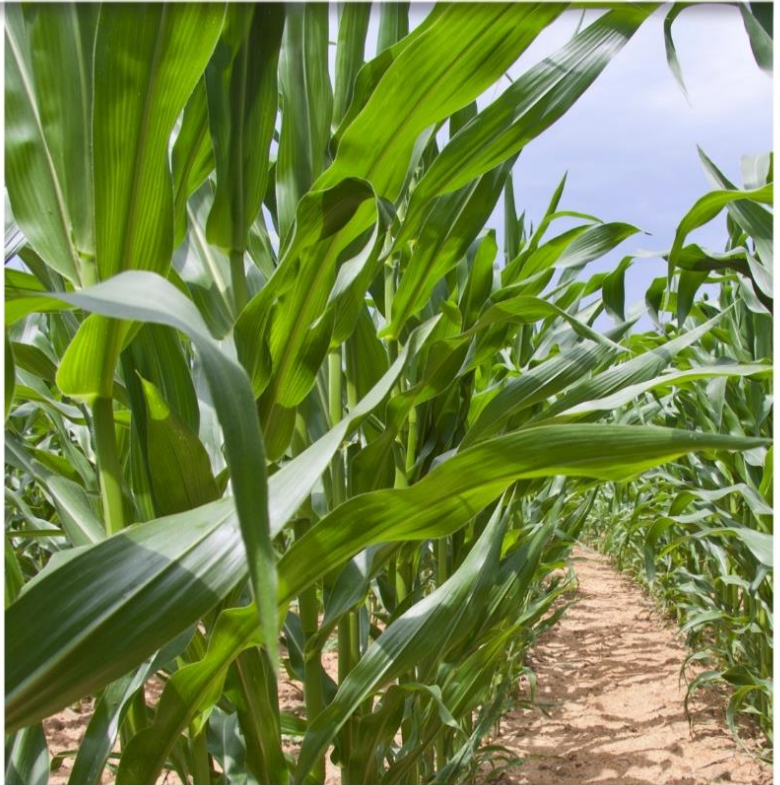


# PRAIRIE DEMO

# COUNTY BOOK



**UofA** **DIVISION OF AGRICULTURE**  
**RESEARCH & EXTENSION**  
*University of Arkansas System*

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Prairie County,

One thing that stays the same is that everything changes. Our office has seen quite a bit of change in the past year. However, the Prairie County Extension Service is ***still dedicated*** to helping you maximize profits by using research-based recommendations and helping you apply the sciences that improve your home, business, food, finances, and environment.

**Thank you for your continuous support of our organization and research.**

The following is a booklet of applied agricultural demonstration work conducted by the Prairie County Extension Service during the 2023 growing season. All information reported was collected in cooperation with local producers, agricultural business representatives, and appropriate University of Arkansas Extension specialists. It is with sincere gratitude that we thank everyone involved. We hope the findings in this book can be reviewed by all people and used to make better decisions in the future. Also included are the 2023 highlights of all Prairie County program areas: Agriculture, Family Consumer Science, 4-H, and Community Development.

**We can help, so please call us anytime.**

Sincerely,



Jacob Holloway  
County Extension Agent – Agriculture  
870-998-2614  
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**DIVISION OF AGRICULTURE**  
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**ARKANSAS CORN STANDARDIZED COUNTY HYBRID TRIAL**

**Grower:** Tony Richards

**County Agent:** Andrew Sayger

**Location of Field:** Des Arc

**GPS:** 35.051163, -91.563429

**Soil Type:** DeWitt Silt Loam

**Previous Crop:** Soybean

**Row Width:** 30 inches

**Planting Population:** 34,000

**Planting Date:** April 14, 2023

**Harvest Date:** September 16, 2023

**Irrigation Type and Frequency:** Furrow irrigated five times.

Fertility (lb/ac)	N	P	K	S	Zn
--- Preplant	60	80	100	24	2
--- Sidedress	315				
--- Pretassel	100				
<b>Total Fertility</b>	<b>475</b>	<b>80</b>	<b>100</b>	<b>24</b>	<b>2</b>



