARDENERS

The Master Gardener Program in Prairie County has continued to flourish throughout the county since its inception in 2001. The program currently has eight active members, 26 members total.



Mark Tennison, 2023 Individual Friend of Master Gardeners, was recognized by State Master Gardeners as the **State Winner of the Individual Friend of Master Gardeners** at the 2024 Arkansas State Master Gardeners Conference in Hot Springs.

Two 4-H Youth Gardening Camps conducted by the Prairie County Master Gardeners and the Prairie County Extension Staff occurred in June 2024. Master Gardeners Dee Black and Janice Toll helped facilitate making Soil Dolls that would eventually grow hair when watered. The program reached 24 youth over 2 days.



Prairie County Master Gardeners organized a **Spring Plant Sale** in May of 2024. The plant sale generated nearly **\$600** for Master Gardener Scholarships given to students majoring in Des Arc and Hazen Public Schools in Agriculture, Horticulture, or Natural Resources subjects.

The **Gardening on the Grand Prairie** newsletter was issued monthly by member Amanda Stark and transitioned to both a printed and digital format in September of 2024.



The Prairie County Master Gardeners are planning a **Gardening on the Grand Prairie Conference** in April in Slovak centered around Stern's Medlar, a critically endangered plant native only to Slovak, Arkansas.

2024 Brucellosis Vaccination Clinics

Cooperating: Arkansas Department of Agriculture Livestock & Poultry Commission, United States Postal Service, Bill Walters & Co.

Agents: Jacob Holloway & Josh Hambrick

Objective: To provide education on the necessity and ease of vaccinating for Brucellosis in heifer calves intended to be used as replacements between 4 and 12 months of age and to provide education on the availability of free vaccinations provided by the Arkansas Department of Agriculture.

Methods: Producers were contacted through mail, social media, phone, and in-person methods to determine what producers needed BANGS vaccinations. Once postcards were completed and returned, agents coordinated with the local Livestock and Poultry Inspector to set a date, time, and place for an in-person on-farm vaccination clinic.

Results: Only one producer, Bill Walters, requested BANGS vaccinations, requesting 15 heifer calves, 4-12 months of age, to be vaccinated.

If you need BANGS Vaccinations in 2025, call us at 870-998-2614.

2024 SPONGY MOTH TRAPPING DEMONSTRATION

Cooperating: Arkansas Game & Fish Commission, City of DeValls Bluff, City of Hazen, City of Des Arc, Prairie County Government

Agents: Jacob Holloway & Josh Hambrick

Objective: To monitor the number of invasive Spongey Moths in Prairie County and educate locals about the species and its effects on the community.

Methods: Agents were contacted by phone by local city, county, and state officials to determine where traps could and should be placed to trap and monitor the moths. While doing so, agents informed all officials that there was no immediate harm to humans from the invasive moths. Agents established traps in person throughout the county.

Results: No moths were trapped. Awaiting data from the Arkansas Department of Agriculture.



2024 FIRE ANT DEMONSTRATION

Cooperating: Prairie County Fair Board

Agents: Jacob Holloway & Josh Hambrick

Objective: To monitor the number of invasive Fire Ants at the county fairgrounds and educate locals about the species and possible pesticides to control them.

Methods: Through on-site demonstration, agents exhibited the usefulness of Extinguish Plus, Amdro, and Over N' Out pesticides in controlling fire ants by applying the recommended rates on the label of each pesticide. Since this demo was missed in grant funding, a considerably smaller area was treated than in past years. Agents communicated through in-person conversations about the results of the applications.

Results: Due to the inexperience of new agents, a formal evaluation of the demonstration did not occur. Agents will evaluate the effectiveness better in the next trial occurrence.



2024 PECAN IRRIGATION TECH & SCHEDULING DEMONSTRATION

Cooperating: Jim Sanner

Agents: Jacob Holloway & Josh Hambrick

Objective: To monitor the irrigation needs of young pecan trees in clay soils and educate producers and extension agents on using soil moisture sensors and irrigation scheduling apps.

Methods: Through on-site demonstration, agents exhibited the usefulness of soil moisture sensors in scheduling irrigations by checking the sensors in person each week during the summer months and calculating an irrigation timing recommendation through the U of A soil moisture sensor calculator app.

Results: By the end of the pecan irrigating season, Agents were familiar with making recommendations to producers about when-to-time irrigations based on using soil moisture sensors and apps provided by the U of A. The producer was consistently pleased with the timeliness and professionalism of Agents.

Soil Sensor Calculator App Recommendation Shared With Producer



Soil Moisture Sensor Calculator Result

This recommendation was created on 7/29/24, 1:36 PM

Location:

**Average of sensors in profile is 97 cb.
The remaining water available in the profile is -0.07 inches.
Stress is expected to occur for this soil type above 120 cb.
Irrigation should be initiated in this field in -2 days.
The crop demands 14.0 inches of water to finish at this growth stage.**

Precipitation info

Date	Chance	Depth
07/29	2%	0.0 in
07/30	1%	0.0 in
07/31	1%	0.0 in
08/1	3%	0.0 in
08/2	14%	0.0 in
08/3	11%	0.0 in
08/4	10%	0.0 in
08/5	9%	0.0 in

2024 TRI-COUNTY PECAN DEMONSTRATION

COOPERATORS: Rusher Family Farms, Shady Grove Pecan Orchard and Feather Orchard

AGENTS

Jan Yingling, Sherri Sanders, Kyle Sanders, and Jacob Holloway

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

Type/Design of Demonstration: Shady Grove Orchard (Lonoke County): 50 trees were selected out of an immature pecan orchard

