

ALABAMA COOPERATIVE EXTENSION SYSTEM
ALABAMA A&M AND AUBURN UNIVERSITIES



***Working* Knowledge**

2008 ANNUAL REPORT

Welcome to **Working Knowledge**

Welcome to *Working Knowledge*, a report from the Alabama Cooperative Extension System featuring a few of our noteworthy successes in the past year. In these pages, you will meet Extension educators and learn how their programs are improving the lives of people throughout our state.

We chose *Working Knowledge* as the title of our annual report because we believe it best expresses what we do—what we have always done: put knowledge to work for the people we serve.

This mission has been the hallmark of Extension work even before passage of the Smith-Lever Act in 1914, which formally established Cooperative Extension programs in every state.

Alabama Extension history abounds with stories of educators who invested hours of creative thinking in developing ways to make practical knowledge accessible and useful. A prime example is the Tuskegee Institute Movable School, a demonstration wagon designed and equipped by Booker T. Washington and George Washington Carver to provide underserved black farmers in remote regions of the state with the practical knowledge they needed to improve their lives and their families.



Front Cover: Extension translates the research and knowledge of our land-grant universities into practical solutions for Alabamians. We help you put knowledge to work!

The movable school concept offers an important lesson. In equipping this first demonstration wagon, Washington and Carver didn't include bound transcriptions of college lectures but practical items of immediate interest and use to farmers—a cream separator, a milk tester, and a one-horse plow, to name a few.

Working knowledge is the essence of Extension. Our people and our programs empower Alabamians from all walks of life with practical knowledge to improve their lives and work—a lesson reflected in the work of the Tuskegee Movable School in the twentieth century and in the lives of twenty-first century Extension professionals working in every corner of our great state.

Sincerely,

The Alabama Cooperative Extension System Administrative Team

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In response to the stock market downturn in late 2008, Extension updated and fine-tuned a blueprint it has employed throughout its nearly century-old history to help Alabamians through difficult economic times.

Thriving in Challenging Times, a statewide educational effort launched Nov. 6, provides Alabamians with much of the information they need to weather what may prove to be tough economic times.

“We are exceptionally well equipped to provide people with the practical knowledge and skills they need to cope with the day-to-day challenges that may follow this downturn,” says Gaines Smith, Extension Director.

This practical knowledge includes a wealth of information on such topics as shopping on a limited budget, managing and overcoming debt, and saving on energy costs. We are also reaching the state’s row-crop and livestock producers and small-scale forestland owners with information about how to save on costs and reduce debt burdens.

Extension personnel throughout the state are involved in the effort, identifying ways to address specific needs.

Extension’s heavily trafficked Web site also has been reconfigured to complement this effort. Supporting the launch of this initiative, a Thriving in Challenging Times blog has been carried on the front page of the Extension Web site to provide readily accessible, frequently updated information dealing with an array of issues.

Only three years after Cooperative Extension was formally established, Extension educators rallied to help Americans overcome the many challenges associated with



In late 2008, Extension updated and fine-tuned a time-honored blueprint to address what will likely be critical economic needs following the recent stock market downturn.

Alabama Extension Launches Thriving in Challenging Times Effort



The Alabama Cooperative Extension System’s money management calendar starts with budget suggestions and easy-to-follow explanations of how to use the calendar, how to use a checking account, and other helpful information.

the nation’s involvement in World War I. Extension farm agents helped producers deal with the acute problems associated with farm labor shortages, while home agents encouraged homemakers to “can all you can” and to plant war gardens.

Extension educators worked to provide the same sort of practical knowledge to meet basic needs during other critical periods in American history, such as the Great Depression, World War II, the 1970s recession and energy crises, and the farm crisis of the 1980s.

In 2008 and beyond, Extension is continuing its tradition of helping Alabamians thrive in challenging times.

An urban Extension agent is using his vast knowledge of horticulture to provide positive experiences and hands-on learning to troubled youth while enhancing the botanical beauty of the Anniston area.

Green Thumb, Caring Heart



Hayes Jackson has two passions in life—raising plants and helping people.

He combines both passions in his job as an Extension urban horticulture agent. He uses his encyclopedic knowledge of plants not only to enrich the social and cultural life of his community but also to broaden the scope and aspirations of a group of disadvantaged teenage girls at the Coosa Valley Youth Attention Center in Anniston.

He does it with a greenhouse built years ago by the Coosa County Extension office and local Master Gardeners to provide the girls with horticultural therapy—a way to help free them of the psychological baggage of their past. Working with a group of dedicated Master Gardeners, Jackson uses the greenhouse's resources to teach the girls horticultural skills.

The plants grown and propagated at the greenhouse by Jackson and the girls have been used to establish other demonstration gardens throughout the county—sites he uses to instruct local gardeners and nursery operators in all facets of horticulture, from alternative plant selection to xeriscaping, which is drought-resistant landscaping. Proceeds from plant sales are used to support the program.

Using grants from regional nurseries and donations from the Birmingham Botanical Garden, Jackson also has traveled to remote parts of the world, finding plants that can be adapted to Alabama conditions and grown in the Anniston greenhouse. This, too, has enriched in diverse ways the lives of the girls and the wider community as well.

“They start out unhappy working in the dirt and fertilizing, but before they leave, they’re eager to do just about everything.”

— Suzie Franklin, Master Gardener



For the girls, the trips have provided effective hands-on geography lessons. Throughout his journeys, Jackson communicates with them via e-mail, while they map his stopovers.

The specimens he brings back are first quarantined, and then they



With plants propagated at the greenhouse, Jackson has equipped the Anniston Museum of Natural History and the adjoining Berman Museum of World History with tropical, native, xeriscaped, and dry-shade gardens. His next project will involve completion of a botanical trail encompassing the campuses of both museums, which now boast one of the region's largest public plantings of hardy bananas, hardy palms, and ginger lilies. They were also the location for the regional meeting of the Southeastern Palm Society.



“We’re now known for our gardens, and we have a lot of people who come specifically to see the gardens and adjoining grounds,” says Cheryl Bragg, the Museum of Natural History’s

are propagated by the girls and sold, adding to the beauty and diversity of southeastern landscapes.

