
AAES Impact

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Study: Heir property cause of land loss, poverty in Black Belt

Heir property is land that is owned collectively by the descendants of a property owner who died without a will, and extensive research led by Auburn University rural sociologists Conner Bailey and Janice Dyer indicates the phenomenon is a major cause of land loss among rural African Americans and a key contributor to the persistent poverty, high unemployment, substandard housing, underused resources and disinvestment that characterize Alabama's 12-county Black Belt region.

In their work, the AAES researchers have documented the serious problems associated with property that has been passed from generation to generation without a clear title.

Unless all co-owners—the number of which multiplies with each



ALL IN THE FAMILY—Despite the disadvantages of heir property, land held communally by members of an extended family can provide a place where they can establish their homes, as is the case for the relatives living in this cluster of mobile homes in Sumter County.

generation—agree, heir property can't be used as collateral, isn't eligible for federal housing programs and can't be leased as farmland, nor can any timber be sold. Tax and forced partition sales often result in families losing their land.

To quantify the extent and economic costs of heir property, Bailey and Dyer focused on one Black Belt county, Macon, and

found 1,500-plus parcels of heir property claiming about 16,000 of the county's 390,000 acres and having a combined market value of more than \$25 million. Black Belt-wide, more than \$300 million worth of land could be tied up in clouded titles.

Learn more about heir property in Alabama at www.ag.auburn.edu/agec/heirproperty. ♦



CULLARS CENTENNIAL—The Jule Collins Smith Museum of Art was built in 2000, but the now-100-year-old Cullars Rotation, with a 40-foot border, was preserved for ongoing research and demonstration on sustainable crop production for soils of the southern U.S.

Cullars Rotation marks 100 years of research

Auburn University's Cullars Rotation, the South's oldest continuous soil-fertility experiment and the second oldest cotton experiment in the world, is a century old this year and still generating data to document the impact that fertilization and soil nutrient deficiencies have on nonirrigated crop yields over the long haul.

The Cullars Rotation was named for Lee County farmer J.A. Cullars, who in 1911 allowed Alabama Ag Experiment Station scientists to initiate cotton fertility experiments on his

property. Today, the experiment, a three-year rotation of cotton, corn, soybeans, clover and wheat, also is a field lab for students studying crop nutrient deficiencies.

Both the Cullars Rotation and Auburn's Old Rotation—which, by the way, is the world's oldest cotton study—are on the National Register of Historic Places. The Cullars Rotation is located behind the Jule Collins Smith Museum of Art.

Find more about the study at www.aes.auburn.edu/comm/pubs/bulletins/bull676.pdf. ♦

Biological sensors will make food safer

Auburn animal scientist and biochemist Jacek Wower has received a \$380,000 National Science Foundation grant to develop user-friendly biological sensors that can quickly detect disease-causing bacteria in foods.

Unlike current pathogen-detection methods that require expensive instruments, a great deal of time and well-trained personnel, the new monitoring devices will be easy to use, economical to produce, easy to store and usable in real-life environments, such as farms, food production and distribution companies, hospitals and schools.

Wower and his research team will use genetic material from disease-causing organisms to develop the biosensors, which will be simple to reprogram for the detection of any bacterium and could be operated by untrained personnel. The biosensors will also allow for differentiation between dead and live pathogens, Wower says. ♦

IMPACT is a quarterly newsletter the Alabama Agricultural Experiment Station (AAES) publishes to inform state and federal legislators, public policymakers and the general public about AAES research projects and how they affect all Alabamians. The AAES (www.aes.auburn.edu) is based at Auburn University (www.auburn.edu). Contact **IMPACT** at 334-844-2783 or jcreamer@auburn.edu.



CROP INSURANCE—Though irrigation can reduce plant stress and enhance yield quantity and quality, only about 10 percent of Alabama's farmland is irrigated, far below the irrigated acreage in Mississippi, Georgia and Florida.

Farmers say high cost top block to irrigating

A major expansion of irrigation on Alabama farmland would significantly boost producers' profit margins and agriculture's impact on the state's economy, but in an AAES survey of farm operators across the state, growers say too many obstacles—mainly financial—stand between them and the adoption of irrigation technology.

In the survey of randomly selected small-, medium- and large-scale irrigating and nonirrigating farmers, the top barriers to irrigation that respondents cited were the costs of installing, improving and powering irrigation systems, the inability to finance such and concerns that irrigation wouldn't pay for itself. Shortages of surface- and ground-water also made the obstacle list.

The survey was conducted to give policymakers, farmers and others a greater understanding of how irrigation adoption affects the prosperity of Alabama farms, Molnar says.

Find the full report online at www.aaes.auburn.edu/comm/pubs/bulletins/bull674.pdf. ♦

Tech-transfer deal near on horn fly vaccine

A patented vaccine an Auburn University/AAES husband-and-wife team of research entomologists developed to protect cattle from horn flies could be on the market soon as FlyVax.

Auburn's technology transfer office is in late stages of negotiating full licensing of the vaccine Ed and Mary Cupp developed to TNG Pharmaceuticals, a new business founded by a group of entrepreneurial University of Louisville MBA students. TNG's FlyVax business plan claimed grand prize in the world's largest business plan competition at Rice University in April.

Blood-sucking horn flies feed en masse on cattle, agitating the



TEDIOUS TASK—AAES scientists Ed and Mary Cupp collected saliva from 2,500 horn flies in their research.

livestock and causing anemia and weight loss that cost the beef industry \$1 billion a year. The Cupps' revolutionary vaccine immunizes cattle against a salivary factor, thrombostasin, that

the biting flies inject into their prey to keep the victims' blood from clotting.

Currently, livestock producers use insecticides for horn fly control, but the pests are quick to become resistant.

The Cupps, now Auburn entomology professor emeriti, retired to Owensboro, Ky., in 2006 and have worked with TNG in developing FlyVax. ♦



VINES AND WINES—Research is under way at the Alabama Ag Experiment Station's Chilton Research and Extension Center in Clanton to test whether *Vitis vinifera*, grapes that produce popular table wines such as chardonnay, pinot noir and cabernet sauvignon, will grow in Alabama. That isn't possible here now because of Pierce's disease, an insect-vectored and vine-killing disease, but a California breeder has recently developed Pierce's disease-resistant selections that are 87.5 percent *V. vinifera* grapes, and Auburn horticulture associate professor Elina Coneva and CREC director Jim Pitts have planted 100 vines from three of these advanced selections at the center. Coneva, who collected the *vinifera* plants during a California trip funded by Auburn and the Alabama Wineries and Grape Growers Association, will be evaluating the ease or difficulty of growing *vinifera*, just how disease resistant the vines are and the quality of the grapes. The results could give Alabama wineries profitable alternatives to muscadine wine.

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