

Pecan Research and Extension Station Profile



Report to Stakeholders

April 2010

About the LSU AgCenter

The LSU AgCenter is dedicated to providing innovative research, information and education to improve people's lives. Working in a unique 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

The LSU AgCenter Pecan Research-Extension Station is the only university research station solely designated to conduct programs to advance the commercial pecan industry of the United States. The mission of the station is to perform research and extension programs on pecan culture including horticulture, physiology, entomology, and plant pathology. Because pecan is a long-lived crop, many studies have to be maintained for years to obtain reliable data and a full comprehension of treatment effects.



Pest Management

Through collaborative research, monitoring techniques were developed for pecan phylloxera and case bearer that allows producers to better time insecticide applications to obtain efficient control at minimum cost. Damage levels at different stages of nut development were determined for pecan scab. This indicated the potential degree of economic importance for scab disease control at different points in nut development and helps producers make informed decisions about the number and timing of fungicide applications. Efficacy trials have provided data for registering many new insecticides and fungicides for pecan arthropod and disease management.



Horticulture

The Pecan Station has participated in the testing of three cultivars released through the USDA, Creek, Houma, and Oconee, and two Louisiana selections, Melrose and Moreland. The standard rootstocks that perform best for tree growth and nut production in Louisiana were determined through a multi-year project at the Station.

Alternate bearing is a strongly expressed genetic trait of pecan trees, but a grower can minimize this cyclic behavior by implementing intensive management techniques including a pesticide spray program, herbicide strips, irrigation, and fertilization. Research at the Pecan Station has demonstrated the benefits of fruit thinning in pecan. Thinning the pecan nut load in heavy crop years generally increases nut quality as indicated by increased percentage of kernel, kernel grade, and nut weight. Nut thinning improves return bloom of some cultivars, thus reducing crop variation from year to year.

Extension and Outreach

Faculty provide leadership in educating growers, extension agents, and associated industry personnel on varietal selection, cultural, insect, and disease management, and marketing aspects of the pecan industry. Research results are disseminated to scientific, extension, and commercial individuals and groups via appropriate publications/articles, short courses, station field-days, and annual grower' meetings.



Pecan Research and Extension Station Office

Address: 10300 Harts Island Road, Shreveport, LA 71115

Location: The station is located approximately 6 miles south of Shreveport, LA off Highway 1 near the port of Shreveport.

Phone: 318-797-8034

Fax: 318-676-7371

Email:

rsanderlin@agcenter.lsu.edu

Web site:

LSUAgCenter.com/Pecan Station

Office Hours:

8 a.m.-4:30 p.m.

Monday-Friday

Randy Sanderlin

Research Station

Coordinator/Professor

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Size: The station is 99 acres with 75 acres planted in pecan trees. Of the planted acres, 50 acres are yield bearing trees. There are three greenhouses totaling 4050 sq. ft. for pecan research.

Pecan Research focus:

- Disease management
- Management of pecan arthropod pests.
- Pecan fertility
- Crop load management
- Breeding
- Outreach

Significance of Pecan Research and Extension

- Cultivar evaluations conducted at the Pecan Station and in cooperation with producers have provided information on the production characteristics that assist producers in making selections for orchard development and in identifying cultivars that can be produced profitably in Louisiana.
- Research on horticultural management practices, insect population dynamics and management, and disease epidemiology and control has increased acreage yield over the past 30 years.
- Research confirmed a bacterium, *Xylella fastidiosa*, as the causal agent of pecan leaf scorch, and the role of insects in transmission of the pathogen.

2009 Pecan Industry Facts

- In 2009, Louisiana harvested 7.8 million pounds of pecans; 4 million pounds were improved pecans and 3.8 million were native pecans.
- Pecans were produced on 24.5 thousand acres in 2009.
- Average yield was 400 lbs for improved pecans and 260 lbs for native pecans.
- Total farm gate value of pecans was \$8.5 million, and value added production was \$2 million, for a total economic contribution of \$10.5 million.
- Pecans are harvested commercially in 35 parishes.

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

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 11 departments shared by the LSU AgCenter and the LSU College of Agriculture, as well as 20 research locations 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, nine new companies have been started based on licensed technology from LSU AgCenter. The income is distributed among the LSU System, the inventors and more research.



For the latest research-based information on just about anything, visit our Web site: LSUAgCenter.com

Future Plans

Cultural and pest management research will continue to be the main mission of the Pecan Station. Ongoing research projects are required to continue to provide producers with procedures and tools that will allow them to maintain profitable production.



Pest Management

Insect management will focus on identifying improved monitoring and forecasting methods, and developing improved control systems for pecan arthropod pests. Research will also investigate using cover crop management to provide habitats for beneficial insects. New pesticides and insect growth regulators with low impact on the environment will also be tested.

Horticulture

The goal of the pecan breeding program is to develop pecan cultivars adapted for use in the humid southeastern United States. Resistance or tolerance to major insect and disease pests, especially pecan scab, is a major goal. Research at the Pecan Station has shown that kernels of native Louisiana pecan selections have higher phytochemical levels than improved varieties. Potential exists to develop new pecan varieties that have a higher level of phytochemicals for fresh consumption, and also to develop new food products based on the phytochemical properties of pecans.



Development and evaluation of new cultivars is an important function of the Station. The Pecan Station has entered an agreement with the USDA to participate in their National Pecan Advanced Clone Testing System (NPACTS) for cultivar selection for the pecan industry.



Other research will focus on the development of cultural practices to improve economic returns, such as managing legumes to supply nitrogen.

Visit our Web site: www.LSUAgCenter.com

Louisiana State University Agricultural Center: William B. Richardson, Chancellor. Louisiana Agricultural Experiment Station: David J. Boethel, Vice Chancellor and Director. Louisiana Cooperative Extension Service: Paul D. Coreil, Vice Chancellor and Director
 The LSU AgCenter provides equal opportunities in programs and employment.