Master Gardener Suzie Franklin, a long-time greenhouse volunteer, has often been amazed at the changes the project brings to the girls, many of whom initially exhibit little, if any, interest in gardening.

“They start out unhappy working in the dirt and fertilizing, but before they leave, they’re eager to do just about everything,” Franklin says.

The girls not only respect Jackson and the work he does but are also in awe of him, she says.

And they have been inspired. Two of the girls have gone to the University of Georgia and Jacksonville State University to pursue degrees in horticulture-related fields.



Hayes Jackson, left, and Dan Spaulding, curator of collections at the Anniston Museum of Natural History, inspect the museum grounds, which are now widely acknowledged for the diversity of their horticultural plantings.

executive director. She adds that the plantings and the accompanying signage have been great enhancements to the museum.

The gardens were also one of the recommended stops on Alabama’s 2004 Year of the Gardens celebration.

Jackson is someone whose avocation and vocation have intersected to form a life mission. He readily admits that even if he won the million dollar lottery, he would still be doing everything he’s doing now.





Two pecan experts are identifying new pecan varieties that can be grown farther north, away from the traditional pecan-growing areas where hurricanes and heavy commercialization are exacting a heavy toll.

Shifting Focus

Regional Extension Agent Doug Chapman is working to secure a brighter future for the state's pecan industry.

Two factors working in tandem continue to pose a tremendous strain on Alabama's pecan industry—frequent hurricanes and rapid commercial development along the Gulf Coast, the traditional focal point of the state's pecan production.

“There is a real threat that the Gulf Coast pecan industry will be swept away by urbanization,” says Bill Goff, an Extension pecan specialist and Auburn University professor of horticulture. He adds that many younger Gulf Coast pecan growers may be less interested in continuing in operation following a devastating hurricane such as Ivan, which left a wide swath of destruction in pecan orchards in 2004.

Despite these persistent threats, Goff and Doug Chapman, a regional Extension agent in north Alabama, are convinced that our state still has a major role to play in pecan production. They believe the answer lies in developing a new line of early maturing varieties that are adapted to a shorter growing season—a factor that would allow pecans to be grown commercially in regions of the state where the twin specters of destructive storms and relentless growth are less threatening,

particularly rural north Alabama. The two educators are working with researchers at the Alabama Agricultural Experiment Station and the U.S. Department of Agriculture to identify varieties best suited to north Alabama growing conditions.

“We’ve got the water, soil, and climate to grow early maturing pecans in north Alabama,” says Chapman, who presented preliminary research findings at the 2008 Alabama Pecan Growers annual meeting.

Whatever new varieties ultimately emerge, Chapman says he is confident that these new, early maturing varieties will especially benefit north Alabama row-crop farmers, who are looking for additional sources of income.

“We’ve got the water, soil, and climate to grow early maturing pecans in north Alabama.”

—Doug Chapman, regional Extension agent



When Babe Turns to Beast

Who but the most cold-hearted among us could resist Babe, the cuddly, plucky, enterprising piglet of 1990s movie fame who outwits death by charming its way into the hearts of its owner and fellow farm animals?

For starters, farmers and landowners who are dealing with the rising numbers of “Babes” that have crossed into the wild and become beasts, putting their enterprising spunkiness to all sorts of destructive ends.

Wildlife experts know them as feral pigs. Isolated only a few years ago to a handful



of states, feral pigs have steadily expanded into other parts of the country. Alabama has not been spared this onslaught. The pigs, once limited only to the southwest region of the state, have expanded into virtually all of Alabama’s 67 counties.



Wildlife scientists describe feral pigs as born tillers, wreaking havoc on pastures, crops, and forestlands.

Jim Armstrong, an Extension wildlife specialist and Auburn University professor of forestry and wildlife sciences, has conducted research on the pigs in Lowndes County with funding from the Berryman Institute.



Two wildlife specialists are holding workshops to help farmers and landowners manage pigs gone wild—better known as feral pigs—that threaten crops and the ecological balance of Alabama forestland.

Photos courtesy of Wes Gaston, U.S. Department of Agriculture, and Chris Jawowski, Alabama Department of Conservation and Natural Resources.

But even he did not appreciate just how serious the problem had become in Alabama until fellow Extension wildlife specialist Mark Smith planned and organized the first workshop on feral pig management in what is considered ground zero—southwest Alabama. The workshop attracted some 50 participants, including farmers—a turnout that surprised Armstrong, who assisted Smith with part of the workshop training.

The experience has inspired Armstrong and Smith to undertake an ambitious series of workshops next year to show farmers and landowners the best ways to reduce pig numbers. Intensive trapping and removal appear to be the most effective methods, though both Armstrong and Smith stress that despite the best efforts, feral pigs will never be eradicated from the state, only managed.

...UNTIL JUSTICE ROLLS DOWN LIKE WATERS
AND RIGHTEOUSNESS LIKE A MIGHTY STREAM

MARTIN LUTHER KING JR.

Going for the Gold

Extension educators are working with Black Belt residents to achieve the gold standard of tourism development: securing an act of Congress designating this 19-county region as a National Heritage Area, one of only 40 in the nation.

Like the civil rights marchers who blazed a trail through Alabama's Black Belt two generations ago, a regional coalition of educators and civic leaders has a dream.

They want to showcase the Black Belt by securing an act of Congress recognizing this 19-county region as a National Heritage Area, one of only 40 in the nation.

"There really is a lot of history bound up in this region, and it's a story that needs to be told," says Willie Lampley, Sumter County Extension coordinator and one of several Extension educators involved in this effort.

Extension professionals helped write and secure a Rural Initiative grant that funded the inaugural meeting of the steering committee. Extension professionals in the region are also helping organize a series of town meetings to educate local residents about the long-term benefits of these efforts.

Recognition as a National Heritage Area could be described as the gold standard of tourism development. While there would be no exchange of land, the National Park Service would coordinate this effort, and its universally recognized arrowhead logo would become a frequent sight along highways and byways throughout the region.

