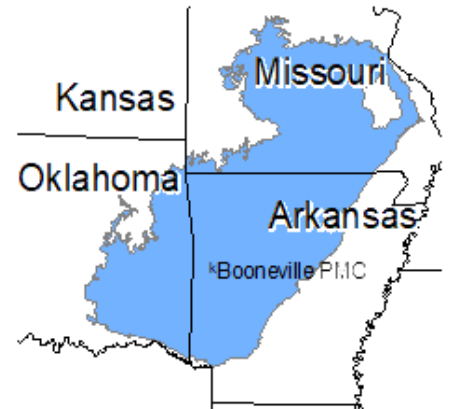


# 2025 Report of Activities

## Booneville Plant Materials Center



Booneville Plant Materials Center



### Center's Geographical Region of Focus

#### About the PMC

The plant materials program operates under the USDA, Natural Resources Conservation Service (NRCS). The Booneville Plant Materials Center (ARPMC) is one of 25 PMCs, strategically located throughout the nation, that are working to deliver state-of-the-art plant science technologies to meet identified conservation needs. The ARPMC, co-located with the Agricultural Research Service (ARS) at the Dale Bumpers Small Farms Research Center 6 miles south of Booneville, Arkansas on state highway 23, develops plants and plant science technologies to address conservation issues in areas from the rugged Ozarks to the western coastal plain. The Center serves portions of Arkansas, Missouri, and Oklahoma. The area is characterized by small family farms. Forage, poultry, and timber production are the major land uses. The soils are most often shallow, stony, and erosive. The ARPMC has developed improved conservation plants, including Hampton Germplasm big bluestem, 'Bumpers' eastern gamagrass, and Wynia Germplasm indiagrass.

#### PMC Staff

**Stephen Haller**, Manager  
**Vacant**, Study Leader/Agonomist  
**Benjamin Holleman**, Farm Manager  
**Brysen May**, Biological Technician (Seasonal)  
**Eddie Pratt**, Biological Technician (CTS)

**Amanda Mathis**, Arkansas State Conservationist  
**Helen Denniston**, Arkansas State Resource Conservationist

**USDA, NRCS**  
**Booneville Plant Materials Center**  
**6883 S. State Hwy 23**  
**Booneville, Arkansas 72927**  
**Phone: (479) 675-5182**  
**Fax: (479) 675-2940**

## Breeder and Foundation Seed

The ARPMC continues to produce and clean breeder and foundation seed of conservation plant releases. Breeder and foundation seed is provided to certified seed growers, who produce and sell to commercial vendors or directly to the public for conservation plantings. In 2025, 2 foundation seed production fields (1-2 ac. in size) were harvested at the PMC. Some of the seed harvested from small breeder blocks will be utilized for potential field increase plantings in the future. The seed was dried, stored and will be cleaned in the seed cleaning facility at the PMC over the winter.

Prescribed burns were completed on warm-season grass production fields in March 2025. Harvest season began the last week of July and concluded the first week of November. The goal of the foundation seed program is to maintain a diverse supply of high-quality seed that is adapted to our region for conservation plantings.



*Cleaning eastern gamagrass seed*



*Controlled burn of native grass plot*

## STUDIES AND PLANTINGS

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### Effects of Seeding Rate, Date and Termination Timing on Biomass and other Attributes of Cool Season Legume and Grass Cover Crops for Production Agriculture



*Harvesting Cereal Rye*



*Cereal Rye Plot layout*

The determination of geographically specific planting dates, seed rate, and termination time is critical for successful establishment of cover crops in agricultural cropping systems.

The NRCS Plant Materials Program, in cooperation with ARS has initiated multi-location field studies across the nation to refine the regional establishment and management recommendations for cool season cover crops.

ARPMC is participating in this nation-wide research effort to determine the appropriate planting date, seeding rate and termination time for cool season cover crops such as cereal rye and hairy vetch in the mid-south. At the ARPMC, the field study was established last year with cereal rye by implementing three planting dates (September-November) and five seeding rates (15-120 pure live seed lbs/acre). Canopy cover and biomass was measured for cereal rye at multiple growth stages in experimental plots using photo imagery and Plant Map 3D technology.

## Pollinator Study



*Eddie Pratt checking plot burn treatments*



*Pollinator plot controlled burn*



*Year 2 growing season of pollinator plots*

The continuous decline in the population of pollinators everywhere is a huge concern due to their significant role in food production. It is critical to identify the appropriate site-specific plant species and agronomic practices to successfully create pollinator friendly habitats with adequate floral abundance and diversity. ARPMC started a five-year research project (Duration: 2024-2028) in collaboration with Quail Forever and USDA-ARS (Dale Bumpers Small Farms Research Center). The objective of this project is to evaluate a variety of establishment methods to create pollinator habitats using a native grass and forb seed mix (33 plant species) and determine the impact on soil organic carbon. This field study was started on 29 February 2024 by planting the seed mix with nine agronomic treatments (biochar – 5 tons/acre, disk vs no-disk, no-till drill vs broadcast, chemical vs disk-tillage, burn vs no-burn). Floral abundance and diversity will be measured in every crop season. The overall goal of this project is to provide technical information to NRCS field offices that is relevant to Arkansas agro-climatic conditions when providing the best establishment and management recommendations to create pollinator friendly habitats through cost share programs.

## Eastern Gamagrass Demonstration Planting Update

A demonstration planting of ‘Bumpers’ eastern gamagrass was completed in October 2024 in Yell County, Arkansas. The planting was in cooperation with the ARS Dale Bumpers Small Farms Research Center. ARPMC furnished the seed and technical expertise, while ARS provided equipment and technical assistance. The site (1.5 acre) was selected for its variable topography and the producer’s willingness to manage the planting. The field (cattle pasture) had been recently grazed and was generally free of residue. The seed was drilled one inch in depth at a rate of 12 pounds pure live seed (PLS) per acre. After planting, the field was sprayed with glyphosate at a 2 quart/acre rate. The field is a partially well drained slope running downhill to a low laying, less well drained area.

As you can see in the pictures below, the spring competition overwhelmed the gamagrass seedlings. This is the challenge with native grass establishment. We recommend having the cleanest seedbed possible and the use of artificially stratified seed planted in the spring over non stratified seed planted in the fall. More research is being conducted at the center to find ways to get the best possible stand in a no-till planting system.



*Spring plont growth*



*Spring competition*

PMC Information is available online at:  
<http://www.plant-materials.nrcs.usda.gov/arpmc/>

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