

Partnerships

The Center is eager to explore new partnerships that will expand the use of the SRRC Pilot Plant facilities. Current areas of research interest include food processing, oilseed extraction, fiber processing and finishing, pyrolysis processes, biofuels development, and environmental testing. However, most areas of value-added agricultural product and process development can be accommodated.

A number of industry-government interactions have been undertaken within the pilot plants from specific short-term research projects, with SRRC personnel performing most of the work, to extended interactive collaborations, with external personnel located onsite over sustained periods.



Equipment and Operations Supported Within the Facilities

- Milling equipment (knife, hammer, attrition, pin mills, etc.)
- Reactors (glass and stainless steel jacketed reactors)
- Fiber carding, drawing, spinning, knitting, and weaving operations
- Non-woven fiber processing
- Fabric wet processing, dyeing, and chemical treatments
- Solvent extraction and processing
- Extrusion (single and twin barrel screw extruders)
- Ultrafiltration
- Ultrasonic treatment
- Evaporation
- Pelleting
- Pyrolysis
- Heat treatment (ovens, furnaces)
- Freeze-drying (barrel, shelf, manifold)
- Fermentation
- Particle separations (screening, air classification, gravity table separations)
- Dehulling
- Blending and mixing



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ARS Mission

The Agricultural Research Service conducts research to develop and transfer solutions to agricultural problems of high national priority and provides information access and dissemination to:

- ensure high-quality, safe food and other agricultural products
- assess the nutritional needs of Americans
- sustain a competitive agricultural economy
- enhance the natural resource base and the environment, and
- provide economic opportunities for rural citizens, communities, and society as a whole.



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United States Department of Agriculture

Agricultural Research Service

Southern
Regional
Research
Center

New Orleans, Louisiana

Pilot Plants



Overview of the Facilities

Southern Regional Research Center
New Orleans, Louisiana

The Southern Regional Research Center (SRRC) in the United States Department of Agriculture, Agricultural Research Service has three pilot plant facilities as part of its operations. Included are the Industrial Pilot Plant, historically used for milling and oilseed extraction, the Food Pilot Plant, used for many food processing operations, and the Textile Mill, used to support cotton fiber and textile production and finishing work. These facilities are core components of four Research Management Units and have been essential components of the SRRC's research programs over the past 65 years.



Both the Industrial Pilot Plant and the Food Pilot Plant have one- and two-story sections. The Textile Mill is housed on two single-story floors in a separate building. The Industrial Pilot Plant also has non-hazardous and explosion-proof bays. Combined, the three facilities occupy around 40,000 sq ft and are all supported by common industrial utilities.



Recent improvements include two new one meter-wide non-woven fabrication lines (one needlepunch and one hydroentanglement) installed in the textile area; fiber processing, mini-spinning, warping, weaving, dyeing, and finishing units added to the Textile Mill; and a new cabinet oven, barrel freeze-dryer, and gravity table separator installed in the Industrial Pilot Plant. Additional units will continue to be made operational as projects evolve.



Mission

To establish government-industry partnerships on post-harvest processing, product enhancement, safety, and use of agricultural commodities. Major research areas include food safety, global food security, climate change, biofuels, and health and nutrition priorities, as well as general agricultural sustainability needs to decrease our dependence on fossil fuel. General research objectives include achieving maximum use of agricultural food and fiber products for domestic markets and export, developing new uses and processes for farm products and the means for promoting optimum human health and well-being through improved nutrition, and promoting product safety and quality.

Focus

Research focus is on food processing, oil seed extraction, food safety/prevention of mycotoxins, textile fiber testing, processing and finishing, pyrolysis processing, biofuels feedstocks, biotechnology/gene insertion plants and microbes, and environmental testing.



Pilot Facilities

1. Non-Food pilot plant (5,600 sq ft): pilot-scale pyrolysis processing, sugarcane/sweet sorghum/sugar processing.
2. Food Processing pilot plant (4,000 sq ft): pilot-scale processing of fruit and rice.
3. Textile Mill pilot plant (30,400 sq ft): fiber testing, processing (woven and non-woven), and chemical finishing.