"With this designation, local organizers could seek private support that could be supplemented by federal funds," says Tom Chesnutt, an Extension tourism specialist who has assisted the effort.

Coalition members believe that the rising tide of tourism that will follow



this designation will lift many boats, including local businesses and ultimately tax revenues. These are changes critically needed in this once thriving agricultural region, which has fallen on hard times in recent decades.

Equally important, organizers are also confident that with this success will come a renewed local pride and a historic sense of place, which have always characterized life in the Black Belt.

From the Civil War to the Civil Rights Movement, no other region has exerted a greater influence over the course of Alabama's history than the Black Belt.



The prime objective of the Successful Aging Initiative is helping seniors become better informed to meet the challenges of aging, according to Wilma Ruffin, Extension family and child development specialist.



The Successful Aging Initiative strives to spare Alabama seniors much of the stress associated with aging by providing them with proven methods to improve their emotional, physical, and financial well-being.

Not Sweating the Swift Transitions

In far too many cases, aging proves to be a trial by fire, a series of health- and finance-related crises that are dealt with on the fly rather than carefully thought-out in advance.

Experts such as Wilma Ruffin, an Extension child and family development specialist, and attorney Kevin Crenshaw, legal consultant, describe these events as swift transitions.

The purpose of the Successful Aging Initiative, developed and administered by Extension's Urban Affairs and New Nontraditional Programs in partnership with the Alabama Bureau of Geriatric Psychiatry and the University of Alabama at Birmingham's Alzheimer's Disease Center, is to ensure that older adults and their families are better informed and prepared to meet these challenges, says Ruffin.

Visitors to the Successful Aging Initiative event examine literature and products designed to ease the stress associated with aging.



The Successful Aging Initiative functions as a one-day, one-stop event designed to provide older adults with essential information they need to manage this period of their lives.

The initiative also demonstrates the importance of ministering to mind, body, and spirit and how all three are interrelated. Among the many offerings are workshops dealing with safeguarding the home, avoiding scams and frauds, and navigating through eldercare resources.



The program also strives to provide older adults with a working knowledge of legal issues, such as estate planning, that are likely to affect them at this stage of their lives. In fact, Alabama Extension leads the rest of the nation in the amount of legal instruction provided through its education program, LegalEASE, according to Crenshaw, who with Ruffin is a principal developer of the program.

Approximately 4,850 people have attended Successful Aging Initiative programs. This outreach marks its seventh year in 2008, the first year it has been presented throughout the state.

A close-up photograph of a person wearing a white lab coat, holding three fluffy yellow chicks in their hands. The person's face is not visible, only their hands and the lab coat. The background is a soft-focus green, suggesting an outdoor setting.

Extension economists and poultry scientists are showing producers how to improve their bottom line by enhancing poultry house efficiency and, ultimately, the performance of their birds.

Keeping the Chicks Happy

Among poultry producers, life has become an unrelenting efficiency audit—a daily walk through their farming operations to ensure that each facet is running at peak efficiency.

If some area of the poultry operation isn't working at optimal efficiency, chances are the birds aren't either. In a manner of speaking, if the chicks aren't happy, neither is the poultry farmer.

The challenge for poultry growers is the mind-boggling number of things in a house that could go wrong and contribute to reduced efficiency. This includes everything from leaking drinking water systems to faulty tensions in the house fans, according to Gene Simpson, an Extension economist and Auburn University professor of agricultural economics. And that is why he and his colleague, Extension biosystems engineer Jim Donald, developed www.poultryhouse.com.

Simpson and Donald run the site, along with Jesse Campbell, an Auburn University manager of agriculture and natural resources programs.

The site is based on a simple premise—an ounce of prevention is worth a pound of cure. Most poultry houses were constructed at a time when propane costs were only about 40 or 50 cents a gallon. This is not the case today, when costs compare with gasoline prices.

Growers can't build newer, more energy efficient houses, but they can retrofit their houses to restore lost efficiency and, in turn, reduce operating costs. The Web site not only helps growers troubleshoot problems associated with day-to-day poultry production but also offers retrofitting solutions for rendering these operations more cost effective.

Already cited as a premier source of poultry house information, the Web site generates traffic from all over the world—70 percent from U.S. poultry-growing states and close to 30 percent from other countries.

But poultry house efficiency is only one challenge among many.

Bedding materials are becoming increasingly scarce and even unavailable in some cases—an especially scary scenario to growers. These materials, which are basic necessities of poultry production, occasionally must be cleaned out and replaced with new bedding to reduce the risk of disease outbreaks.

A big focus of the Alabama Extension poultry team has been helping growers make optimal use of existing bedding and identifying new bedding materials when conventional sources are unavailable, according to Joseph Hess, an Extension poultry scientist and Auburn University professor of poultry science.

One approach involves windrow composting in which growers compost their bedding materials, much as a gardener composts kitchen and yard refuse. The heating effect created by this composting kills a lot of the pathogens that would otherwise threaten the flock's health. The bedding then can be used again, with a reduced disease risk.

Team members are also identifying bedding material substitutes that provide poultry growers with the same types of advantages that conventional bedding offers at a comparable price.

"You've got to have materials on which to grow the birds that not only absorb moisture but that also don't retain too much of it," Hess says.

Too much moisture promotes excessive bacterial growth and, as a result, poses a greater disease threat.

Hess and other poultry team members have experimented with eight different types of bedding materials to determine



Through research, members of the Extension poultry science team identify the best conditions for securing maximum comfort and optimal health for the state's commercial poultry.

which are best suited to commercial poultry house operations. The most promising appear to be sand, pine bark mulch, and ground pallets.

Meanwhile, poultry scientist John Blake conducted research to determine the most effective amendments that could be applied to this bedding to minimize bacteria and ammonia levels. Team members then took these findings on the road, holding a series of meetings throughout the state to show poultry growers how to make practical use of them.



“Poultry growers face many new challenges. Our job is helping them overcome them.”

—Ken Macklin, Extension poultry scientist and poultry science team member

A Signal Achievement



Two Extension agents in north Alabama helped secure a ground-based correction signal considered essential in ensuring the accuracy of some precision farming-based operations.