**Foliar Fungicide:** No

Hybrid	Adjusted Yield bu/ac <sup>1</sup>	Harvest Moisture %	Final Plant Population <sup>2</sup>	Lodging Score <sup>3</sup>	Test Wt lb/bu
Dekalb DKC 66-06	167	12.5	31,000	1	58.2
Dekalb DKC 68-35	211	12.5	31,000	1	59.9
Dyna-Gro 57VC53	187	12.3	31,000	1	60.6
Dyna-Gro 57TC29	173	12.1	32,000	1	58.0
Pioneer 1511YHR	169	12.9	32,000	1	58.4
Pioneer 1718VYHR	147	12.2	28,000	1	55.5
Progeny 2118VT2	187	12.7	31,000	1	59.9
Progeny 2215TRE	167	12.2	29,000	1	58.3
<b>Trial Mean</b>	<b>176</b>	<b>12.4</b>	<b>30,600</b>	<b>1.0</b>	<b>58.6</b>

<sup>1</sup> Yield is adjusted to 15.5% moisture.

<sup>2</sup> Final Plant Population is given as plants per acre.

<sup>3</sup> Lodging Score – 1 is no lodging, 10 is completely lodged.

**Prairie County XtendFlex Soybean Variety Trial**

**Grower:** Greenwalt Company

**County Agent:** Andrew Sayger, Amy Tallent

**Soil Type:** Calhoun Silt Loam

**Previous Crop:** Corn

**Row Width:** 30 inches

**# of Rows:** 6

**Planting Date:** May 2, 2023

**Harvest Date:** October 23, 2023



Variety	Seeding rate Count	Plot weight	Row Length ft	% Moist.	Test Weight	Yield
<b>Don Mario 48F53</b>	130k	900	570	10.3	57.1	78.8
<b>Gateway 467XFS</b>	130k	796	568.7	10.5	49.6	69.7
<b>Gateway 473XFS</b>	130k	906	567.4	10.3	40.1	79.7
<b>Progeny 4798XF</b>	130k	850	566.1	10.1	55.5	75.1
<b>Progeny 4604XFS</b>	130k	806	564.8	10	55.6	71.5
<b>Pioneer 46A90LX</b>	130k	948	563.5	10	56.5	84.2
<b>Delta Grow 48XF33</b>	130k	868	562.2	10	45.6	77.3
<b>Delta Grow 49XF29</b>	130k	856	560.9	10	56.8	76.4
<b>Trial Mean</b>	130K	866.25	565.45	10.15	52.1	76.58

## Broomsedge Management in Forage Production

### Objective:

Evaluate the influence of proper fertility and Glyphosate applications on broomsedge in hay production.

### Treatment Applications:

**Fertilizers:** Based on Soil Test

**Lime:** Based on the Soil Test, exclude the treatments that include a lime application if not needed. Pelletized lime can be used.

**Herbicide:** Round up at the following application rates

3 oz per acre broadcast applied following the first harvest.

6 oz per acre broadcast applied following the first harvest.

50% solution spot spray following first harvest.

**Plot Layout**

Fertilizer + Lime				
Lime Only				
Fertilizer Only				
No Fertility No Lime				
	No Herbicide	50% soln. spot spray	3 oz/ac	6 oz/ac

## **Trial Establishment**

Agents completed the trial establishment on May 24<sup>th</sup>. Agents took composite soil samples before establishment to determine specific fertilizer rates. For the site at Hickory Plains, the soil report recommended 200 lbs./acre N, 115 lbs./acre P, and 230 lbs./acre K based on hay production goals of 4 tons per acre. Although the soil test did not recommend lime, the soil pH was near 5.9, so lime was applied at 2 tons per acre to see its effect on production. An estimated 3 cuttings were planned for the year, so the total recommended fertilizer rate was divided by 3. The first application happened on 5/24 and then applied after each cutting on 7/10 and 8/7. A fertilizer blend of 66-40-77 (N-P-K) was used. Lime was applied once on 5/24. Herbicide applications were paired with fertilizer treatments and stand-alone treatments to determine the efficacy of control of broomsedge. Glyphosate was applied once on 5-24 at 3 oz/ac, 6 oz/acre, and a 50% spot spray solution.

At establishment, there was little Bermuda present in any plot. Plots mainly consisted of broomsedge and broadleaves such as croton, horse nettle, marestail, briars, and others.

