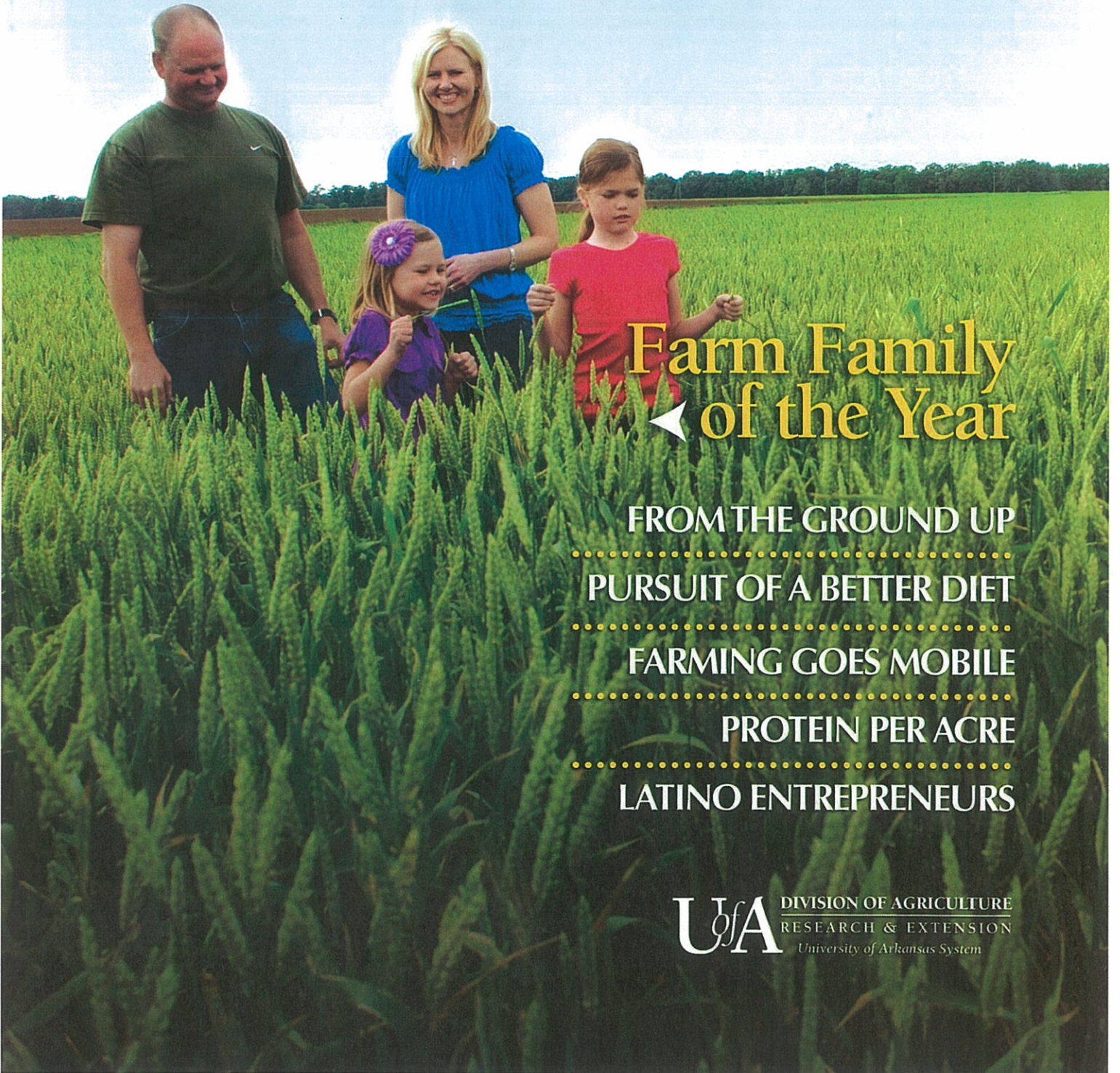


# Arkansas Land & Life

spring/summer 2012  
volume 17, number 1



## Farm Family ◀ of the Year

FROM THE GROUND UP

.....  
PURSUIT OF A BETTER DIET

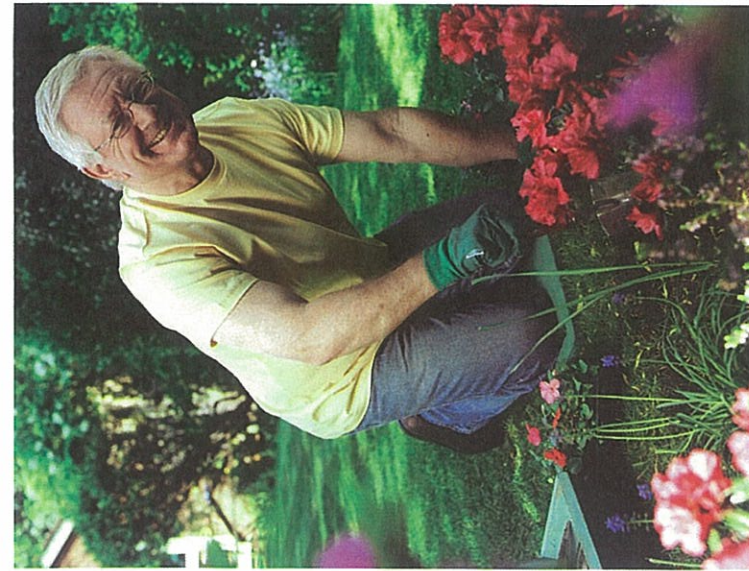
.....  
FARMING GOES MOBILE

.....  
PROTEIN PER ACRE

.....  
LATINO ENTREPRENEURS

**UofA** DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION  
University of Arkansas System





**MASTER GARDENERS:  
JOIN US!  
AND grow!**

**TO FIND OUT MORE CONTACT YOUR  
COUNTY EXTENSION OFFICE.**



- Volunteerism
- Education
- Fellowship

# Arkansas Land & Life

Vice President for Agriculture  
Division of Agriculture  
University of Arkansas System

Mark J. Cochran

Associate Vice President for  
Agriculture-Extension and Director,  
Cooperative Extension Service

Tony Woodham

Associate Vice President for  
Agriculture-Research and  
Director, Arkansas Agricultural  
Experiment Station

Clarence Watson, Jr.

Dean, Dale Bumpers College of  
Agricultural, Food and Life Sciences

Michael E. Vigna

Co-Managing Editors

Howell Medders  
Bob Reynolds

Co-Editors

Mary Highower  
Fred Miller

Graphic Design

Judy Howard  
Julie Thompson

Writers

Dave Edmark  
Mary Highower  
Howell Medders  
Fred Miller

Photography

Mary Highower  
Howell Medders  
Fred Miller

**Division of Agriculture**  
division.uaex.edu

**Arkansas Agricultural Experiment Station**  
aaes.uark.edu

**Cooperative Extension Service**  
www.uaex.edu

**Dale Bumpers College of Agricultural,  
Food and Life Sciences**  
bumperscollege.uark.edu

Arkansas Land and Life is published twice a year by the University of Arkansas Systems' Division of Agriculture. Send change of address notification to: Communications, Cooperative Extension Service 2301 S. University, Little Rock, AR 72204 501-671-2117

Articles may be reprinted provided that no endorsement of a product is stated or implied. The University of Arkansas is an equal opportunity/affirmative action institution. ISSN 1081-2946

**U of A**  
DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION  
University of Arkansas System