A big, fiery economic dragon across the ocean is challenging every facet of U.S. economic dominance, including agriculture. Its name is China.

And farmers understand that coming to terms with this dragon will first involve taming a monster much closer to home—one as close as the nearest diesel tank or fertilizer bag. Namely, high farming costs.

A new approach to agriculture known as precision farming offers many producers the real possibility of cutting this monster down to a manageable size. The global positioning system technology associated with precision farming has enabled producers to plant, spray, and harvest their crops with virtual pinpoint accuracy. The result is dramatic cost savings for many.

But precision farming has not come without challenges. Many of these farming techniques require a high level of accuracy and repeatability—the reason why ground-based correction signals are considered essential in some instances.



Precision farming experts Amy Winstead, left, and Shannon Norwood inspect what is fast becoming a common feature in many farm tractors—an onboard computer.

Farmers traditionally have used base stations that provide only a 6-mile coverage radius at a cost of roughly \$12,000 a station. These older stations also require line-of-sight transmission involving occasional relocation. For farmers, this adds time and expense better invested elsewhere.

For years, Tennessee Valley producer Don Glenn, an early adopter of precision farming practices, has been trying to secure a 24/7 signal, one that did not require line-of-sight transmission and that was free to any farmer who wanted to use it.

Glenn believed such a free, dedicated signal made sense, not only for farmers but also for the countless emergency medical technicians, surveyors, and others throughout the valley who use GPS.

He enlisted farmers and sought the technical and financial support of several public and private entities, but progress was slow.

Then two determined regional Extension agents, Shannon Norwood and Amy Winstead, stepped up to the plate. Like Glenn, the two agents, who specialize in precision farming, understood the value and potential of this signal, not only for farming but also for other professions.

They also perceived the need for a partnership, bringing together many different players whose technical and financial support was critical to the effort's success.

Winstead and Norwood believe the pinpoint accuracy of precision farming technology will help tame one of the biggest challenges on the farm—rising production costs.



What emerged was a Continuously Operating Reference Station (CORS) coordinated by the National Geodetic Survey of the National Oceanic and Atmospheric Administration.

“We’re getting four to five times the range with CORS that we get with traditional base stations.”

— Amy Winstead, Extension agent



It provides precise positioning data 24 hours a day as well as the vastly extended range farmers so badly needed.

“We’re getting four to five times the range with CORS that we get with traditional base stations,” Winstead says. And at a cost of only \$25,000, the station is not only benefiting farmers but also other professionals, including the surveying and construction industry and the Department of Transportation.

CORS also better ensures that farm equipment remains on the same track during each pass through a field, greatly reducing the recurrent and costly problem of soil compaction.

CORS also may prove critical for farmers confronted with a natural calamity, such as an early spring freeze that forces them to replant quickly or an approaching autumn hurricane that requires them to work their harvesters night and day to beat the storm.

Nine Lawrence County farmers pooled resources for the effort, with additional support from the Alabama Cooperative Extension System, the Alabama Cotton Commission, the Wheat and Feed Grain Producers, the Alabama Department of Transportation, and the Alabama Department of Revenue. Congressman Bud Cramer and Senator Richard Shelby also provided critical support through the Alabama Height Modernization Grant, administered through the National Oceanic and Atmospheric Administration.

Norwood and Winstead believe that this is only the first step toward what ultimately will become a network covering the entire state, serving farmers and many others.



“The only way to pull off something this ambitious is to get Extension involved.”

—Jean Weese,
Extension food safety specialist

Happy to Oblige

Extension food safety educators are developing training to ensure that Alabama-grown produce complies with federal safety requirements—a measure considered essential to the growth of the industry.

More than ever, Alabamians are eating from an international table comprised of fruits and vegetables grown in every part of the world. This is an inspiration to some and a shock to others, many of whom are demanding Alabama-grown alternatives. And all producers and processors—local as well as large-scale commercial—have an obligation to provide their customers with safe products.

This year members of Extension’s food safety team began laying the groundwork for a statewide educational effort to provide small-scale food processors with training in

the handling and processing of acidified foods to comply with U.S. Food and Drug Administration requirements.

Jean Weese, an Extension food safety specialist and head of the food safety team, believes that the training will serve an important role in helping the Alabama produce industry take the next critical step of adding value to their products through processing.



“The only way to pull off something this ambitious is to get Extension involved,” Weese says.

Outreach to food processors represents yet another milestone for the food safety team. Since its launch in 2004, the team has developed a statewide reputation for providing affordable, accessible food safety training to professionals in several facets of the Alabama food industry, including some 500 school lunch program employees. And this training has been offered at various locations throughout the state, both in large cities and in small towns.

Weese says this type of training is critically needed now, because the state will require that every food service establishment in Alabama must have one individual certified in food safety by 2010.



A Change of Mind

Extension horticulture educators were busy in 2008 showing Alabamians how to raise tomatoes, blueberries, and herbs—a response to the growing interest in homegrown alternatives to commercial produce.

A change of mind is overtaking many Alabama consumers.

Kerry Smith and other Extension horticulture educators believe it stems from many of the uncertainties associated with twenty-first century life.

Gas prices have been a big factor. People are less inclined to drive to the grocery store when they need something,

but her perception—and those of fellow Extension educators and Master Gardener volunteers—is that these concerns are sparking an interest in lifestyle practices that many of our parents and grandparents took for granted.

People are asking themselves, What if I grew food in the backyard that I could pick myself?

Smith also believes that many of the people asking these questions are behind the growing number of requests for home gardening workshops around the state.

One thing is certain: Extension was busy in 2008 conducting lots of workshops.

Extension educators and Master Gardener volunteers conducted 15 workshops throughout the state focusing on growing tomatoes and other vegetables, blueberries, and herbs. The training dealt with all aspects of growing and maintaining the produce, including disease and insect identification and treatment.

Smith believes that some of the interest in homegrown produce simply reflects a heartfelt desire among many Alabamians to reacquire a lost art of their agricultural forebears—something that she and other Extension agents are working hard to restore.