## **Mid-Season**

The second assessment happened on 7/10 after the second cutting. The fertilizer was applied again. The 6 oz glyphosate treatments did not have much forage growth, but broomsedge control was satisfactory. The best treatment in the 6 oz glyphosate plots was with fertilizer added in as Bermuda began filling in. The 3 oz glyphosate plots had more forage than the 6 oz treatments and were comparable to the control. The broomsedge was mostly controlled. There was excellent forage growth in Bermuda, where the 3 oz and fertilizer treatments overlapped. The 50% spot spray did not have any broomsedge growing but no other forages as well.

The control plots with no glyphosate were very weedy with no desirable forage growth.

## **Year One Observations**

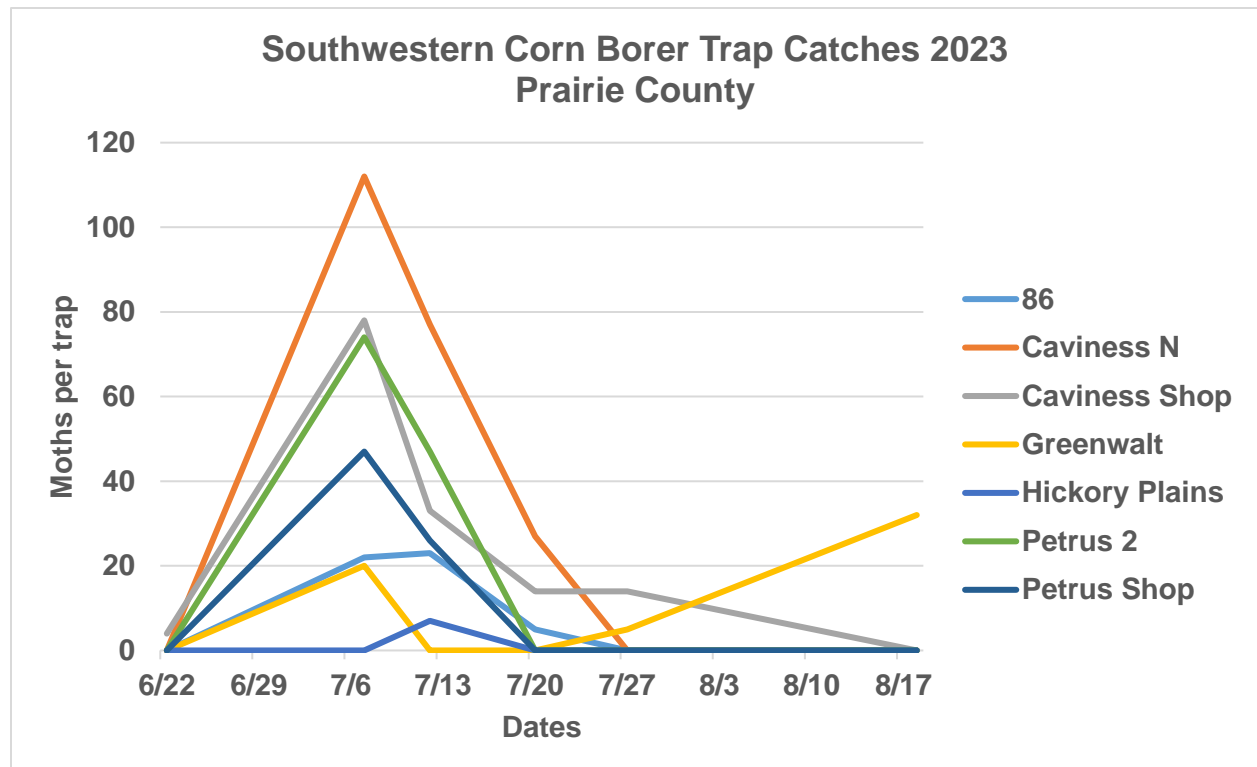
At the end of year one, the best plots were where the 3 oz glyphosate and fertilizer applications overlapped. Broomsedge was controlled well, and desirable forage grew very well. The next best plots were fertilizer-only applications. Desirable forage grew well, although some broomsedge was still growing. The 6 oz and spot spray method knocked back the desirable forage too much, and poor forage growth was observed for the rest of the year. At the end of year one, it is too early to tell how the lime-only treatments and fertilizer/lime treatments will impact forage growth and broomsedge control. These observations must be conducted in years two and three to allow the lime time to incorporate into the soil.

