
AAES Impact

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Fishing for answers from anglers

Some 6,000 anglers who hail from here to Alaska and who bought fishing licenses in Alabama last year could help move the state's recreational fishing industry to the next level.

In a study at Auburn University, AAES ag economists Diane Hite and Deacue Fields are surveying all of the above-mentioned fishing enthusiasts to find out about their current fishing habits and, more important, what features they're looking for in a fishing site.

The features the respondents are asked to rank range from size and type of fish to availability of shade and restrooms to proximity of restaurants and hotels.

Using the survey results, Hite and Fields will develop an economic model to illustrate how pond owners who charge fees for fishing could significantly boost their income by sprucing up and enhancing their facilities. In addition, this model will show how, via the multiplier effect, a rise in recreational fishing would benefit the state's whole economy.

The study is funded through the



Mark Murphy of Auburn shows off his catch in an amateur fishing tournament last spring at AU. According to the latest data, sport and recreational fishing generates \$858 million in retail sales annually in Alabama, with an overall economic impact to the state of more than \$1.7 billion.

Black Belt Aquaculture Initiative, a Legislature-approved effort that aims to support and expand Alabama's aquaculture industry and to provide catalysts for economic development in west Alabama. The study's results, however, will apply to pond owners statewide. ♦

Laying the groundwork for new zoysias

Bermudagrass may well be the most common grass for Alabama lawns now, but zoysia soon could be giving Bermuda a run for its money.

In field trials conducted at the Auburn University Turfgrass Research Unit and at FarmLinks Golf Club in Sylacauga, AAES agronomist Beth Guertal is testing 13 zoysia cultivars—all of which are commercially available already but are as yet largely unproved in Alabama—to determine how they will perform here.

Guertal is evaluating these cultivars in terms of such factors as shade and traffic tolerance, disease

resistance, color, density, texture and uniformity and is comparing their performance with that of Empire and Meyer zoysias, the



A tent allows researchers to test the shade tolerance of zoysia cultivars.

present more zoysia options to customers, are paying for the study through the Alabama Turfgrass Research Foundation. ♦

two most common zoysia cultivars grown in Alabama.

State sod producers, eager to

Improving poultry litter management

An AAES study under way in Alabama's poultry-heavy Sand Mountain region ultimately will help poultry producers improve their management of land application of broiler litter to pastures so as to better protect water quality in nearby streams and lakes.

Alabama's poultry industry produces 2 million tons of chicken litter annually. Growers spread most of it over pastures because it is a valuable organic fertilizer and soil conditioner. Overapplication, however, leads to a soil buildup of phosphorous, which subsequently finds its way to bordering waters. Excess phosphorous in water can cause depleted oxygen levels, thus affecting aquatic organisms.

In this study at the AAES's Sand Mountain Research and Extension Center, AU biosystems engineer Puneet Srivastava and collaborators are investigating the mechanisms behind how phosphorus accumulates in soils and how it moves—through surface runoff or groundwater?—to adjacent water bodies.

Once those processes are better understood, the currently used litter management tool known as a phosphorus index can be improved and producers will be able to better plan how and where to apply litter.

Also in the project, to help deter overapplication of litter, the researchers are creating a geographic information system-based poultry litter transportation analysis system that will link producers who have excess litter to farmers who need it. ♦

Measuring Impact

For five years, *Impact* has been delivering timely AAES research news regularly to lawmakers and the general public.

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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.

Painting plants to thwart thrips

Some of the young tomato plants in AU horticulture assistant professor Wheeler Foshee's test fields are a bright red; others are burgundy, purple, even orange.

They've all been spray painted as part of a study that Foshee hopes will protect the plants from the destructive tomato spotted wilt virus.

That virus, a major threat to both commercial and backyard tomato crops, stunts plant growth and reduces the quality and quantity of fruit. It is spread by flower thrips, tiny sucking insects that are drawn to the yellow blooms on tomato plants.

Foshee's research is based on the theory that, if thrips are attracted to yellows and whites, there may be other colors they avoid.

Using a water-based paint that doesn't harm the young plants, Foshee and graduate research assistant Scott Croxton have sprayed plants a wide range of colors. In this, the second growing season for the study, bright red and purple appear most likely to repel thrips



Croxton spray paints tomato transplants in an effort to ward off disease-transmitting thrips.

and, subsequently, protect plants from the virus.

The researchers also are experimenting with colored plastic mulches and are finding, again, that red and purple are effective in warding off thrips and tomato spotted wilt. ♦

Battling nematodes with cover crops

Microscopic, root-destroying worms called nematodes cost cotton growers in Alabama 6 percent of their crop annually. Translated, that comes to a whopping \$27 million in losses a year.

Peanut producers face similar losses from the destructive plant parasites.

Currently, farmers must rely on nematicides or fumigants to try to control nematodes, but those chemicals are costly and not necessarily environmentally friendly. In fact, many have been taken off the market. What farmers need are alternatives to chemical nematode control.

Enter AAES nematologist Robin

Huettel. In a three-year study that wraps up this fall, the Auburn professor is looking at winter grains—namely rye, oats and wheat—as well as the herbaceous annual sunn hemp to determine whether using any of them as cover crops in peanuts and cotton impacts nematode populations in the soil.

There's still one growing season to go, but thus far in the study, Huettel has found that rye, planted in the fall following cotton and peanut harvest, may be effective in suppressing nematodes.

Some wheat cultivars adapted for Alabama, meanwhile, may actually increase nematode levels. ♦

Exploring hormone's role in development

Could a hormone that's present in a nursing sow's first milk be important to the long-term reproductive-tract health of her female offspring?

That's a question Auburn University animal scientist Frank Bartol looks to answer in a study that has just been awarded a three-year, highly competitive U.S. Department of Agriculture grant.

The hormone, called relaxin, is produced by animals and humans during pregnancy and is known to support the birth process.

Bartol and co-investigator Carol Bagnell of Rutgers University have found that relaxin, long believed to function primarily as a hormone of late pregnancy, is in the bloodstream of newborn pigs that nurse immediately after birth. That indicates that



Study examines factors in milk that contribute to pigs' reproductive-tract development.

relaxin is passed from mother to offspring in milk. The scientists also have shown that relaxin can affect reproductive-tract development in newborn female pigs.

This study aims to determine the extent to which relaxin and other milk-borne factors are required to ensure that female reproductive-tract tissues develop properly in order to function normally in adulthood.

Bartol is conducting his research at the new AU Swine Research and Education Complex, a \$3-million facility financed largely through the 1999 agricultural bond issue. It includes labs, farrowing and breeding units, a 180-pig nursery and a 360-pig grow-finish building. ♦

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