

AAES Impact

RESEARCH NEWS FROM THE ALABAMA AGRICULTURAL EXPERIMENT STATION

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LOSING FAVOR—Short bloom periods and few desirable traits at all other times have caused the azalea market to hit the skids in Alabama.

On the azaleas' trail

Southern gardeners, who long have planted azaleas with abandon in their landscapes, apparently are becoming disillusioned with the species. That's largely because, once their short bloom time is over, the shrubs have few redeeming qualities. The problem's exacerbated by a severely limited number of "flavors," or cultivars, available to consumers. In other words, azaleas are getting old.

Concern among Alabama nurserymen over the long-term health of this major crop prompted AU horticulturists in 1999 to launch a massive azalea evaluation aimed toward identifying and then promoting new, superior azalea selections. Included in the study are some 900 cultivars not widely available in the commercial industry and almost 5,000 different plants, which are growing on a 16-acre test site at an AAES research substation in central Alabama.

AAES researcher Gary Keever says the azaleas are being rated on everything from rooting success and growth rate to landscape appeal and hardiness. Some of these rarely available and infrequently used cultivars should be on the market within two years, he says. ♦



One of several promising new azalea cultivars

MEETING WITH RESISTANCE

Work under way in a laboratory at Auburn University could yield a significant breakthrough against the spread of avian influenza in poultry—and, ultimately, in humans.

Funded initially by an AAES Foundation Grant and subsequently by a grant from the U.S. Department of Agriculture, pathobiologists Haroldo Toro and Sandra Ewald in AU's vet school and poultry science department, respectively, are investigating whether a gene in some chickens makes them innately

resistant to two viruses that can mutate into the deadly bird flu virus.

If that's the case, the anti-viral gene, called Mx, could be bred into commercial chicken breeding lines to make the birds genetically resistant to avian flu.

The researchers contend that giving chickens an inborn resistance will reduce the possibility of bird flu affecting chicken flocks and the enormous associated economic losses. It also would dramatically reduce the possibility of bird flu reaching the human population. ♦

COMPLETELY DOABLE...

"We import 60 percent of our oil, but only 15 percent from the Middle East. Biofuels cannot solve the whole energy problem, but it is entirely possible to replace that 15 percent with homegrown bioenergy."

—AAES biofuels scientist David Bransby, speaking at the Alabama Agriculture Energy Conference in Auburn Nov. 9

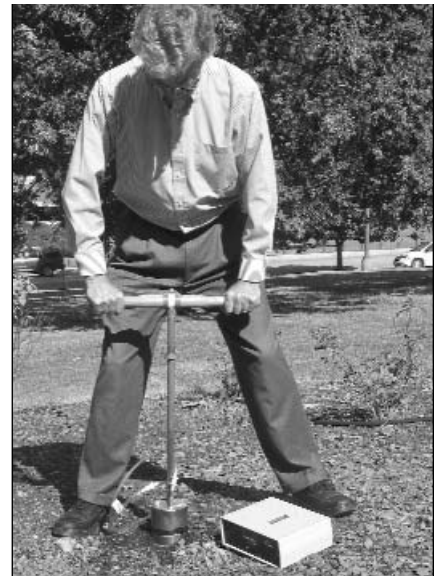
From the inventors' corner

An AAES soil physicist at Auburn has invented a soil measurement device, now available commercially, that indirectly gives an indication of how compacted the soil is in about one minute.

Jacob Dane's air permeameter gets a fast, accurate reading on how well air moves through the soil. That, in turn, is indicative of the soil's water permeability value—which is what most agricultural producers, contractors, geologists, engineers and others are interested in for purposes of infiltration, drainage, runoff, etc.

Conducting a water permeability test, though, often takes an hour or longer to complete. Dane's air test takes about 60 seconds.

Dane's device is an example of technology moving from the research lab to the marketplace, as



MEASURING UP—Jacob Dane measures air's movement through the soil with his air permeameter.

the air permeameter is being marketed by Tucson, Ariz.-based Soil Measurement Systems. ♦

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). Contact **IMPACT** at 334-844-2783 or jcreamer@auburn.edu.

Into thin air

With fertilizer costs soaring, farmers need to know they're getting 110 percent out of the product they're distributing.

Turfgrass producers are no exception, and a study under way by AAES researchers at a Macon County sod farm will help them determine which nitrogen fertilizers are giving growers the most bang for the buck.

Specifically, the team led by AU agronomy and soils professors Wes Wood and Beth Guertal is evaluating a traditional form of nitrogen, urea, and two slow-release formulations to determine the amount of ammonia lost from each into the atmosphere.

Volatilization is a major pathway for loss of nitrogen fertilizer. Every particle of nitrogen that volatilizes means less available to be taken up by the sod. The release of ammonia obviously also represents a potential environmental hazard.

The key instrument in the AAES study is a highly accurate field-scale ammonia volatilization measurement device Wood and other AAES scientists developed that consists of



VOLATILITY—AAES scientists install vapor-catching glass tubes on a rotating mast that will measure ammonia volatilization from nitrogen fertilizer.

a rotating aluminum mast that holds glass tubes which capture the ammonia vapors lost.

The major intent of the study is to provide data that growers can use to determine whether the higher-priced slow-release formulations are cost-effective. ♦



MAKING THEIR DEBUT—The first of more than 1 million AU Hybrid catfish fingerlings to be produced this year are harvested at left from a Eutaw farm for shipment to a catfish farming operation in Uniontown. The AU Hybrid, a cross between a female channel catfish and a male blue catfish that AAES researchers at Auburn worked nearly three decades to develop, grows faster, converts feed more efficiently, is more disease-resistant, is hardier, is easier to harvest and has a higher carcass yield than the traditional channel catfish. Harvesting of the first six-inch-long AU Hybrid fingerlings began in November and will continue through January. All of the 1 million-plus fingerlings produced this year were sold in advance; demand exceeded supply. The fish are marketed by Eagle Aquaculture.

Seeking food relief

At least one in every 10 households in the U.S. doesn't know where the next meal's coming from—or if one will be there at all. Even so, rates of enrollment in the nation's food stamp program are substantially lower now than in the mid-1990s.

Could it be that food-needy households are opting out of food stamps and turning to private food pantries for assistance instead?

That's one of the questions AU ag economists and AAES researchers Patricia Duffy, Gandhi Raj Bhattarai and Jennie Raymond set out to answer in a study to assess the factors affecting the use of food stamps and food pantries by poor, food-insecure families.

What they found was that those households were more likely to use both types of assistance, not one over the other. The researchers say that indicates the decline in food stamp use among eligible families must be due to other factors, such as greater difficulty in obtaining food stamps or increased sensitivity to the stigma, perceived or real, associated with food stamp use. ♦

CLEARING THE WAY

A 13-year-old crapemyrtle variety evaluation project that includes four dozen different cultivars and almost 500 crape-myrtles will be moved to make way for Auburn University's new research park.

AAES researchers have taken clippings from the different trees and plan to reestablish the study at an undetermined location. Some of the existing trees will be incorporated into AU's landscape.

The new park is at South College and Shug Jordan Parkway. ♦



Taking cuttings from crapemyrtle

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