AAES **Impact**

RESEARCH NEWS FROM THE ALABAMA AGRICULTURAL EXPERIMENT STATION

*October 2004* *vol. 2, no. 5*

# Make mine *PORCHETTA*

A gourmet Italian pork product that for centuries has been available only in the city of Ariccia, Italy, is now being produced in and sold through Auburn University's Lambert Meats Lab.

The product is authentic Ariccia-style porchetta (por-KEH-ta), a completely deboned pig—either the whole carcass or just the belly and loin—that's seasoned with a secret blend of herbs and spices, then rolled and tied by hand and roasted at high temperatures in a specially designed oven for several hours, until the skin is crisp and the meat is moist and tender.

It's being marketed in Auburn as Porchetta Originale through a newly formed partnership—AU's first international commercialization agreement—between a group of Ariccia investors and porchetta producers and Auburn University, its College of Ag and the AAES.

If the product takes off like early test-marketing indicates it will, porchetta will be an economic boon for Alabama and for struggling small-scale Alabama pork producers, who will be needed to grow pigs specifically for porchetta.

AAES researcher Bill Jones has led the project to develop porchetta production at Auburn; swine specialist Frank Owsley is studying the genetics of and growing conditions for Ariccia's bred-for-porchetta pigs so that the technology can be shared with Alabama producers. ◆

**PERFECT PORCHETTA—AU meat scientist Bill Jones prepares to slice Porchetta Originale. In the product's public debut at the Auburn-Citadel game, 87 percent of about 3,800 taste samplers rated it a four or five on a five-point flavor scale.**

## RESISTING THOSE OL' NEMATODES

Microscopic root-attacking worms known as reniform nematodes are serious and steadily spreading economic pests for cotton farmers, reducing yields by 10 percent or more in infested fields.

While nematicides and crop rotations can help control the reniform nematodes, and while there are some species of cotton that tolerate this specific nematode better than others, what cotton producers most want are cotton varieties that are resistant to it.

Two AAES researchers at Auburn, plant breeder David Weaver and plant pathologist Kathy Lawrence, are working on that. They're evaluating 2,500 different varieties of upland cotton to determine whether any have even the slightest natural resistance to the costly pest. If any show promise, the researchers will cross those with the most common cotton species grown in Alabama and the Southeast in an attempt to develop resistant types that are adapted for production in Alabama. ◆

## IVAN AND HIS PATH OF DESTRUCTION

Hurricane Ivan's winds and heavy rains dealt damaging blows to several AAES research and extension centers in the southwestern quadrant of the state Sept. 16, but overall, the damage is "minor, considering what it could have been," says Jim Bannon, director of outlying AAES units.

—At the 800-acre Gulf Coast Research and Extension Center (REC) in Fairhope, the pecan crop was wiped out, the cotton crop was knocked flat and fallen trees damaged fences, but the 18-acre Ornamental Horticulture Research Center in Mobile escaped with only downed trees and minor structural damages.

—Several structures were damaged and cotton was destroyed at the Brewton Agricultural Research Unit, but workers there had harvested the vegetable crop before Ivan hit. In the storm's aftermath, unit personnel assisted greatly with cleanup in the hard-hit Brewton area.

—Significant tree damage at the Lower Coastal Plain Substation in Camden means several hundred acres of timber must be clearcut.

—Ivan's winds damaged all structures at the Black Belt REC in Marion Junction—the feed mill, severely.

—The Prattville Agricultural Research Unit lost 60 percent of its cotton crop. ◆

**DAMAGE SURVEY—AU biosystems engineers Steve Taylor and John Fulton used their expertise in geospatial technologies to help state ag officials map out Ivan's toll on Alabama forests. Recently thinned stands in southwest Alabama, like this one in Monroe County, bore the brunt of the storm, Taylor 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.

# GIVING BABIES THE (DHA) EDGE

An omega-3 fatty acid known as DHA (docosahexaenoic acid) is essential to mental and visual development in infants, but as recently as 2001, bottle-fed babies weren't getting it, and breastfed infants were getting the recommended levels only if their mothers consumed significant amounts of fish.