## PRAIRIE COUNTY SOUTHWESTERN CORNBORER MONITORING

**COOPERATORS:** CAVINESS FARMS, BELL FARMS, KEE FARM, GREENWALT COMPANY, PETRUS FARM

Prairie County Extension participated in the 2023 IPM grant program by establishing a southwestern corn borer moth monitoring program. Early insect pest detection is crucial to any integrated pest management program. Trapping is an effective means to estimate the current population of an insect pest in a given area and aids in assessing the potential population to cause economic injury. Pheromone traps are used to monitor the emergence patterns and populations of Southwestern Corn Borer moths as indicators for when growers should scout/treat for these pests.

Nine trap locations were selected near conventional corn (non-Bt) varieties field locations throughout the county. There was an influx of moth catches for two weeks during July.





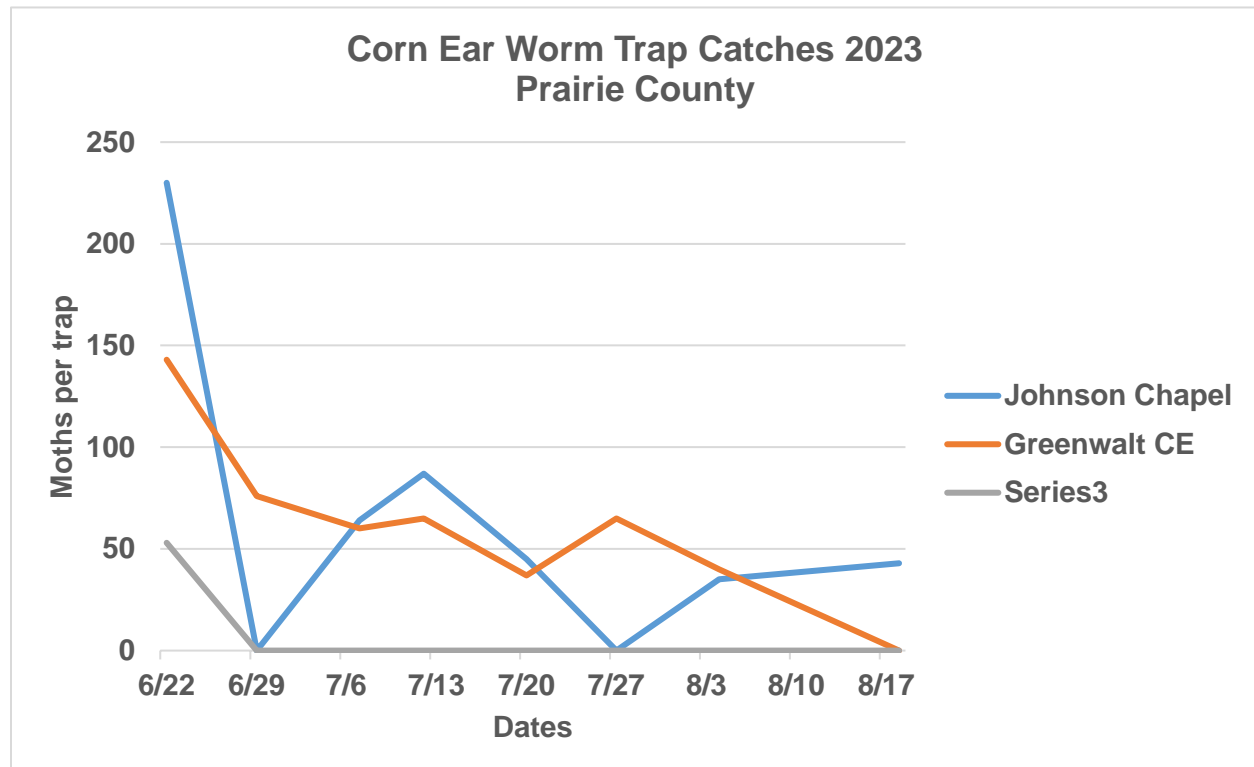
## PRAIRIE COUNTY CORN EARWORM MONITORING

**COOPERATORS:** GREENWALT COMPANY, BELL FARMS

Prairie County Extension participated in the 2022 IPM program by establishing a southwestern corn earworm moth trapping program. Early insect pest detection is crucial to any integrated pest management program. Trapping is an effective means to estimate the current population of an insect pest in a given area and aids in assessing the potential population to cause economic injury.