On top of this are lingering concerns about food safety, prompted recently by public outcries about the safety of grocery store produce. These concerns came after what was originally thought to be a salmonella outbreak in tomatoes but which was later traced to Mexican-grown peppers.

Smith, coleader of Extension's Home Grounds, Gardens, and Home Pests team, concedes that she could be wrong,



Extension aquaculture educators have played a critical role introducing aquaculture instruction in more than 60 Alabama schools and developing an Alabama Department of Education-approved curriculum for teachers.

The Idea That Sprouted Fins

Some ideas sprout wings. John Harbuck's sprouted fins.

Years ago when he was working as a Florala High School vocational agriculture teacher, Harbuck read an article that sparked this idea, the ripples of which are still being felt in classrooms across Alabama and the nation.

The article explored the role that fish production ultimately would serve in feeding a hungry, increasingly overpopulated world.

That sparked Harbuck's big idea. "If aquaculture is so vital to the world's future," he reasoned, "why not establish an aquaculture course at Florala High School?"

He did, with help from school administrators and the University of Alabama's Program for Rural Services and Research.



Through Extension's efforts, Alabama leads the nation in the volume of aquaculture-related training offered to schools.

Extension Aquaculturist Claude Reeves was involved from the beginning, helping instructors prepare coursework and select fish species to stock.

Soon Harbuck and Reeves began to marvel at just how effective aquaculture could be in helping students acquire a hands-on grasp of science-related principles. The students—often not the classroom stars but average and sometimes even failing students—began embracing aquaculture instruction. Some students even credited the facility with giving them the inspiration to finish school. One graduate eventually secured a job at an Oregon salmon hatchery.

Word of the Florala model spread. Extension educators were so impressed with the results



“ It’s hard to put cows, horses, and pigs in the classroom, but with the fish, you have all sorts of educational opportunities.”

—David Cline, Extension aquaculture specialist

that they began adapting this teaching model to other school environments.

In west Alabama, Greg Whitis, an Extension aquaculturist with the Alabama Fish Farming Center, worked with the Hale County Technical Center in Greensboro to develop an aquascience curriculum, combining fish production with hydroponics. Whitis also established a similar program at Demopolis High School.

Alma Bryant High School in Bayou La Batre emerged as another trendsetter, thanks to the efforts of Extension aquaculturist P. J. Waters. Instructors there developed exterior ponds to raise red claw crawfish.

What started as a vocational project at Florala High School has evolved into a vital component of science and math instruction at many high schools throughout the state. Extension aquaculture educators played a major role in this process, working with the Alabama Department of Education to develop



a curriculum that allows highly qualified teacher to offer aquatics as a science credit course. Today about 60 Alabama schools offer some form of hands-on aquaculture training.

Extension educators have also worked closely with faculty at Gadsden State Community College to offer a four-day intensive course each summer that provides continuing education credit to teachers working to establish aquaculture projects in their schools.

The potential for aquaculture education in turning new generations of students to math and science education is immense, says David Cline, an Extension specialist in aquaculture and pond management, who is completing his dissertation in aquaculture education.



Hugh Hammer, program director of the Aquaculture Education and Development Center at Gadsden State Community College, collaborates with Extension to provide an intensive five-day course to Alabama teachers to establish aquaculture projects in their schools.

In the course of his doctoral research, Cline has identified more than 30 different disciplines that can be taught through aquaculture-related projects. And the instruction is not limited to math- and science-related instruction.

Most of all, though, aquaculture can provide classrooms with living laboratories.

“The beauty of fish is that they can be put in the classroom,” Cline says. “It’s hard to put cows, horses, and pigs in the classroom, but with the fish you have a variety of educational opportunities—reproductive and genetic studies, for example.”

Through Extension’s efforts, Alabama leads the nation in the volume of aquaculture-related training offered to schools. He and other educators obtained certification from the Alabama Math, Science, and Technology Initiative for Extension-sponsored teaching efforts.

They remain eager to work with any school interested in starting an aquaculture program.

Cline is also working with more than 200 educators from other areas to develop the National Aquaculture Educators’ Network.

An urban agent is using the century-old Extension model—grassroots education—to help hundreds of southeast Alabama diabetes sufferers learn to manage their diabetes more effectively.



Urban Regional Extension Agent Rosalind James, left, understands the value of hands-on health education.

An Ageless Model

Public health professionals hail the century-old Extension model—grassroots education—as a priceless asset in their efforts to reach tens of thousands of Alabamians with ways to manage the prevailing health problems of the twenty-first century: obesity and the chronic, sometimes deadly diseases such as type 2 diabetes that are associated with it.

Urban Regional Extension Agent Rosalind James uses this model to help diabetic sufferers in Alabama's Wiregrass manage their diseases more effectively.

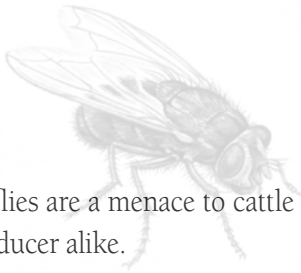
Partnering with other agencies, James has conducted diabetic wellness workshops, which attract as many as 700 people each year as well as numerous exhibitors and nationally renowned speakers. Working with the Department of Public Health,

James also holds a series of quarterly nutritional updates, providing recipes and cooking demonstrations tailored to those with diabetes. She uses these outreach efforts to stress to diabetics the importance of following the medication regimen recommended by their physicians.

She always offers the same upbeat message: Diabetics can live normal, healthy lives by eating right, exercising, and following their doctors' advice.

Simply put, they can control their disease rather than letting their disease control them.

James is also demonstrating that the early twentieth century Extension model—local, hands-on education—that helped people combat the chronic diseases of that era is just as effective today.



Horn flies are a menace to cattle and producer alike.

The daily agony inflicted on cattle from the flies' relentless bloodsucking can result in the loss of hundreds of millions of dollars a year for cattle producers throughout the Southeast. And they touch all segments of the cow-calf industry, from stocker calves to nursing calves, affecting weight gain, milk production, and weaning weights.

