

LSU AgCenter Red River Research Station

Report to Stakeholders January 2026



ABOUT THE LSU AGCENTER

The LSU AgCenter is dedicated to providing innovative research, information and education to improve people's lives. Working in a statewide network of parish extension offices, research stations and academic departments, the LSU AgCenter helps Louisiana citizens make the best use of natural resources, protect the environment, enhance agricultural enterprises and develop human and community resources.

RESEARCH HIGHLIGHTS

Water Resources

A constructed wetland and a tailwater recycling system have demonstrated a 20-50% reduction in N, P, and total suspended solids in effluent from production fields. Irrigation research has provided information on the use of skip-row irrigation on different soil textures and the beneficial effects of cover crops to improve soil moisture. Demonstrations have also shown the benefits of surge valves and soil moisture sensors to improve irrigation efficiency.

Agronomy/Soil Fertility

Fertility research demonstrated the ability of N-stabilizer compounds, which are currently used with urea and UAN, to improve nitrogen availability from poultry litter to plants; identified the optimum combination of poultry litter and inorganic N-fertilizers for corn; and N-management strategies for conservation tillage. The soybean breeding program has identified soybeans with increased tolerance to Cercospora leaf blight disease, tolerance to flooding and drought, and high protein content. These traits are being incorporated into improved soybean lines.

Pasture and Forages

On selected sites, particularly some bottom lands, tall fescue varieties with the non-toxin-producing endophytes can provide cool-season forage, an improved dallisgrass variety can increase plant diversity and ecosystem benefits, and the native legume, herbaceous mimosa, is a grazing tolerant native species with potential value to contribute increased forage quality and biological nitrogen fixation, particularly for low-input pasture systems.

Horticulture

Recent work has centered on improving plant performance and production efficiency. In the landscape trial beds, multiple ornamental and annual species have been evaluated for adaptability and aesthetic value under local conditions. Greenhouse research continues to assess tomato varieties for yield and quality performance. Findings indicate that recycled planting media can lead to salt accumulation, reducing yields in some varieties, though certain cultivars show promising salt tolerance.

Red River Research Station

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Office Hours: 7:30AM - 4:30PM M-F

Website: [https://](https://www.lsuagcenter.com/portals/our_offices/research_stations/redriver)

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Facebook: NW Region Red River Research Station

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Size: 573 acres, including 260 in cropland and 190 acres in pasture. There are four greenhouses for tomato research totaling 15,500 sq. ft.

Research focus:

Water Resources

Best Management Practices to improve water and nutrient use efficiency and reduce nonpoint source pollution

Agronomy/Soil Fertility

Efficient use of soil amendments and fertilizers, and the impact of production practices on productivity; development of soybean germplasm

Pastures/Forages

Identification of persistent forages for soil health and increased livestock productivity

Horticulture

Advance horticultural practices through landscape trial beds, supporting Louisiana Super Plants program and greenhouse tomato variety trials and evaluations, including heirloom and cherry types.

SIGNIFICANCE OF RESEARCH

- Water resource research will improve the efficiency of irrigation and reduce nonpoint pollution from farming practices
- Fertility research will lead to improved production and to more efficient use of fertilizers and soil amendments.
- Disease resistant and flood and drought tolerant soybeans adapted to Louisiana will improve yields and reduce disease management costs.
- The identification of persistent, high quality forages will provide improved cattle performance.

2024 LOUISIANA AGRICULTURAL STATISTICS

- Total gross farm value generated by beef cattle was approximately \$683 million.
- Gross farm value of corn, cotton, grain sorghum, greenhouse tomatoes, hay (grass), rice, soybean, and wheat in Louisiana was \$ 1.98 billion.
- Statewide planted acreage of crops researched at the Red River Research Station are:
 - Corn – 454,640.1
 - Cotton – 143,664.0
 - Grain sorghum – 39,594.5
 - Greenhouse Tomatoes - 68,172.5 ft²
 - Hay (Grass) - 473,250.5
 - Rice - 459,239.5
 - Soybean – 1,101,907.6
 - Wheat – 18,665.7

Data from the Louisiana Ag Summary website: LSUAgCenter.com/agsummary

Greenhouse Production - 3 greenhouses - 1800 tomato plants total

Spring - 600 plants per greenhouse & 25 lbs. per plant
Fall - 600 plants per greenhouse & 8 lbs per plant
Annually - 60,000 lbs.



FUTURE PLANS

Water Resources

The identification of best management practices to improve water and nutrient use efficiency and to reduce the impact of production practices on nonpoint source pollution. Crop irrigation research will focus on improving the irrigation/water use efficiency through determining the irrigation needs based on the crop, soil health and texture, production practices, and weather. Research will also explore the estimation of reference evapotranspiration and crop coefficient needs for irrigation scheduling.

Agronomy/Soil Fertility

Research focuses on rate, source and time of fertilizer application of plant nutrients; integration of animal wastes and inorganic fertilizers to improve soil fertility and health with minimal environmental impact; integration of winter cover crops to improve soil health and main-crop yields; and impact of various nutrient management practices on nutrient leaching, volatilization and greenhouse gas emissions. The soybean breeding program will continue to develop high yielding germplasm with emphasis on the incorporation Cercospora leaf blight resistance, and flood and drought tolerance. Variety trials for cotton, feed grain and soybean will be conducted.

Pastures/Forages

Continuing research with forage legumes to address environmental benefits of diverse mixtures of plant species in pastures. Responses of forage varieties, including bermudagrass varieties, on different sites of production will be assessed to determine effects of soil type on adaptation of useful species to identify superior forage genotype and environment combinations for enhanced production responses.

Horticulture

Landscape evaluations will expand to include new ornamental selections and annuals for the Louisiana Super Plants program. Greenhouse trials will continue to focus on tomato variety performance, with an emphasis on heirloom and cherry types. Future research will also investigate strategies to mitigate salt buildup in recycled media, aiming to enhance fertility management and maintain crop productivity.

LOUISIANA AGRICULTURAL EXPERIMENT STATION

Louisiana's unique combination of crops — ranging from corn, cotton, rice and sugarcane to extensive forestry, poultry, cattle and fisheries industries — presents challenges for providing research-based information to ensure sustainable agricultural production systems.

To address the needs of these industries, the Louisiana Agricultural Experiment Station operates 14 academic departments/schools and specialized units shared by the LSU AgCenter and the LSU College of Agriculture, as well as 14 research stations located across the state. To fund the basic and applied research, scientists compete for federal and state grants and checkoff dollars provided by some farmers' groups, along with state and federal dollars. Many of the facilities also sustain their research operations through the sale of agricultural commodities produced on the stations.

The LSU AgCenter has the most successful record of commercialization of intellectual property in the LSU System. Since 2000, 21 new companies have been started based on licensed technology from the LSU AgCenter. The income is distributed among the LSU System, the inventors and more research.



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