Hartstack traps are used to monitor the flight patterns and populations of Corn Earworm moths as indicators for when growers should scout for these pests in their fields. Data is not used as a sole indicator for when a grower should treat their field.

Monitoring in Prairie County was done weekly for 15 weeks, beginning in June and ending in September. Moth counts were recorded, sent to the Extension Entomologist, and published on the Arkansas Row Crop Blog. Three trap locations (the county's North, Central, and South parts) were selected during the early growing season. The traps were set close to the cornfield because this is the preferred host of the CEW, but as the season progressed, it was placed in proximity to a soybean field.



## TRI-COUNTY PECAN ORCHARD - PRAIRIE COUNTY LOCATION

**COOPERATORS:** JOHNNY AND JEFFERY REIDHER

**AGENTS:** Jan Yingling, Sherri Sanders, Amy Tallent, Andrew Sayger, Danielle Dickson, and Kyle Sanders

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

**Type/Design of Demonstration:** 24 trees were selected from a mature pecan orchard.

### **Materials and Methods:**

**Demo Size:** 24 trees

**Variety:** Stewart & Desirable

**Planting date:** Mature Orchard (60 – 70 years old)

### **Discussion:**

The tri-county pecan orchard demo was a collaborative effort between Prairie, Lonoke, and White County and was born from a basic pecan growers informational meeting the group conducted. The demo was marked, and trees to be included in the demo were selected.

This is the fourth year of our collaboration with the Reidhar Orchard. We have assisted the cooperators in calibrating their sprayers. Spray cards were strategically placed in the canopy of the mature trees to ensure proper coverage using the new equipment. Recommendations were made to help control weeds throughout the orchard by applying Select and Roundup. A 14-day fungicide spray schedule was created for the producers that alternated between two modes of action to prevent pecan scab.

Our county agent team *deployed 6 Dead Inn Yellow Stink Bug traps, 6 Wire Circle Pecan Weevil traps, 6 Dead Inn Black Pyramid Pecan Weevil traps, and 4 Pecan Nut Casebearer Hanging Traps* in the orchard. These traps were monitored weekly, with the appropriate lures and pheromones being changed as needed. Insecticide applications were developed for the producers, and those were applied according to Integrated Pest Management recommendations. 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.

Due to the lack of a fruit set, the cooperator made minimal input applications last year. The orchard did not produce a decent nut crop in 2022 due to the heavy canopy closure and drought

issues. In 2022, the cooperators relied on our recommendations and removed 12 trees from our demo plot to create more sunlight exposure and airflow within the canopy. However, drought conditions impeded our progress with yield, as this orchard is not irrigated. We kept the orchard in the demonstration for 2023 and monitored it every week, scouting for disease and insects. Our recommendations were provided to the cooperators, and we saw significant benefits from the orchard thinning recommendation that the Reidhars implemented based on our suggestion.

### **TRI-COUNTY PECAN ORCHARD - LONOKE COUNTY LOCATION**

**COOPERATORS:** Rusher Family Farms and Shady Grove Pecan

**AGENTS:** Jan Yingling, Sherri Sanders, Amy Tallent, Andrew Sayger, Danielle Dickson, and Kyle Sanders

**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: 50 trees were selected from an immature pecan orchard.

#### **Materials and Methods:**

**Demo Size:** 50 trees on 40' centers

**Variety:** Kanza, Caddo, Lakota, Avalon, Oconee

**Planting date:** Young Orchard (3 years old)

**Type/Design of Demonstration:** Rusher Family Farm Orchard: 50 trees were selected from a young pecan orchard.

#### **Materials and Methods:**

**Demo Size:** 47 trees on 40'centers

**Variety:** Lakota, Oconee, Pawnee and Kanza

**Planting Date:** 12-15 years old

#### **Discussion:**

This is the first year of our collaboration with Greg Rusher and Billy Jeter. 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 three 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 orchard, where the trees are 12-15 years old, our county agent team *deployed 6 Dead Inn Yellow Stink Bug traps, 6 Wire Circle Pecan Weevil traps, 6 Dead Inn Black Pyramid Pecan Weevil traps, and 4 Pecan Nut Casebearer Hanging Traps* in the orchard. These traps were monitored weekly, with the appropriate lures and pheromones being changed as needed. Insecticide applications were developed for the producers, and those were 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 and records the readings, making them accessible to the Pecan Team by smartphone and app. 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.