Materials and Methods:

Demo Size: 50 trees on 40' centers

Variety: Kanza, Caddo, Lakota, Avalon, Oconee

Planting date: Young Orchard (4 years old)

Type/Design of Demonstration: Rusher Family Farm Orchard (Lonoke County): 50 trees were selected out of a young pecan orchard

Materials and Methods:

Demo Size: 47 trees on 40' centers

Variety: Lakota, Oconee, Pawnee and Kanza

Planting Date: 13-16 years old

Type/Design of Demonstration: Feather Orchard (White County):

Materials and Methods:

Demo Size: 30 trees on 40" centers

Variety: Lakota and Pawnee,

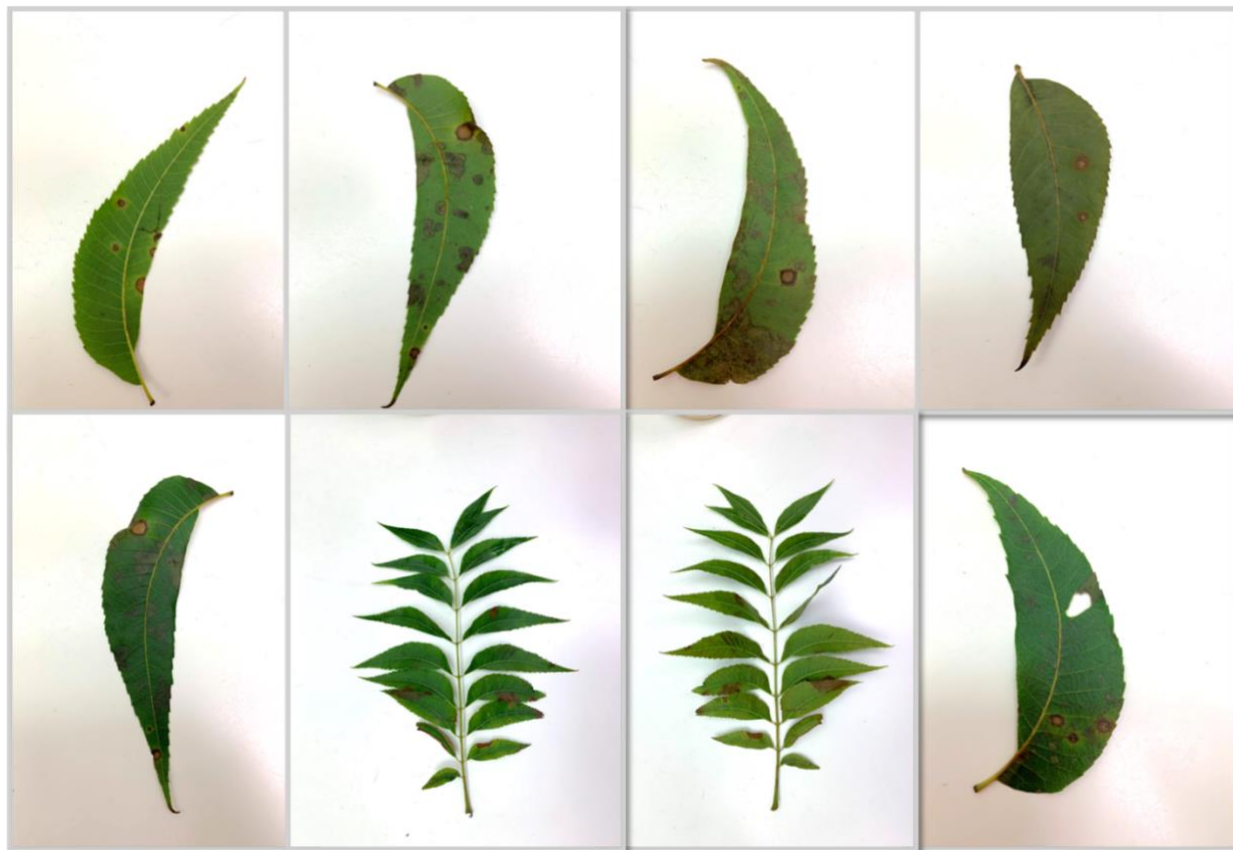
Planting Date: 7 years old

Discussion: This is the second year of collaboration with Greg Rusher and Billy Jeter and the first year with Keith and Jacob Feather. The Jeter Orchard is young and only requires our telemetry unit to assist with timely irrigation. We monitored the unit weekly and scouted for insects and diseases but didn't install traps as the trees were only four years old. Recommendations were made to help control weeds throughout the orchard by applying Select and Roundup. A 14-day fungicide spray schedule was created for Mr. Jeter that alternated between two modes of action to prevent pecan scab.

At the Rusher and Feather orchards, our county agent team deployed *Dead Inn Yellow Stink Bug traps*, *Wire Circle Pecan Weevil traps*, and *Dead Inn Black Pyramid Pecan Weevil traps* in the orchard. These traps were monitored weekly, and the appropriate lures and pheromones were changed. Insecticide applications were developed for the producers and applied according to Integrated Pest Management recommendations.

Soil moisture sensors and a telemetry unit were installed out in the orchard. These sensors were set at different depths to monitor the water uptake in the soil profile. The telemetry unit monitors & records the readings & makes them accessible by smartphone & app to the Pecan Team. Readings were taken weekly. We then were able to help the grower know when the orchard needed to be irrigated by determining the amount of water in the soil profile and how fast the trees were using the water. A water-resistant temperature and humidity sensor was installed. SensorPush pairs with our mobile app and provides a solution for monitoring humidity, temperature, and dewpoint conditions over time. This assists us and our cooperators with forecasting fungicide applications.

