

RALEIGH, (SGRToday.com) - Thirteen research projects designed to boost bioenergy opportunities and production in North Carolina will share \$1 million in grants from the N.C. Bioenergy Research Initiative.

The Initiative is a program of the Department of Agriculture and Consumer Services. Its goal is to support the research and development of agricultural and forestry-based feedstocks for bioenergy production, agribusiness development and cooperative research for biofuels production.

“We are excited to have the opportunity to explore bioenergy potential through these grants for North Carolina's agricultural and forestry industries,” said Agriculture Commissioner Steve Troxler in a statement.

The recipients:

-- \$83,150 to Appalachian State University's Department of Technology and Environmental Design for a project to develop biomass greenhouse-heating systems for resource-limited farmers. The main objective of this project is to build and test various inexpensive and efficient biomass heat-delivery systems for a greenhouse in order to research and demonstrate how to improve local crop productivity for farmers in Appalachia.

-- \$75,548 to N.C. State University's Department of Soil Science to develop guidelines for bioenergy crop establishment, weed control and nutrient use. The results of this project are expected to create a more rapid return on investment and also identify programs to convert various land uses to bioenergy crops.

-- \$146,276 to NCSU's Department of Biological and Agricultural Engineering to study giant reed response to nitrogen fertilization. This study will provide field data needed to establish realistic yield expectations and nitrogen fertilization rates for *Arundo donax* grown under various North Carolina conditions.

--\$75,764 to NCSU's Department of Crop Science for an evaluation of bioenergy grasses for nutrient content. The results of this project will be useful in selecting breeding stocks for future cultivar development for high dry matter and energy yields.

-- \$69,000 to Tyton BioEnergy Systems for the development of energy tobacco for biofuel production. Tyton's goal is to develop production systems for a new variety of tobacco to produce advanced cellulosic ethanol and biodiesel.

-- \$116,661 to NCSU's Department of Soil Science for a project on nutrient dynamics and production of bioenergy crops in swine effluent sprayfields. The continuation of this project will help determine the nutrient requirements and uptake of proposed biomass crops grown in sprayfields.

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-- \$38,914 to NCSU's Department of Soil Science to study the suitability of Piedmont soils for bioenergy crop production. The goal of this project is to investigate the potential conversion of land to bioenergy crops with an emphasis on how soil biochemical and physical properties are impacted.

-- \$40,513 to NCSU's Department of Forestry and Environmental Resources for a loblolly pine biomass genetics and cropping study. Genetic evaluation of loblolly pine varieties with high potential for conversion to energy sources supports the mission to develop agricultural and forestry based feedstocks for bioenergy production.

-- \$32,438 to NCSU's Clean Energy Technology Center to reconvene the N.C. Biomass Council and update a "biomass roadmap." The Biomass Council will offer an opportunity for discussion of bioenergy-related topics including research, policies and other issues to further the bioenergy industry in North Carolina.

-- \$71,043 to NCSU's Department of Biological and Agricultural Engineering to study ensilage technologies as harvest management strategies for bioenergy. Harvest and storage practices will be a significant part of the bioenergy industry development. for a project evaluating biomass harvesting systems and equipment.

Four additional projects are being funded through Tennessee Valley Authority Settlement Funds designated for research projects.

-- \$96,620 to NCSU's Department of Horticultural Science to expand a new approach for developing improved energy canes. The overall goal of this project is to develop elite cultivars of seedless energy canes with superior biomass for economically and environmentally sustainable bioenergy production and to develop in-vitro regeneration systems that will facilitate future feedstock improvements.

\$101,254 to the Carolina Land & Lakes Resource Conservation and Development Program for the development of poultry house wood pellet heating demonstration systems. Wood pellet heating systems offer cost savings, reduction in moisture and fossil fuel by-products, delivery of a better product to market, and the use of a carbon-neutral sustainable and renewable domestic fuel.

-- \$157,559 to N.C. State's Fisheries, Wildlife and Conservation Biology Program to work on directing wildlife-friendly forest bioenergy development. Based on the results of this study, stakeholders will be provided information on potential wildlife response to woody biomass harvests, and the results will be used to guide the development of science-based sustainability guidelines.

The N.C. General Assembly approved funding for grants to stimulate energy production from N.C. agricultural and forest products. High consideration was given to projects that focused on crop production in both the field and forest that would provide feedstock for conversion into cellulosic ethanol.

Appalachian State and NC State Universities Collect N.C. Biotechnology Research Initiative Grants

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