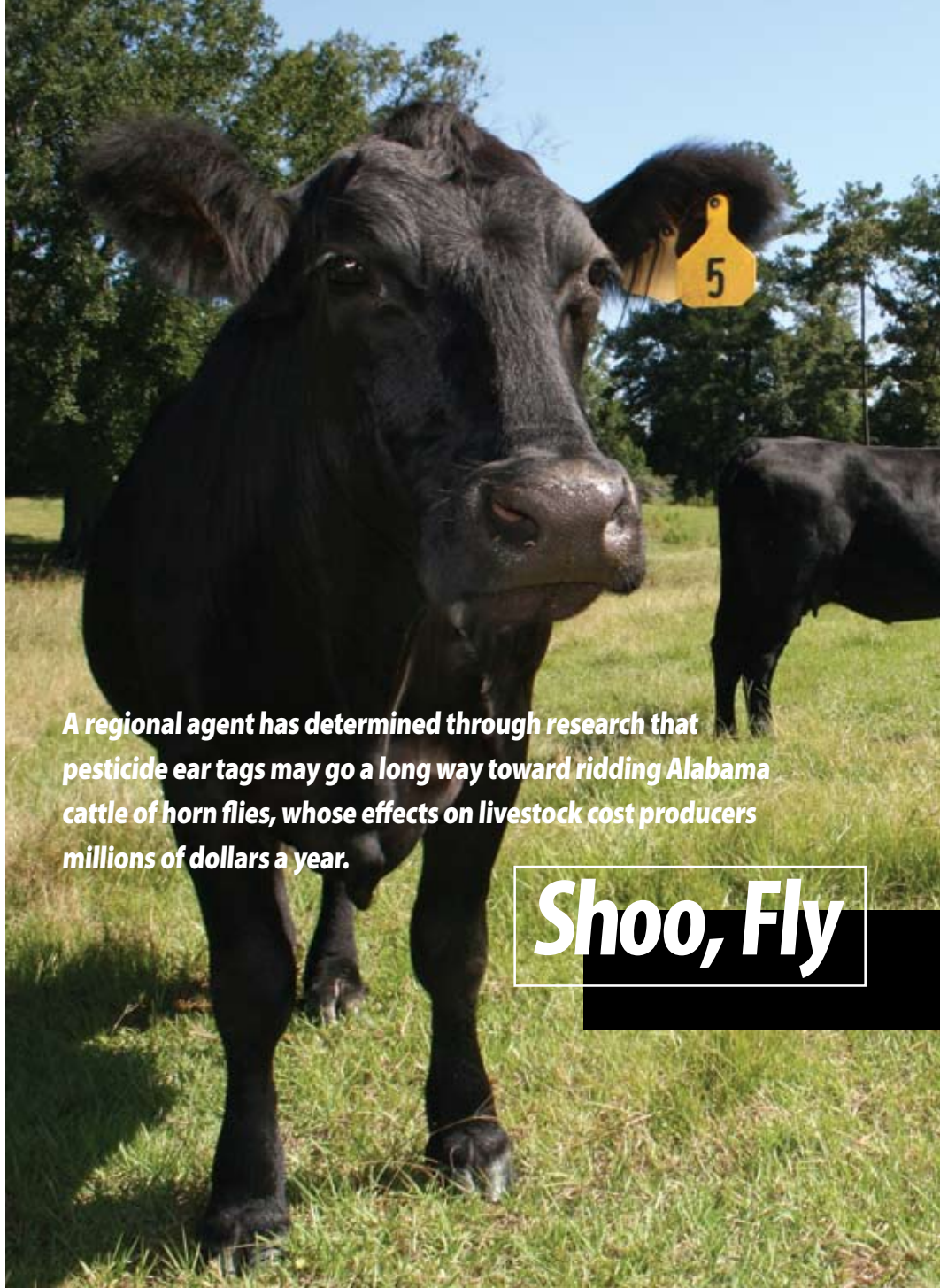
Many methods of controlling the flies have been used over the years with limited degrees of success.

Regional Extension Agent Ken Kelley had a different idea. Working with an Escambia County livestock farm, he did a study of ear tags treated with various types of insecticides to determine which, if any, worked better than the current conventional treatment



Insecticide-treated ear tags can spare cattle much of the relentless bloodsucking of horn flies.

methods. Kelley reasoned that finding a less costly but more effective way to control the animals' exposure to these flies would not only improve weight gain and other measures of livestock efficiency but also secure significant cost savings.



A regional agent has determined through research that pesticide ear tags may go a long way toward ridding Alabama cattle of horn flies, whose effects on livestock cost producers millions of dollars a year.

Shoo, Fly

He was not disappointed by the study's results. All of the ear tag treatments were effective in controlling the flies, though for varying lengths of time. Average daily gain and weaning weights of calves all increased with ear tag treatments compared with those of control animals left untreated. Improved weight gain that accompanied the treatments averaged 48 pounds and resulted in average economic returns slightly exceeding \$34 a head.

Equally significant, the effects of these treatments exceeded the normal expectations associated with conventional horn fly treatments.

The experience has taught Kelley that the small steps often make the most difference—small steps taken day after day that initially don't seem to matter but that ultimately make a big difference in the livelihoods of producers.

Through its new Maximum Power program, Alabama 4-H has reached 13,000 Alabamians with tools and information they need to make informed decisions about energy use.

Power to the Max



David Self, Extension 4-H energy educator, is striving to instill in a new generation of young people an appreciation for energy self-sufficiency.

and wise energy use, including the adoption of alternative fuels and greater emphasis on public transportation.

In addition to a basic knowledge about energy, organizers also strive to impart many of the values deemed critical to the 4-H experience: a heightened sense of achievement and self-mastery associated with acquiring and applying new skills; an enhanced appreciation for teamwork, families, and communities; a greater sense of independence stemming from the program's emphasis on making informed decisions and following through with actions; and, finally, a heightened sense of generosity that comes from serving others.

Program organizers estimate that if the approximately 13,000 people reached by the Maximum Power program changed just one incandescent light bulb to



a fluorescent light bulb, annual savings would translate into more than 3.6 million kilowatt hours, almost \$341,000, and 5.3 million pounds of greenhouse gases.