Pecan leaves with leaf spots from four different orchards were collected and sent to Dr. Spurlock's Monticello, AR laboratory for processing. Disease lesions on the leaves appeared to be scab, zonate leaf spot, and others. Nineteen different fungi were isolated from the lesions on the leaves for confirmation of identity using DNA. After identifying the fungi, they are confirmed. Fungi, known to cause disease in pecans, will be tested for fungicide resistance by growing the fungi on media mixed with fungicide at multiple rates and measuring growth. Molecular markers will also be used to determine fungicide resistance. Fungi



suspected to cause disease in pecans will be tested for pathogenicity to determine if Arkansas may have unreported pathogens.

Tissue samples were taken to help our growers better determine their fertility needs. Outreach and education for our growers, agents, and clientele are always a priority for our team. We conduct many videos and Facebook Lives from the orchards, often demonstrating trap installation, timely information on how to scout for pests, and other pertinent information. Seeing is believing; we want our clientele to see us “on the job” and informally sharing our knowledge.

This year, we have reached clientele in the following ways:

“X” outreach: 12132 *contacts*

Facebook outreach: 29,581 *contacts*

Website: 8104 *contacts*

Newsletter articles in newsletters (three counties) – 1602 reached individuals

Tri-County Pecan Newsletter – electronic – Sent 12 monthly newsletters to 72 individuals

Cooperators benefitted from:

Timing of sprays based on IPM principles

The importance and necessity of thinning and pruning in the pecan orchard

Agents' assistance on phytotoxicity symptomology on young pecan leaves

New electronic monthly Pecan newsletter and social media educational outreach efforts

Learned the importance of scab hours, how they accumulate, and the threshold for low susceptible, moderately susceptible, and highly susceptible varieties. Cooperators were also informed about our Extension Pecan Scab Hour Calculator, which provides them with the current number of scab hours for their location (county) and a custom spray recommendation.

How to rotate their pesticides using FRAC codes

How to use telemetry units to improve irrigation efficiencies

The importance of orchard sanitation

One of the most important lessons learned was the importance of crop load management. The Feather Orchard experienced a “bumper crop” of pecans and realized it was not positive. We thinned the crop in the summer to facilitate a better quality crop in the fall. Lessons were learned by the cooperators and the agents in this endeavor. Our next challenge will be better marketing to sell our crop. We have proven we can grow the crop, but now our growers need assistance selling it.

While our job is to assist producers, we, as county agents, enjoy the ability to learn experientially. We are also educators, and here are a few opportunities our team taught at:

Our team taught about commercial pecan production at an orchard in conjunction with the Arkansas Pecan Festival at Keo on December 1, 2023 – 100+ adults and youth attended

Tri-County Field Day and Production Meeting – 28 attended – October 24, 2023

Conducted presentation for Arkansas Pecan Growers Association Pecan Field Day/Farm Tour on May 18, 2024 – 35 attendees

Taught growers how to graft pecan trees in the orchard – April 29, 2024, 4 attendees

Conducted poster on Tri County Pecan Demo team efforts at NACAA AMPIC in Dalla, Texas – August 14, 2023 – 1200 attendee

Kyle Sanders won Arkansas County Agricultural Agents State Communications Award Winner for Published Photo of Pecan Cluster – March 28, 2024

State Winning team for the ACAAA Search for Excellence in Consumer and Commercial Horticulture – “Cooperators and Agents Learn Together in the Tri-County Pecan Demo” – March 28, 2024

Kyle and Sherri Sanders attended the Texas Pecan Course in College Station, Texas – January 21-25, 2024

2024 PRIVATE PESTICIDE APPLICATOR TRAININGS

Cooperating: Prairie County Fair Board, Prairie County Producers, Arkansas Department of Agriculture

Agents: Jacob Holloway

Objective: To educate and recertify producers as Private Pesticide Applicators, enabling them to purchase and apply Restricted Use Pesticides safely, economically, and effectively.

Methods: Through in-person trainings held at the Prairie County Fairgrounds

Results: By the end of trainings, **63** individuals were certified or recertified as Pesticide Applicators.

Advertisement for Private Pesticide Applicator Training that occurred on March 13, 2024.



**Pesticide
Applicator
Training**

**9 AM Wednesday March 13
Prairie Co. Fairgrounds**

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.

PRIVATE PESTICIDE APPLICATOR TRAININGS

COST: \$20

DATES AND LOCATIONS

Feb 18 at 9 a.m.
1st United Methodist Church
211 N Hazen Ave
Hazen, AR 72064

MAR 27 at 9 a.m.
First Baptist Church
401 Erwin St,
Des Arc, AR 72040

Apr 29 at 9 a.m.
Prairie Co. Fairgrounds
4133 AR-249
Hazen, AR 72064

Questions?
Call (870) 998-2614.

**Prairie County
Extension Service**
183 E. Prairie St.
DeValls Bluff, AR 72041

<https://www.uaex.uada.edu/counties/prairie/>

2024 CROP PRODUCTION MEETING

Cooperating: Big K's Catfish Barn, Prairie, Lonoke, & Pulaski County Extension Staff & Producers, Agricultural Research Stations & Specialists

Agents: Jacob Holloway (Prairie), Trapper Padgett (Lonoke), Kyle Sanders (Lonoke)

Objective: To update local producers and consultants on the latest research news and developments in row crop agriculture and provide Continuing Education Units to Certified Crop Consultants.

Methods: Through in-person meetings and instruction from agents and specialists.