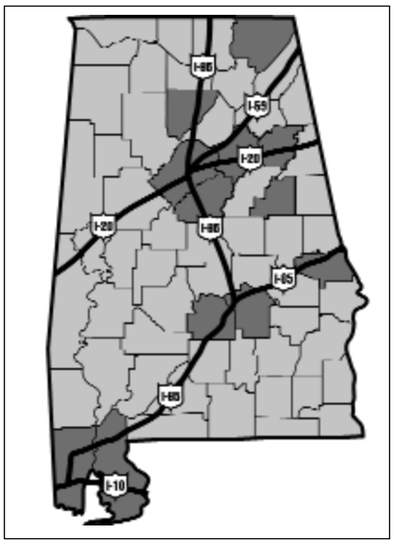
That's changed now, and research by Margaret Craig-Schmidt, an AU nutritional biochemist specializing in maternal and infant nutrition, has played a key role in that. In her studies over a 10-year period in which baby pigs were bottle-fed formula that contained DHA derived from microbial sources, she showed that infants effectively and safely absorb and utilize the nutrient. In 2002, based in part on Craig-Schmidt's research, the government approved the formula additive. Today, you're hard-pressed to find a can of infant formula without it.

DHA is also crucial to brain and eye development as early as the third trimester of pregnancy, but because most pregnant and lactating women don't get adequate amounts of DHA in their diets, Craig-Schmidt has done extensive research with DHA-enhanced eggs and has shown that breastfeeding women who eat two of the eggs daily almost triple the levels of DHA in their milk to pass on to their babies. ◆

## *The prenatal diet-diabetes link*

Two AAES researchers, Frank Bartol in theAU College of Agriculture's Department of Animal Sciences and Robert Judd, College of Veterinary Medicine, have received a grant from the Diabetes Trust Foundation to develop the pig as an animal model to study how diet during pregnancy affects the likelihood that offspring will grow up to develop type 2 diabetes.

This research has important implications for human health and could result in recommendations for the clinical management of diet in at-risk pregnancies. ◆




**WHERE THE TERMITES ARE—If you live in or represent one of the 12 dark-gray counties, take heed: highly destructive Formosan termites have been detected in your neck of the woods. AU entomologist Xing Ping Hu is diligently studying means of control, but just be warned that a Formosan colony is 10 million-plus strong and annually eats its way through more than 1,000 pounds of wood—from the rafters in the attic to the trees and shrubs outside. Worse, Hu says, their spread to north Alabama has shown that they can weather temperatures far colder than previously thought.**

## *Here a roach, there a roach, everywhere...*

The mere sight of a cockroach is enough to make most folks' skin crawl, but it doesn't bother AU alumni professor of entomology Art Appel a bit. The AAES researcher has spent 25 years studying roaches, and he's got a collection in his lab at Auburn to prove it: millions of 25 different species of the disgusting creatures, scurrying around in 32-gallon trash cans and waving their antennae at you from gallon jars on shelves.

Appel's research focuses primarily on developing and validating techniques and products for managing and controlling the disgusting pests—he's currently having success with mint oil and other natural oils as a repellant—and on studying their biology and physiology. (Did you have a clue, for instance, that roaches can hold their breath for up to one hour?)

He and fellow AU entomologists also have developed a "cockroach index," a mathematical model in which you enter basic data about your home and get an accurate estimate of how many smokybrown cockroaches you have lurking in the crevices of your home—whether you ever see them or not. Find that roach calculator online at http://www.ag.auburn.edu/~spouncy/cockro~1.htm. ◆

**ROACH CONDO—Art Appel shows off a a trash can filled with smokybrown cockroaches he uses in his urban entomology research program. He coats the tops of the cans with a mineral oil-petroleum jelly mixture to ensure that the roaches don't "cross the border" and escape.**

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

Agricultural Communications & Marketing
Alabama Agricultural Experiment Station
2 Comer Hall
Auburn University AL 36849