Tissue samples were taken to help our growers determine their fertility needs. Outreach and education for our growers, agents, and clientele are always a priority for our team. We conduct a lot of videos and Facebook Lives from the orchards, often demonstrating trap installation, providing timely information on how to scout for pests, and providing 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:**

Our team won the ACAA State Search for Excellence in Sustainable Agriculture award.

**Twitter outreach:** 9207 contacts

**Facebook outreach:** 19,581 contacts

**Website:** 6104 contacts

**Newsletter articles in newsletters (three counties):** 1602 contacts



**Tri-County Pecan Electronic Newsletter:** Sent 4 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

**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 the Arkansas Pecan Festival at Keo on December 2, 2022 – 100+ adults and youth attended.

Conducted presentation for Pecan workshop of the Arkansas Grown Expo in Little Rock on January 26, 2023, with 500 attendees.

Conducted presentation at Four States Pecan Expo in Texarkana, AR – April 25 – 75 attendees.

Conducted presentation at Arkansas Pecan Growers Association at Bevis Farm – June 3, 2023 – 55 attendees.

Conducted presentation on Tri County Pecan Demo team efforts at NACAA AMPIC in Des Moines, IA – August 14, 2023 – with 35 attendees.



We presented an Extension Research Poster on “The Use of Soil Moisture Sensors in Pecans” at NACAA AMPIC in Des Moines, IA – August 14-17, 2023 – with 1500 attendees.



## PRAIRIE COUNTY FIRE ANT DEMONSTRATION

**LOCATION:** PRAIRIE COUNTY FAIR

**Introduction:** The red imported fire ants are pests of urban, agricultural, and wildlife areas and can pose a severe health threat to plants and animals. Prairie County agricultural agents are receiving a growing number of calls due to this pest—especially homeowners concerned with mounds in lawns and landscape beds. This demonstration aims to find an effective treatment to control this invasive species as a significant economic and medical pest.



**Pesticides Used:** Extinguish Plus, Amdro & Over N' Out

**Application Date:** September 1, 2023

**Application Rate:** 1.5 lbs. per acre

**Method:** Broadcasted

### **Discussion:**

The fairgrounds were divided into four sections: Untreated, treated: Extinguish Plus, treated: Amdro, and Treated: Over N' Out. Ten hotdog slices were distributed randomly throughout each section and marked with a flag. After twenty minutes, ratings were recorded at each flag as high, medium, or low.



On September 1, 2023, after the first rating, Extinguish Plus, Over N' Out, and Amdro were each applied to a section of the fairgrounds at 1.5 lbs./acre. A week later, on September 8, 2023, ten hotdog slices were distributed randomly throughout the four sections and marked with a flag. After twenty minutes, ratings were recorded.

Based on the rating made a week after application, Amdro retained its potency as all ten locations throughout its section received a 'Low (None)' rating. Whereas with Over N' Out, seven of the ten locations throughout the section received a 'Low (None)' rating, and with Extinguish Plus, all ten locations received a 'Medium' rating.



**Rating Before Application on 09/01/2023**

<b>Non-Treated</b>	<b>Extinguish Plus</b>	<b>Amdro</b>	<b>Over N' Out</b>
Medium	High	High	Medium
Medium	High	Low	Medium
Low	Low	Low	High
Low	High	High	Low
High	Low	Low	High
Medium	Medium	Low	Low
Low	Medium	High	Medium
Medium	Medium	Low	Low
High	Low	Medium	Medium
Medium	Low	Medium	Low

**Rating on 09/8/2023**

<b>Non-Treated</b>	<b>Extinguish Plus</b>	<b>Amdro</b>	<b>Over N' Out</b>
High	Medium	Low	Low (None)
Medium	Low	Low	Low
Medium	Low	Low (None)	Low
Low	Low	Low (None)	Low
Low	Low	Low (None)	Low
High	Low	Medium	Low (None)
Medium	Medium	Low	Low (None)
Low	Low	Low	Low
Medium	Low	Low (None)	Low (None)
High	Medium	Low	Medium



## PRAIRIE COUNTY GYPSY MOTH TRAPS

**Introduction:** A gypsy moth is a devastating forest defoliator. This detection program is the initial and most vital defense against this insect. If a gypsy moth is captured in one of the deployed traps, then delimiting trapping is performed by the USDA-APHIS and the Arkansas State Plant Board for two years in the area where the positive catch was made.