**ON THE COVER —**  
The love of farming is a multi-generational quality for the Heath Long family of Technor, Ark.



# Arkansas Land & Life

volume 17, number 1  
spring/summer 2012

## FEATURES

- 7 From the Ground Up**  
Decades of research and innovative technologies from one of the top soil research and extension teams in the country help make Arkansas agriculture profitable and sustainable. *By Fred Miller*
- 10 Pursuit of a Better Diet**  
Increased national emphasis on nutrition is reflected in the Division of Agriculture. *By Dave Edmark*
- 12 Farming Goes Mobile**  
Extension engineer creates mobile apps to keep users connected anywhere. *By Kim Dabkagh*
- 15 Farm Family of the Year 2010**  
Farming is a family tradition for the Heath Long family of Technor. *By Kim Dabkagh*
- 18 Protein Per Acre**  
An acre of land that could have supported the production of about 208 chickens in the 1970s can support production of about 440 today. *By Howell Medders*
- 21 New Country, New Language, New Business.**  
Research gives birth to tools to help immigrants achieve the American Dream. *By Mary Highower*

## IN EVERY ISSUE

- 4 From the Editors**
- 5 What's New**
- 24 Ask the Experts**
- 26 End Notes**



## from the editors

### Innovative Work

**A**t the University of Arkansas System Division of Agriculture, innovation — creating better and more effective products and technologies — is our job. Through both research and extension, Division faculty are consistently endeavoring to bring the newest and best ideas to the people of Arkansas.

In this issue, we explore advances being made in nutrition for both humans and animals. Food science research projects that will result in healthier living for America's consumers have resulted in courses in medical nutrition therapy and better understanding of the nutrients in the food we eat. The burden of meeting an increased demand for food from a growing population also falls on technological advances. While the demand grows, space available to produce it does not. Division researchers are continually developing new innovations to increase yield and find ways for animals make the most of their feed to ensure a sustainable, affordable food supply.

