AAES **Impact**

RESEARCH NEWS FROM THE ALABAMA AGRICULTURAL EXPERIMENT STATION

August 2004 *vol. 2, no. 4*

Changing faces, going places

The new dean of Auburn University's College of Agriculture and Alabama Agricultural Experiment Station director says the positive momentum, cooperative spirit, expanded vision and determination to be relevant to all Alabamians that have characterized the Alabama Agricultural Experiment Station during the two-and-a-half-year stint that John Jensen has served as interim director and dean of the College of Agriculture will continue under his administration.

Mike Weiss (rhymes with 'nice'), a career entomologist who comes to AU from the University of Idaho, assumed his dean/director role Aug. 4 and says his first step will be, with Jensen's help in an advisory role, to familiarize himself with AU, the AAES, Alabama agriculture and Alabama politics.

He says he will proceed full steam ahead with the agricultural research initiatives that Jensen, faculty members, Extension leaders, outlying unit superintendents and administrative staff have developed and are pursuing.

Jensen, meanwhile, who was head of AU's Department of Fisheries and Allied Aquacultures before being appointed interim dean/director in 2002, is being courted by AU Interim President Ed Richardson to remain at Auburn in the position of special assistant to the president for agricultural issues. ◆

Mike Weiss, left, new AU College of Agriculture dean and AAES director, visits with outgoing interim dean/director John Jensen at the recent dedication of the new Alfa Agricultural Services Building in Auburn. The building, made possible by a $5 million gift from Alfa and the Alabama Farmers Federation, houses AU's soil testing, plant diagnostic and water testing labs, which had been located in cramped, outdated facilities scattered across the campus. Together, these labs process more than 55,000 samples a year for farmers, homeowners and AAES researchers.

PUTTING THE PIGS OUT TO PASTURE

When AAES animal scientist Frank Owsley gets excited about something, you know it's got to be BIG. And an "outside-the-traditional-box" experiment that the native Texan and pork specialist has going at Auburn, with cooperation from Tuskegee University, the Alabama Farmers Federation Pork Division and the Tallapoosa River Electric Cooperative, has Owsley more enthused than cohorts have ever seen him.

Pasture-raised pork, anyone?

It's a study of whether pasture-raised pork production—where hogs are raised in an outdoor, pasture-based system—is a viable alternative to confined production, especially for small-scale pork producers.

A part of AU-SPICE (Swine Production in Concert with the Environment), the project will evaluate animal performance, animal behavior, carcass traits and consumer preferences resulting from the different production schemes.

Owsley says small-scale pork production has strong potential for revitalizing Alabama's pork industry, by helping farmers produce a product consumers want. ◆

Celebrating 75 years of service

Three-quarters of a century ago, state legislators voted to establish five major outlying agricultural research units and 10 outlying experiment fields for the AAES. These units were to serve as "field laboratories," so that land-grant research could be conducted, not just in the Auburn area, but in all major soil regions of the state.

Today, these regional ag research and extension centers are at the heart of a concerted effort to ensure that the AAES fulfills its mission of supporting economic growth and enhancing the quality of life for all Alabamians. ◆

Getting set and ready to go

Two outlying-unit agricultural research initiatives that the Legislature has funded for FY 2004-05 at a level of $350,000 each are scheduled to get under way Oct. 1.

One, based at the Black Belt Research and Extension Center (REC) in Marion Junction, will focus on developing new inland marine aquaculture products and innovative ways to add value to catfish and other freshwater species already produced in west Alabama. And in northeast Alabama, research headquartered at the Sand Mountain REC in Crossville will have the goal of finding ways to convert poultry waste into value-added products.

These projects are part of what outgoing AAES interim director John Jensen, who got the ball rolling on the initiatives, calls "Alabama's new agriculture."

"Production agriculture is still extremely important in Alabama, but we're going to see more and more emphasis on value-added products and on specialty crops," Jensen says. ◆

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.

HIGH ON HIGH TUNNELS— Horticulture research associate Edgar Vinson tends to the tomato crop thriving in a 21- x 96-foot high tunnel at the Wiregrass Research and Extension Center in Headland.

Getting the lowdown on 'high tunnels'

The only thing bad about fresh tomato season is that it doesn't last long enough. But an AAES study going on at two outlying research and extension centers in the state could eventually extend tomato-growing season in Alabama by as much as two months on each end.

The study involves structures known as "high tunnels," plastic-covered greenhouse-like structures that have irrigation systems but no electric ventilation or heating systems—meaning that they can be built for a fraction of the cost of greenhouses. Crops are grown, not in containers but in the ground; the high tunnel protects them from temperature changes and light frost.

AU horticulture researcher Wheeler Foshee says that, in addition to the crop production components of the study, his team is evaluating the economics of high tunnels and whether early- and late-season tomatoes and other high-value vegetable, small fruit and cut-flower crops could be sold straight off the farm and command premium prices that would be profitable for small-scale produce farmers. ◆

AND NOW, FROM THE FASCINATING WORLD OF INSECTS . . .

A study by AU entomologists shows that a "mutually beneficial" relationship that exists in cotton fields between aggressive fire ants and slow-moving cotton aphids can actually boost crop yields.

Here's how it works: Aphids, major cotton pests, suck the sap from cotton plants and, while they're at it, excrete honeydew, a sweet, sticky substance that fire ants are wild about. AAES researchers have found that, as ants swarm the plants to get the honeydew and to protect the aphids from predators, they fend off several insects that are more destructive to cotton than aphids. In an indirect way, then, boll production increases.

Hence, by not applying pesticides for aphids, growers can enjoy higher yields, protect the environment and save on crop input costs.

This study is one of 10 that seven AU entomology faculty members and four graduate students will present this month at the International Congress of Entomology in Brisbane, Australia. Held once every four years, the event is the world's premier entomological meeting. In addition to networking with other noted entomologists, the congress will give AU researchers an international venue in which to showcase their research. ◆

Check it out in the library — the E. coli *library, that is*

A team of AAES researchers at Auburn University is in the process of creating libraries—not ones with books and periodicals, but libraries that genetically catalog *E. coli* strains found in the feces of hundreds of different warm-blooded creatures, humans included, that live in the watersheds of three contaminated Alabama creeks.

Once these host-origin libraries are established, the researchers will collect water samples from the three streams in the study—Scarham Creek in DeKalb and Marshall counties, Catoma in Montgomery County and Juniper Creek near Mobile—and match the fecal bacteria in those samples against the *E. coli* isolates in the libraries to determine whether the fecal contamination in the creeks is of livestock, wildlife or human origin.

"It is not enough simply to know that fecal indicator bacteria such as *E. coli* are present in a stream," says Yucheng Feng, AU soil microbiologist and chief investigator in the project. "To develop effective pollution control strategies, you must know what the sources of the contamination are so that you can address the problem specifically."

***E. coli* bacteria pollute dozens of Alabama streams.**

The three creeks in the study are among about 180 waterbodies included on Alabama's federally mandated list of impaired waters.

For this project, the scientists are collecting 400 fecal samples from each of the watersheds to build separate host origin libraries. But if the libraries for the three watersheds are similar and show no geographic variability, that would signal that a single library could be used to determine the sources of *E. coli* isolates in any body of water in the state, Feng says. That information will enable water resource managers across Alabama to design effective remediation and cleanup plans for contaminated streams. ◆

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