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NIFA Announces Grant to Study the Effects of Climate Change on Agricultural and Forest Production

WASHINGTON, Feb. 18, 2011 – USDA’s National Institute of Food and Agriculture (NIFA) today awarded three Coordinated Agriculture Projects (CAP) representing a major scientific investment in studying the effects of climate change on agriculture and forest production. NIFA Director Roger Beachy made the announcement today at the annual meeting of the American Association for the Advancement of Science in Washington, D.C.

“Climate change has already had an impact on agriculture production. Going forward agriculture producers need sound scientific information to plan and make decisions to ensure their economic viability,” Beachy said. “These projects ensure we have the best available tools to accurately measure the effects of climate change on agriculture, develop effective methods to sustain productivity in a changing environment and pass these resources on to the farmers and industry professionals who can put the research into practice.”

A research team led by Dr. Tim Martin, of the University of Florida, will receive \$20 million over five years to study climate change mitigation and adaptation as it relates to southern pines, particularly loblolly pine, which comprises 80 percent of the planted forestland in the Southeast. The team of 12 institutions will establish a regional network to monitor the effects of climate change and use the information to develop genetic breeding programs to breed plants that can adapt to changes in climate.

The project will train seven postdoctoral associates and 29 graduate students and also deliver educational resources and training to landowners, resource managers and policymakers.

A team led by Dr. Sanford Eigenbrode, of the University of Idaho, will receive \$20 million over five years to monitor changes in soil carbon and nitrogen levels and greenhouse gas emissions related to mitigation of and adaptation to climate change in the region’s agriculture, which produces 13 percent of the nation’s wheat supply and 80 percent of its specialty soft white wheat for export. The research team will also determine the effects of current and potential alternative cropping systems on greenhouse gas emissions, carbon, nitrogen and water-levels, as well as energy budgets and local and regional farm income impacts, using models and replicated field trials. The team is composed of researchers from the University of Idaho, Washington State University, Oregon State University and USDA’s Agricultural Research Service.

In addition, Eigenbrode’s team will introduce innovative agricultural approaches to climate change mitigation and adaptation into K-12, undergraduate and graduate curricula to prepare citizens and professionals for climate-related challenges and defining agriculture’s role in providing food, energy and ecosystem services.

Dr. Lois Wright Morton, of Iowa State University, will receive \$20 million over five years to lead a team that will estimate the carbon, nitrogen and water footprints of corn production in the Midwest; producers in this region represent 64 percent of the nation's grain corn and 37 percent of the corn silage. The team will then evaluate the impacts of various crop management practices when various climate models are applied. The Iowa State project, which includes researchers from 11 institutions in nine states, will integrate education and outreach components across all aspects of the project, specifically focusing on a place-based education and outreach program called "I-FARM." This interactive tool will help the team analyze the economic, agronomic and social acceptability of using various crop management practices to adapt and mitigate to the effects of climate change.

NIFA made the awards through its Agriculture and Food Research Initiative (AFRI) funding opportunity. AFRI's Climate Change challenge area is focused on reducing greenhouse gas emissions and increasing carbon sequestration in agricultural and forest production systems and preparing the nation's agriculture and forests to adapt to changing climates. CAP projects bring together teams of researchers that represent various geographic areas and minority-serving institutions, to support discovery and applications and promote communication leading to innovative, science-based solutions to critical and emerging national priorities and needs.

AFRI is NIFA's flagship competitive grant program and was established under the 2008 Farm Bill. AFRI supports work in six priority areas: 1) plant health and production and plant products; 2) animal health and production and animal products; 3) food safety, nutrition and health; 4) renewable energy, natural resources and environment; 5) agriculture systems and technology; and 6) agriculture economics and rural communities.

Through federal funding and leadership for research, education and extension programs, NIFA focuses on investing in science and solving critical issues impacting people's daily lives and the nation's future. More information is available at: www.nifa.usda.gov.

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