Results: The table below shows the data collected from the 2024 Crop Production Meeting.

Data collected and analyzed at the 2024 Crop Production Meeting.

Data Type	Quantity
Attendees	73
Counties	10
Total Acres	149,738
Wheat Acres	1,100
Soybean Acres	63,705
Rice Acres	52,987
Corn Acres	28,236
Cotton Acres	1,100
Grain Sorghum	0

2024 COUNTY SOYBEAN HIDDEN HUNGER TEST

Cooperating: Taylor Lawrence, Jerry Owens, and Mike Cox

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents, consultants, and producers involved to increase knowledge and experience about Hidden Hunger (Potassium Deficiency) in soybeans.

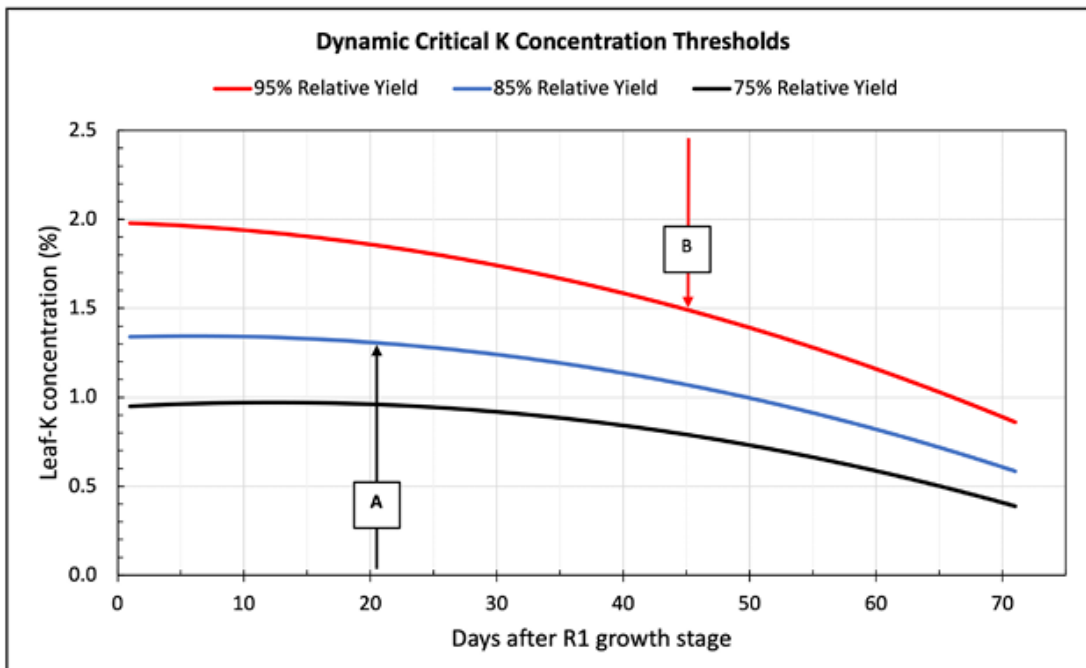
Methods: Communication was made in person and by phone to cooperators. Sampling, analysis, and recommendations were conducted by hand according to university recommendations. One field of P46A90 soybeans was divided into two halves and separately sampled and tested at R1 to evaluate for hidden hunger.

Results: Fortunately, no hidden hunger was identified, and no additional fertilizer recommendation was required. The table shows the data collected from the 2024 County Soybean Hidden Hunger Test. **The chart below was utilized to recommend not applying additional fertilizer since the results were received about 14 days after sampling, and Leaf-K Concentration was near the 95% relative yield possible.**

Comments: This test was completed independently from the Hidden Hunger testing conducted statewide by specialists to be knowledgeable about sampling, testing, and making recommendations in the future. Agents plan to enter fields into the statewide tissue testing program.

2024 County Soybean Hidden Hunger Trial Potassium Testing Results

	Untreated Check	Treated Check
Leaf-K Concentration %	2.23	1.85



2024 Multiple Inlet Rice Irrigation Demonstration

Cooperating: Tony Richards, T & N Farms

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents and the producer involved to increase knowledge and experience about Multiple Inlet Rice Irrigation.

Methods: Communication was made in person and by phone to the cooperator. The cooperator's rice field was photographed by drone to capture levees on the contour. The paddies were then estimated for acreage, and the well was tested for total Gallons Per Minute (GPM). Data collected was input into the University's MIRI app, which gave precise recommendations for hole sizes in the polypipe in each paddy.

Results: The cooperator cited that he was delighted with the shortened time of initial and maintenance irrigations. **"I plan to use it on all my rice next year."** Agents learned to utilize the University MIRI app and collect data for effective implementation.

Comments: This test was completed independently from the Hidden Hunger testing conducted statewide by specialists to be knowledgeable about sampling, testing, and making recommendations in the future. In 2025, agents plan to enter fields into the statewide tissue testing program.



Rice Irrigation Results for Field: MIRI 2024
Generated Tuesday December 17, 2024 by Jacob

Levee Results for MIRI 2024

Field area: 35.0 acres
 Flow Rate: 900.0 gpm
 Pipe Size: 12 inch (30 cm)
 Measured Pipe Length: 0 ft
 Pipe Needed*: 34 ft
 Blue Gates Needed: 18
 Polytube Rolls Needed**: 0 rolls, 34 feet
 * The pipe length is adjusted for land slope and levee barrier crossing
 ** Use 9mil, Tri-Ply, or 10 mil pipe for MIRI
 *** Adjust gates during first irrigation so that all levees flood evenly.
 To adjust 7/8" holes use plugs to reduce flow in levee/paddy. Punch one additional hole to increase flow. Black circle represents using 3" install tool without installing blue gate. Adjust blue gate setting to either 1/4 open, 1/2 open, 3/4 open or fully open as indicated. Use either 7/8in holes or Blue Gates not both.