Speaking more than three decades ago on the subject of U.S. energy self-sufficiency, President Jimmy Carter urged his fellow Americans to “control our future rather than letting the future control us.”

A similar kind of thinking inspired Maximum Power: the Alabama 4-H Energy Program, a statewide initiative aimed at elementary and middle school students. Operated with funding from

the Alabama Department of Economic and Community Affairs from the U.S. Department of Energy, the program gives young people the tools and information they need to make good decisions on energy use.

All facets of energy self-sufficiency are addressed: renewable versus nonrenewable resources; energy efficiency, such as the use of insulation, rechargeable batteries, and compact fluorescent bulbs;

A Dream, A Wall, A Legacy

Some young men would have flinched at the far-reaching job assignment his supervisors had in mind for him, but not Luther Duncan. This was something he had been preparing for all of his life. Much like the generations of young people who would follow in his path, Luther Duncan was an individual who dreamed big.

The U.S. Department of Agriculture and what was then known as the Alabama Polytechnic Institute (now Auburn University) entrusted Duncan, who had been appointed as the nation's first state club agent, with organizing demonstrations at schools and other agriculture-related venues. The purpose was to encourage youth to adopt cutting-edge agricultural practices pioneered at API and other land-grant universities throughout the nation.

And organize he did. He started with Corn Clubs, teaching farm boys—and ultimately, their fathers—advanced agricultural practices. Girls Tomato Clubs followed,

Alabama 4-H and the Alabama 4-H Club Foundation, Inc., marked the centennial of Corn Clubs, the early twentieth century forerunners of 4-H Clubs, with the inauguration of the 4-H Wall of Fame.

demonstrating to girls—and, in time, to their mothers—advanced canning and other food preservation techniques.

The year 2009 marks the centennial of the first Alabama corn clubs, the forerunners of Alabama 4-H youth development work.

Alabama 4-H and the Alabama 4-H Foundation, Inc., began in February 2008 what will be an extended celebration of this legacy with the formal inauguration of the Alabama 4-H Wall of Fame. The first of three inductions began with 24 individuals and will culminate in a third ceremony in October 2009, bringing the total number of inductees to 100.



In 1912 L.N. Duncan, second row, left, met members of the Alabama Corn Club at the Montgomery train depot for a North Carolina trip. He asked the boys to carry a cornstalk so he could recognize them.

Giving Back



Drawing on her own experiences, an urban educator who once aspired to do great things now seeks to inspire new generations of youth to believe and achieve.

All of us have heroes.

For Kimberly Burgess, four Extension agents in the Shoals region where she was raised—Mary Andrews, Teresa McDonald, Rebecca Dollman, and the late Mack Pugh—were among those she admired growing up. They were major influences in her decision to become an Extension educator herself. So was her participation in Alabama A&M University's 4-H Summer Enrichment Program in the late 1980s.

She remembers these agents, the three-day program, and the life-changing experiences associated with them. Throughout her undergraduate and graduate years, she never lost touch with those memories and how they helped define her. After several years working for Extension in various roles, Burgess eventually was hired as a youth and volunteerism specialist with Extension's Urban Affairs and New Nontraditional Programs.

Burgess saw this as an opportunity to give back—a way to give youth direction in making choices that will affect the rest of their lives.



From public speaking and mastering parliamentary procedures to planning and presenting food demonstrations, Kimberly Burgess developed a sense of personal independence and self-mastery by participating in 4-H.

This led Burgess to organize the first annual Teens and Tweens Empowerment Conference, an event designed to underscore the skills young people need to succeed. And while the conference was inspired by her formative Extension influences from a generation ago, it also incorporated many of the cutting-edge youth development techniques of today.

The conference, which was the culmination of Extension's community-based Teens Making Impact Program, represented a wide range of successful professionals—the same kind of people who inspired Burgess during her childhood.

For her efforts, Burgess was honored with the Urban Affairs and New Nontraditional Program's first Youth Enrichment Full Circle Award, underscoring how she has completed the circle from aspiring young person to inspiring professional.

Throughout her undergraduate, graduate, and professional careers, Burgess has never forgotten how the Summer Enrichment Program helped define her.



Many farmers and forestland owners would consider their professions life callings, even while conceding that their livelihoods are fraught with serious financial risks.

This hard reality is the reason why Rick Zapata, a regional Extension agent specializing in estate planning, and Beau Brodbeck, a regional Extension agent and forestry expert, designed a series of workshops targeted specifically to farmers and forestland owners.