**Discussion:** Three traps were placed throughout Prairie County in 2023. These locations were mainly along I-40, Hwy 63 North, and 11 North. This placement is to catch insects “hitchhiking” on nursery stock, vehicles, and forest products. No suspected finds were found in Prairie County, but entire traps were sent to the Arkansas State Plant Board in August for further inspection.



Adults and egg mass (July-August) - male moth is brown; female is white with brown markings



Adults females with egg masses (eggs-August-May)

# Your Prairie County

## Cooperative Extension Service

[www.uaex.uada.edu/counties/prairie](http://www.uaex.uada.edu/counties/prairie)

# U of A

DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION

University of Arkansas System

## Annual Update

### **2023 Prairie County Extension Outreach**

64,723 Total Educational Contacts  
3,998 Total Volunteer Hours  
\$127,136.40 Value of Volunteer Time (\$31.80 per hour)

### **Agriculture and Natural Resources**

8,742 Direct Educational Contacts  
347 Farm/Site Visits  
7 Demonstrations  
21 Master Gardeners  
7 Master Gardener Projects  
208 Volunteer Hours valued at \$6,614.40



### **Key Programs and Activities Conducted:**

- 24 Private Pesticide Applicators Trained
- 44 Valves Vaccinated for Brucellosis
- 26 producers adopting best management practices representing 22,000 acres
- 27 producers adopting Integrated Pest Management Practices representing 8,000 acres.

### **4-H Youth Development**

34 4-H Members, 2 Certified Volunteers  
2 Community Clubs  
232 Volunteer Hours valued at \$7,377.60.

### **Key Programs and Activities Conducted:**

- School Enrichment:
  - 4-H STEM – 171 Youth
  - Wildlife Habitat – 25 youth
- County Camps – 89 Youth
- County Events: 4-H O’Rama: Outdoor Skills, Illustrated Talk, Performing Arts, Ross Photography Contest; Dairy Foods Contest; and Poultry Chain
- 4-H Recognition and District/State involvement:
  - 12 District O’Rama Participants
  - 3 State O’Rama Participants
  - 1 State Teen Star





- 3,325 raised to support the Prairie County 4-H Program
- A \$5,000 Grant from America's Farmers Grow Communities

### **Family and Consumer Sciences**

2,744 Direct Education Contacts

47 Extension Homemakers Members, 6 Clubs

3 70-year+ members

5 EHC Clubs were recognized as 75+ years Clubs.

3,526 Volunteer Hours Valued at \$112,126.80

### **Key Programs and Activities Conducted:**

- Extension Get Fit – 5 Participants enrolled.  
2 certified volunteer leaders
- Walk Across Arkansas:  
Fall 2022: 2 teams totaling 47,888 minutes of Exercise.  
Spring 2023: 2 teams with a total of 15,747 minutes of Exercise
- SNAP-Ed Adult Nutrition Education – Lessons, newsletters, and/or displays provided to DHS, Head Start Centers, school parents, commodity distribution and Christopher Homes Housing Authority.
- Youth FCS Educational Programming:
  - Get Real Here's the Deal – 48 Youth Participants
  - Cooking Camp – 20 Youth Participants
  - Babysitting Basics – 42 Youth Certified
  - Smoothie Bicycle Events- 682 Youth Participants



### **Community and Economic Development**

386 Direct Educational Contacts

### **Key Programs and Activities Conducted:**

- Community Garden Project Christopher Homes
- Partnered with Mid-DELTA Senior Center-Des Arc
- Booths staffed at County Fair, Prairie County Rice Festival
- Conservation Day and Wildlife Education for Youth





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