Irrigation Application (ac-in)	1	2	3	4
Time (hours)	17.6	35.2	52.8	70.4

Levee	Area (acres)	# of 3in Holes and Blue Gates Settings	# of 7/8 Holes
1	0.41		1
2	0.83		2
3	1.14		3
4	5.03		11
5	3.12		7
6	1.77		4
7	1.52		4
8	1.76		4



2024 N-STAR & Greenseeker Demonstration

Cooperating: Tim Holloway

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents and the producer involved to increase knowledge and experience about the Nitrogen Soil Test for Rice and the hand-held Greenseeker device in making in-season rice fertilizer recommendations.

Methods: Communication was made in person and by phone to the cooperator. The cooperator's rice field was soil tested in late winter, and the analyses were used to make efficient recommendations for rice fertilizer applications. A reference plot was established to use the Greenseeker to determine the need for an extra application.

Results: The cooperator cut back the Nitrogen rate from 150 pounds per acre to 140 pounds per acre, a savings of 10 pounds in Nitrogen. Effectively, this saved the producer an estimated \$2.53 per acre on fertilizer costs or \$2,530 per 1,000 acres. Greenseeker analysis showed that a midseason application was unnecessary; however, an application at boot was still recommended. The producer stated at harvest that **"the field seemed to be [yielding] as well as the other fields,"** which were given the extra 10 pounds of nitrogen.



Greenseeker Device. From *Development of the Handheld "Pocket" Senso* by Brian Arnall, PhD, n.d., Oklahoma State University Extension, (<https://extension.okstate.edu/programs/precision-ag-and-soil-fertility/greenseeker-sensor.html>).

N-STaR Recommendation Report



N-STaR Soil Test Laboratory
1366 West Altheimer Drive
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479-575-6752
NSTARLAB@uark.edu



Name	Tim Holloway/Jacob Holloway	State	AR
Email	jholloway@uada.edu	Zip Code	72060
Address	16734 Highway 11	Phone	(770) 861-3805
City	Griffithville	Field Name	New Ground West (GS Demo)
County	Prairie	Submit Date	3/8/2024

Field Information		
New Ground West (GS Demo)		
Number of Samples per Field	Soil Texture	Variety
12	Silt Loam	RT 7521 FP
Estimated N Rate	150	

N-STaR Recommendation				
	Total N Rate	Preflood N Rate†	Midseason*	Boot*
Single Pre Flood Application	120	120		
2-Way Split Application (95% Relative Grain Yield)	140	110		30
2-Way Split Application (100% Relative Grain Yield)	165	135		30

† Effective Preflood N Management for N-STaR

Conditions for the effective use of N-STaR N rate recommendations: 1) the use of the urease inhibitor N8PT (e.g. Agrotain, Arborite) on urea applied preflood or use ammonium sulfate as preflood N source 2) establishment of the permanent flood within 7 days after application of preflood N and maintaining the flood until maturity, and 3) application of preflood N on dry soil.

* N-STaR Rate Adjustments for Pureline vs. Hybrid Varieties

- 1) If variety changes from pureline to hybrid, increase preflood N by 15 units and and apply 30 units at boot.
- 2) If variety changes from hybrid to pureline, decrease preflood N by 15 units and and apply 45 units at midseason.

2024 Most Crop Per Drop Contest Entry/Demonstration

Cooperating: Charles Churchwell, USDA NRCS, Dr. Chris Henry & Russ Parker (Irrigation Contest Facilitators)

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents and the producer involved to increase knowledge and experience about the available equipment and technology to improve irrigation efficiency through the Most Crop Per Drop Contest.

Methods: Communication was made in person and by phone to the cooperator. The cooperators designated a corn field with soil moisture sensors, a telemetry unit, and a flow meter installed for use in the 2024 growing season. Agents recommended that the producer irrigate as if he did not have the equipment to have comparable data for 2027 when the equipment will be fully utilized towards maximum efficiency.

Results: The table below shows data collected from this demonstration.

2025 Praise County and Statewide Most Crop Per Drop Contest Data

Data	Churchwell	Contest Average
Yield (bu/ac)	210	255.12
Irrigation Applied (ac-in/ac)	20.6	13.78
Rainfall (ac-in/ac)	20.02	15.65
Total Water (ac-in/ac)	40.62	29.42
Water Use Efficiency (bu/in of water)	5.16	10.68

Contact our office to enter the 2025 Most Crop Per Drop Contest at (870) 998-2614.