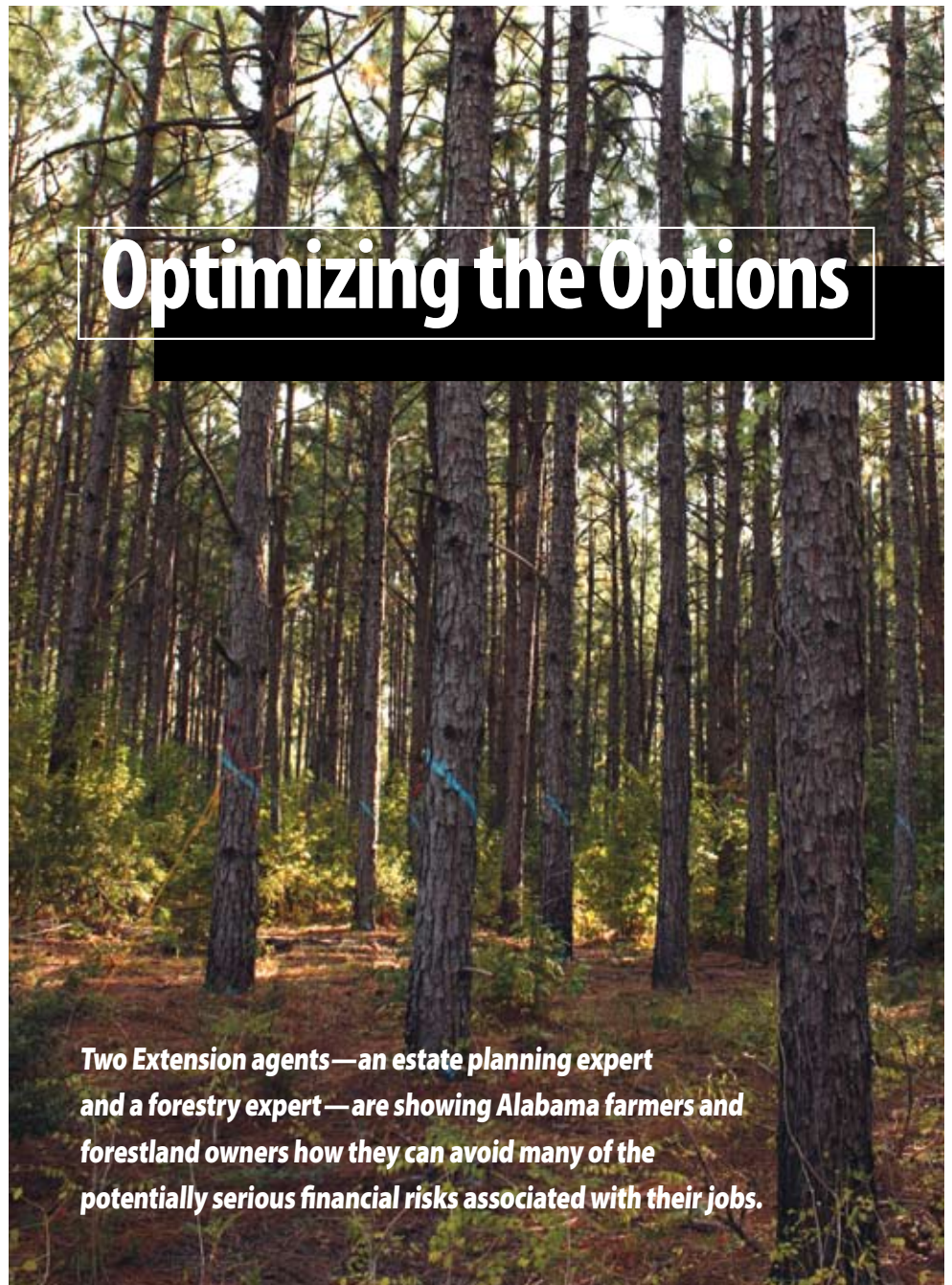
“We help farmers and foresters plan for their estates to reduce their liabilities for estate, gift, and capital gains taxes, allowing them to keep more of what they have earned and to reinvest back into their businesses,” Zapata says.



Regional Extension Agents Beau Brodbeck, left, and Rick Zapata designed a series of workshops targeted specifically to farmers and foresters, showing them how to keep more of what they earn and invest more in their operations.

Simply harvesting forestry resources, for example, can leave landowners open to thousands of dollars of capital gains taxes.

Trouble also may follow when a large retail chain builds a store on property adjoining their farms or forestland. The



Optimizing the Options

Two Extension agents—an estate planning expert and a forestry expert—are showing Alabama farmers and forestland owners how they can avoid many of the potentially serious financial risks associated with their jobs.

corresponding spike in land values that typically follows can increase their tax liabilities severalfold, unless they are aware of state and federal provisions that provide them with options.

Zapata and Brodbeck are also stressing the potential advantages of conservation easements.

“It’s a way for them to commit part of their land in permanent farming or timber, which, in turn, enables them

to reduce their tax liability,” Zapata says.

Farmers and foresters soon will have the additional option of carbon credits—commodities that they can trade on the market and that can generate additional income.

The important thing, Zapata says, is for farmers and forestland owners to identify options that will enable them to reduce their liabilities and invest more of what they save into their operations.

Social Creatures

Much as early twentieth century educators pioneered educational radio, Extension educators in the twenty-first century are colonizing a new cyberspace niche known as social networking.



Anne Adrian is showing Dani Carroll and other Extension educators how to capitalize on emerging communications technologies to reach new audiences.

Left: WMAV, later known as WAPI, was launched in February 1923 and marked one of the earliest examples of Extension's use of cutting-edge technology to reach diverse audiences.

In the 1920s when future Alabama Extension Director P.O. Davis and a young engineer started one of the nation's first educational radio stations, they had no idea they were laying the groundwork for what would become a time-honored Extension practice: using cutting-edge technology to reach audiences where they live and work.

Today Extension is helping pioneer another expanding technological landscape known as social media.

We were among the earliest adopters of Weblogging—or blogging—as a timely, cost-effective way to educate our audiences. Backyard Wisdom, a horticulture blog, is the online companion to our popular gardening program on Alabama Public Radio.

In Winston County, Extension Coordinator Mike Henshaw has begun providing radio programs in digitized form—a skill he has

role Alabama could play as a bioenergy producer. Using social networking sites such as Flickr and Slideshare, Hall is sharing photos and visual material with counterparts across the nation.

Anne Adrian, an Internet technology expert, is using her blog, Anne's Spot, to educate U.S. Extension educators and other outreach professionals across the globe about the implications of social networking technologies. She is also training Extension educators throughout the state in these new technologies.

Extension is also reaching a new generation through YouTube at youtube.com/alcoopextensionvideo.

Yet, even as we carve out new niches in cyberspace, we will never lose site of the one trait that has always distinguished Cooperative Extension work—our human touch.

www.aces.edu

shared with Extension Coordinator Lisa Murphy in neighboring Marion County. She, in turn, is podcasting both Henshaw's and her radio programs on her county Web site. The podcasts can be accessed by listeners all over the world. Meanwhile, Regional Extension Horticulture Agent Tony Glover, a regular columnist for the *Birmingham News*, has developed a gardening blog to complement his column. He also podcasts this material.

Through a farm energy blog, Mark Hall, Extension's renewable energy expert, is educating readers about the potentially lucrative

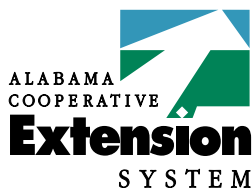
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