
IMPACT

RESEARCH NEWS FROM THE ALABAMA AGRICULTURAL EXPERIMENT STATION

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STRATEGIC MANUEVERS FOR AG RESEARCH

Reinvigorating west Alabama's economy via a supercharged aquaculture industry is one of two high-priority objectives the Alabama Agricultural Experiment Station (AAES) has identified in its newly developed—and still-evolving—strategic plan for ag research.

The plan, which specifies the top issues that research will focus on at each of six regional AAES research and extension centers (RECs), is based largely on input the AAES and the Alabama Cooperative Extension System (ACES) received in a series of public meetings held across the state earlier this year.

In the west Alabama initiative, which is based at the **Black Belt REC** in Marion Junction, researchers and Extension specialists

will work to capitalize on the area's salty groundwater resources by identifying high-value seafood and in-demand bait species that would thrive in inland saltwater ponds and be profitable for producers.

In addition, a new aquaculture products development center will



PRIORITY: New products from catfish.

be located at the **Black Belt REC** to house research aimed at finding innovative ways to add value to catfish and other freshwater species that the region already produces.

Across the state, meanwhile, at the **Sand Mountain REC** in Crossville, poultry waste will be the main concern. Specifically, sci-

entists will work to develop best management practices and state-of-the-art handling facilities for poultry waste. They also will explore new uses for poultry waste, including converting it into commercial products such as biofuels and fertilizers.

Elsewhere in the state, the AAES plan calls for research to focus on alternative crops for peanut farmers at the **Wiregrass REC** in Headland; cutting-edge technology and energy crops at the **Tennessee Valley REC** in Belle Mina; turfgrass, ornamental and citrus production and harmony in the rural-urban interface at the **Gulf Coast REC** in Fairhope; and niche markets for locally grown and processed produce at the **Chilton REC** in Clanton. ♦

It's a gas, gas, gas

For many, the jury's still out on whether global warming is or is not a scientific reality. What is a given, though, is that row-crop agriculture and the fertilizers, soil management practices, fossil fuels and manure that are part of it do emit carbon dioxide, methane and nitrous oxide—three of the so-called greenhouse gases—into the atmosphere.

In a high-tech field-scale study just under way at the **E.V. Smith Research Center** in Shorter, AAES soil scientists are exploring how soil type, terrain and farmers' soil management and crop production practices interact to affect emissions. The findings will give producers information they can use to adjust their practices to reduce emissions. ♦

IMPACT is a bimonthly newsletter the Alabama Agricultural Experiment Station (AAES) publishes to inform state and federal legislators, public policy makers and the general public about AAES research projects and how they affect all Alabamians. The AAES (www.ag.auburn.edu/aaes) is based at Auburn University (www.auburn.edu). Reach **IMPACT** at 334-844-2783; jcreamer@auburn.edu.

Getting all *sprawled out*

urban sprawl—(noun): *the spreading out of a city and its suburbs over more and more rural land at the periphery of an urban area; the conversion over time of open space into built-up, developed land.*

Questions about what consequences the urbanization of rural areas has on water quality, plant and animal populations, the economy, quality of life and community sociology are at the heart of a major research initiative that involves 40 researchers and graduate students from six colleges at Auburn University.

The study site encompasses three west Georgia counties, from Muscogee County (Columbus, Ga.) northeastward. Selected from a logistics standpoint largely because of its close proximity to Auburn, the area also has soils, landscape and a rate of growth that are highly comparable to those in Alabama's rapidly developing metropolitan areas.

The West Georgia Project, based in AU's Center for Forest Sustainability and directed by AU forestry professor and AAES researcher Graeme Lockaby, began in 2001 and will continue through 2005. All researchers' individual findings will be incorporated into a single computer model that city, county and state policymakers and planning and development officials can use to predict the impacts various development scenarios could be expected to have on an area. ♦

Going global with Fulbright

Henry Thompson, an AAES researcher and AU ag economist, has been awarded a Fulbright Senior Specialist in Economics grant by the Fulbright Scholars Program and will travel to Croatia in May to spend a month lecturing on international economics at the University of Zagreb.