2024 Integrated Pest Management Traps

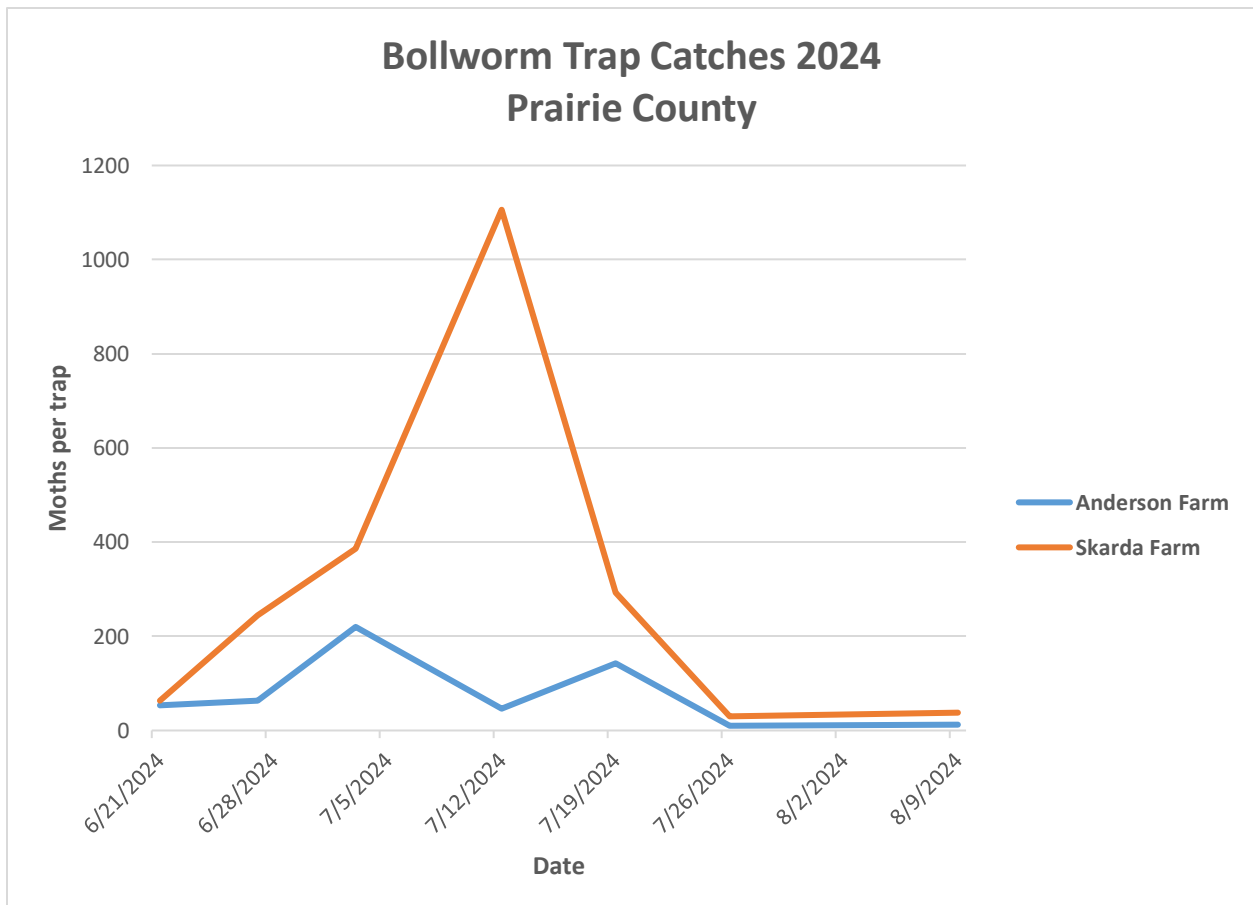
Cooperating: Skarda Farm, Nail Farm, Churchwell, Hopsons Farm, Anderson Farm

Agents: Jacob Holloway & Josh Hambrick

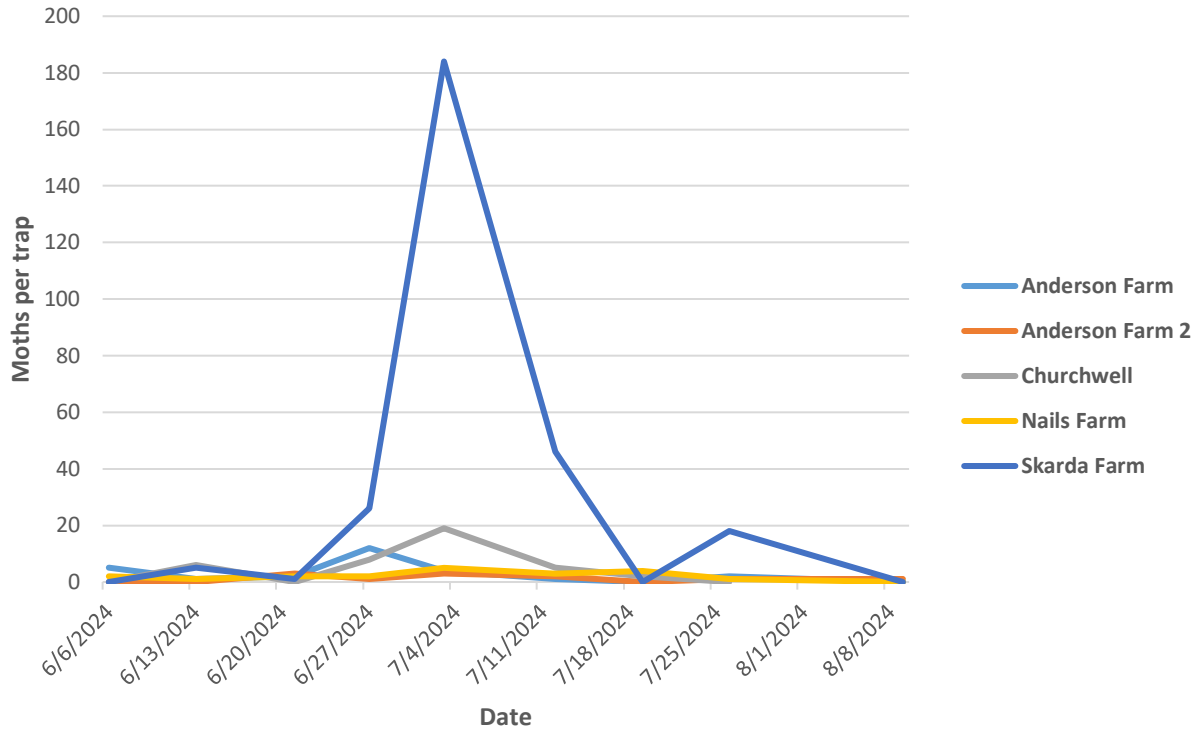
Objective: For agents and the producers involved to increase knowledge and experience about trapping and monitoring Southwestern Corn Borer and Boll Worm adult populations

Methods: Communication was made in person and by phone to the cooperators. Traps were established near susceptible fields for these pests. The traps were checked regularly, and the counts were recorded and reported to the Integrated Pest Management Specialist.

Results: The line graphs below show the results of the trapping program.



Southwestern Corn Borer Trap Catches 2024 Prairie County



A wire mesh cone trap was used in Prairie County, Arkansas over the summer of 2025.

2024 COUNTY AGRICULTURAL ISSUES SUBCOMMITTEE

Cooperating: Gwen Handcock, Amy Tallent, Nancy Chalpecka, George Toll, Smauel Williams, Kimberly Parchman, Charles Churchwell, Tony Richards, Sue Clayton, Kathy Seidenstricker, Stuart Siedenstricker, Dooby Moore, Foster Harshaw, Mark McMullen, Stevie Kee

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents and the producers involved to increase knowledge and experience about the priority issues facing Prairie County Producers.

Methods: Communication was made in person and by phone to the cooperators. An online survey was emailed to subcommittee members, and their responses were tabulated. An in-person meeting was held for the members to gather and discuss the results.

Results: The list below represents the priority issues of our clients that our Agriculture and Natural Resource Agents will work through in 2025.

Agricultural Issues

1. **Irrigation Basics:** Computerized Hole Selection, Irrigation Scheduling, etc.
2. **Irrigation Technology:** Soil Moisture Sensors, Watermark Sensor App, etc.
3. **Soil Nutrient Management/Efficiency:** N-STAR, Soil Testing Promotion, etc.
4. **Economics & Marketing:** Crop insurance education, etc.
5. **Integrated Pest Management:** Pasture Fire Ant Control, Resistance Weeds, etc.

2024 Multi-County Rice Research Verification Program

Cooperating: Jordan Lynch

Agents: Trapper Padgett (Lonoke), Jacob Holloway (Prairie), Josh Hambrick (Prairie), Dustin North (Monroe), Anna Grace McCarty (Pulaski)

Objective: For agents and the producers involved to increase knowledge and experience about economic practices in growing rice.

Methods: Communication was made in person and by phone to the cooperators. Agents met weekly with the specialist to conduct field evaluations and make recommendations to the cooperators throughout the growing season.

Results: The table on the next page shows the results of this program.



2024 Research Verification Program - Data Sheet

Agent: Trapper Padgett/Jacob Holloway
 Cooperator: Jordan Lynch
 County: Lenoke/Prairie
 Soil Type: Calloway silt loam
 Yield: 24.3 Bu/Ac 59/73
 Levees/Water Source: ContourWell Electric Zero Grade

Acres in Verification Trial: 58.4
 Days to Flood
 Days to Flood 3
 Moisture 15%
 Variety: RT 7521 FP
 Row Width: 7.5
 Previous Crop: Soybean

DATE	OPERATION	TRACTORS & SELF PROPELLED EQUIPMENT				MATERIAL, LABOR, OR MISCELLANEOUS						
		BRAND & MODEL NO.	HP (PTO)	EQUIPMENT WIDTH	TIMES OVER	CHEMICAL TRADE NAME OR ITEM	UNITS (qts, lbs, etc.)	TOTAL UNITS APPLIED	PRODUCT RATE PER ACRE	PRICE PER UNIT	ACRES COVERED	BANDWIDTH IF APPLICABLE (INCHES)
Spring	Burndown	Airplane			1	Roundup Power Max	oz	2320	40		58	Total
Spring	Field Cultivate	Case 7120	230	30'	1							
Spring	Fertilizer	Spreader Truck	325	70'	1	12-40-60	lbs				58	
Spring	Burndown	Case 280	280	100'	1	Glyphosate	oz	1856	32		58	
4/5/2024	Drill-Seeded	JD 8240	240	42'	1	Command/Preface/Glyphosate	oz/oz/oz	742/290/1856	12.8/5/32		58	
4/21/2024	Emergence					6.6 plants ft2					58	
5/7/2025	Herbicide	Patriot	160	100'	1	Preface/Facet/COC	oz/oz/oz	348/1276/928	6/22.16		58	
5/8/2024	Fertilizer	Airplane			1	Urea + NBPT	lbs	17,400	300		58	
6/25/2024	Fungicide	Airplane			1	Tilt	oz	348	6		58	
7/5/2024	Fertilizer	Airplane			1	Urea	lbs	4060	70		58	
8/1/2124	Harvest	JD 8240	350	30'	1						58	

2024 Multi-County Corn Verification

Cooperating: Brad Caviness

Agents: Trapper Padgett (Lonoke), Jacob Holloway (Prairie), Josh Hambrick (Prairie), Dustin North (Monroe), Anna Grace McCarty (Pulaski)

Objective: For agents and the producers involved to increase knowledge and experience about economic practices in growing corn.

Methods: Communication was made in person and by phone to the cooperators. Agents met weekly with the specialist to conduct field evaluations and make recommendations to the cooperators throughout the growing season.