From there, Thompson, whose

research focuses in part on the economic impacts of free trade agreements on American agriculture, will also participate in an international economics conference in Slovenia and conduct research and present seminars at the University of Macedonia in Thessaloniki, Greece, and the Athens University of Economics and Business. ♦

HITTIN' THE TRAILS

Between now and the end of the year, some 12,000 all-terrain-vehicle enthusiasts from across Alabama and the Southeast will get their thrills on the challenging hills of the 22.5-mile Kentuck Off-Road-Vehicle (ORV) Trail in the Talladega National Forest. And while they're at it, they'll inject an estimated half-million dollars into the local economy.

But despite such recreational and economic benefits, Kentuck—and most any ORV trail, for that matter—does have a down side: Heavy traffic plus dirt trails plus steep terrain equals serious soil erosion. That means not only frequent and costly trail repair and maintenance but, more important from the environmental standpoint, excessive runoff of sediment into streams and rivers.

In a search for solutions to ORV trail erosion problems, the U.S. Forest Service has turned to AAES biosystems engineers, who are in year one of a two-year project



ORV'er: Rider cruises down Kentuck trails.

aimed at minimizing trail erosion and its subsequent polluting effects on nearby waterways.

The researchers have studied the Kentuck system in detail, gathering extensive data on everything from determining which trail sections are most heavily eroded to measuring rainfall intensity and its impact on soil movement. After extensive testing on simulated ORV trails, they've also identified an affordable soil amendment which, when applied in a specific manner, reduces erosion and minimizes the ecological impact of ORV traffic.

Their next step will be to apply that material to sections of the Kentuck trail and monitor how effectively it reduces erosion and the formation of ruts on the heavily used trail system.

As a final thrust of the study, the researchers will establish general ORV trail maintenance guidelines for managers of trails in Alabama and other Southeastern states. The Forest Service has trail maintenance guidelines, but most were developed for use west of the Mississippi and are not effective in the Southeast's climate and soil conditions. ♦

Catching on to grass-fed beef

Of the millions of cattle sold for beef in the U.S. each year, the vast majority are readied for the market on grain diets at feedlots in the Midwest. But among cattle producers in Alabama, there's growing interest in what is known as grass-fed beef—cattle raised in open pastures and fattened on homegrown forages.

In response to the increased interest, AAES researchers are studying the feasibility of producing grass-fed beef in Alabama for the retail market. Their research runs the gamut from beef genetics to nutritional values of forages to the economics of production to marketing.

Grass-fed beef is developing into a strong niche market in the U.S. That's attributed not only to consumer concerns over the safety and quality of beef but also to health issues. Previous research indicates that grass-fed beef is high in omega-3 fatty acids, can reduce levels of "bad" cholesterol and contains about half as much saturated fat as beef raised in feedlots. ♦



GIVE ME A 'C'—Canola stands for Canada Oil Low (fatty) Acid.

The canola connection

A decade-plus of AAES research has shown that canola has strong potential as an alternative crop for Alabama farmers. Canola, an oilseed that Canadian plant breeders developed in the 1960s, is best known in its processed form, as a "healthy," increasingly in-demand oil that's low in saturated fat.

The problem Alabama farmers face with canola is that currently, there are no canola-processing mills in Alabama or the Southeast.

That's where AAES researchers at Alabama A&M are focusing their efforts now, working with growers to recruit canola processing plants to the Southeast. If they're successful, start looking for golden canola fields on Alabama's rural landscape. ♦

A WEIGHTY MATTER

Childhood obesity is a growing cause for concern in Alabama, especially in the state's rural counties. And while poor nutrition definitely plays a role in that, physical inactivity may be an even bigger culprit, according to a new study by AAES nutrition researchers.

The study of 400 fourth- and fifth-graders in Winston, Macon and Bullock counties showed that 30 percent of girls and 20 percent of boys surveyed were overweight.

Results indicated that, due to safety concerns and other factors, children in these counties were far less likely to get outside and play hard than their peers in other parts of the state. ♦

Information contained herein is available to all persons without regard to race, religion, gender or national origin.