Results:

The Lonoke County corn research verification field was about 2 miles east of Carlisle on Calloway Silt Loam soil. The field was 90 acres, and the previous crop was soybean. A burndown herbicide application of 40 ounces/acre of paraquat plus 1 quart/acre of atrazine was applied. A mixed pre-plant fertilizer of 46-60-60-0-0 was applied on April 22, followed by a bedder/roller. On April 23, the field was planted to DeKalb DK 65-92 (conventional) at 33,000 seeds per acre on a 38-inch row. The field emerged on April 30 with a final plant population of 34,500 plants per acre. On May 14, the grower applied 250 pounds/acre of urea plus 50 pounds/acre of ammonium sulfate, followed by a pre-tassel application of 100 pounds per urea on June 8. On May 14, the grower applied a lay-by application of 3 ounces/acre of Capreno, 1 quart/acre of atrazine, 1 oz halosulfuron, plus 1 pint/acre of crop oil. The total fertilizer for the field was 218-60-60-12-0. The field was furrow irrigated three times. The field was harvested on September 10 and yielded 173 bushels/acre adjusted to 15.5% moisture. Due to irrigation issues, the initial irrigation was 7 days late the week before tasseling began. This delay causes grain fill to be affected, resulting in about a 20-25 percent reduction in yield.

Field	Operating Costs	Operating Costs/Bu	Returns to Operating Costs	Total Fixed Costs	Total Costs	Returns to Total Costs	Total Costs/Bu
Lonoke	612.64	3.54	133.85	89.44	702.08	44.42	4.06

2024 Multi-County Soybean Verification

Cooperating: JAM Farms & Hartz Farm Management

Agents: Grant Beckwith (Arkansas), Trapper Padgett (Lonoke), Jacob Holloway (Prairie), Josh Hambrick (Prairie), Dustin North (Monroe), Anna Grace McCarty (Pulaski)

Objective: For agents and the producers involved to increase knowledge and experience about economic practices in growing soybeans.

Methods: Communication was made in person and by phone to the cooperators. Agents met weekly with the specialist to conduct field evaluations and make recommendations to the cooperators throughout the growing season.

Results: The table on the next page shows the results of this program.



Field Summary:

The 64-acre field, Dewitt silt loam, was located east of Stuttgart and followed the previous year's soybean crop. Following spring, tillage and fertilizer application of 0-50-120 was applied. The field was planted on April 18 with Pioneer 47A64X, Crusier Maxx treated seed, at 140,000 seed/acre on 30" row seed spacing. On April 18, 28 ounces/acre Antares Complete was applied for pre-emerge weed control. The field emerged on April 29 with a 109,000 seeds/acre plant population. A single post-emerg herbicide application was made on May 29 of 26 ounces/acre Round up Power Max III plus 10 ounces/acre Sinister plus 2.5 ounces/acre Zidua. Disease and insect pressure remained below the threshold, and no treatment was recommended. The field was irrigated 5 times and harvested on September 25, yielding 79.1 bushels/acre adjusted to 13%.

2024 Resistant Weed Monitoring

Cooperating: Prairie County Producers and Consultants ^a

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents and the producers involved to increase knowledge and experience pesticide resistance in weeds found in Prairie County.

Methods: Communication was made in person and by phone to the cooperators. Agents sampled weed seeds from various crops in several fields and shipped them to the lab for testing.

Results: The following results have been received at the time this publication was published. **Not all data has been received for resistant weed monitoring for all samples sent in for 2024.**

Sample Identification ^a	Type	Newpath	Provisia
1	Weedy Rice	Developing Resistance	Susceptible
2	Weedy Rice	Developing Resistance	Susceptible

^aFor privacy, the names of the cooperators were kept confidential to protect the cooperators' reputations in the county.

2024 Corn Nematode Survey

Cooperating: Select Praire County Producers ^a

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents and the producers involved to increase knowledge and experience about nematodes prevalent in Prairie County, Arkansas.

Methods: Communication was made in person and by phone to the cooperators. Agents soil sampled several corn fields throughout the county in search of nematodes at significant levels.

Results: The chart below shows the nematode populations at the various sampling locations and the thresholds for each type of nematode.

Sample Identification ^a	Thresholds					
	Cyst	Lesion	Lance	Spiral	Stunt	Free Living
1	38	38	0	1000	38	1915
2	0	0	0	38	38	1761
3	0	0	338	115	38	1408
4	0	0	0	115	231	115
5	77	8	0	500	38	730

Note. There are no thresholds established for corn in Arkansas. In other states, high population levels of the nematodes listed can be of economic concern in corn. These thresholds are for sandy loam. Generally, greater densities are needed to cause a similar magnitude of yield loss in silt loam or heavier soils.

^aFor privacy, the names of the cooperators were kept confidential to protect the cooperators' reputations in the county.

2024 Soybean Seed Quality Test

Cooperating: David Strohl, University of Minnesota, United States Postal Service

Agents: Jacob Holloway & Josh Hambrick

Objective: For agents, the producers, and other parties involved to increase knowledge and experience about soybean seed quality in Prairie County, Arkansas.

Methods: Communication was made in person and by phone to the cooperators. Agents retrieved a bag sample of soybean seed harvested in 2024 and shipped the sample to the University of Minnesota for sample testing.

Results: The chart below shows the results of the Prairie County sample compared to the national average in 2024.

Soybean Quality Survey at 13% Moisture

Sample Area Averages	Protein %	Oil %	5 EAAs % ^a
Prairie County	33	20.5	14.4
Midsouth	34.5	20.7	14.6
US (2023)	34	19.8	14.6
US (2024)	34	19.9	14.6

^a 5 Essential amino acids

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