New technologies are changing the way farmers and other ag professionals gain access to information. Division faculty have developed applications for smart phones and tablets aimed at making critical tools available any time, anywhere. Producers can now identify diseases or pests, control irrigation wells from remote locations or use satellites and GPS to calculate the fewest trips across the fields. The Farm Family of the Year 2011, the Long family of Technoi, are celebrated for their dedication to using new technology or innovation.

For plants, soil is the key to the healthy crops. Innovative research done by Division scientists has changed the way many producers think about the dirt under their feet. New tests can determine more accurate and cost efficient rates of fertilizer applications, while reducing the impact of runoff on the environment.

On the human side, new ideas and tools grew out of research examining the hurdles to entrepreneurship faced by Hispanic immigrants to Arkansas. The resulting study led to finding ways to help their new businesses not just open, but also grow and thrive.

We hope you'll enjoy this issue of *Arkansas Land & Life* and see how the University of Arkansas System Division of Agriculture is putting innovation to work. ■



## what's new

### Division releases four new grapes and a blackberry

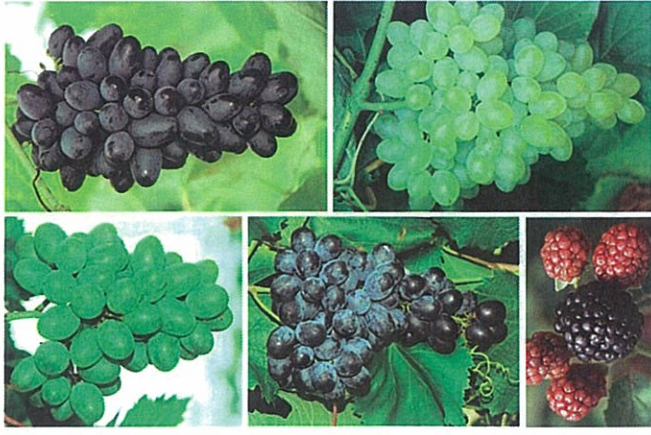
**T**he University of Arkansas System Division of Agriculture has released four new seedless table grape varieties and a new blackberry suited for local markets.

Faith, Hope, Joy and Gratitude seedless table grapes are the ninth through twelfth grape varieties developed in the fruit breeding program directed by Professor John R. Clark. These releases expand options for table grape growers for local markets in the United States. All four have non-skinskin flesh with good skin quality, fruit cracking resistance and good vine health and winter hardiness, Clark says.

Osage is the thirteenth in a series of erect-growing, high-quality, productive, floricanefruiting blackberry varieties. Osage has advanced flavor components, resulting from an enhanced effort to improve flavor, which has been underway in the Arkansas program for a number of years. Osage ripens mid-early, slightly before Ouachita and just after Natchez. Osage produces medium-sized berries, smaller than those of Natchez but comparable to Ouachita. Osage has excellent postharvest quality for the shipping market in addition to local markets. It is expected that Osage will complement Ouachita in the mid-early to mid-season harvest period. Plants should be available from tissue culture sources in 2013.

Faith grapes are blue, slight fruity to neutral in flavor, semi-crisp and ripen in late July or early August, the earliest of the four. Hope has green berries with a fruity flavor and rather soft texture. The variety has high production potential and ripens near August 19. Joy is a blue grape with exceptional fruity flavor but very soft texture and ripens the first or second week of August. Gratitude is green with exceptional flesh crispness and neutral flavor, ripening usually in late August.

These varieties, in addition to prior releases from the program (including Mars, Jupiter and Neptune) provide for a range of harvest



**NEW FRUIT** — The Division of Agriculture has released new varieties that lengthen the U-Pick season and enhance fruit quality and selection of grapes and blackberries. They are, clockwise from top left, Gratitude, Joy, Hope, Osage and Faith. (Photos by John R. Clark)

dates and choices of fruit colors, shapes, textures and flavors for local market growers. The new grapes should be adapted statewide, but are more highly recommended for Central to Northern/Northwest Arkansas where bunch grape production is more commonly practiced. A limited number of vines is available from Double A Vineyards, Lodi, N.Y. ■



## what's new

### Hundreds take part in health initiatives

Hundreds of Arkansans in virtually every county took part in two significant wellness initiatives by the University of Arkansas Cooperative Extension Service.

During the spring 2012 edition of Walk Across Arkansas, more than 400 people made it a point to go out walking and recording the time they spent walking during an eight-week period. Prairie County had the most participants with 92. Prairie County also had the top number of minutes with its walkers logging 198,600 minutes — the equivalent of 137 days — for the eight-week walk.

The second initiative, called Friday Ride Days, was an eight-week

employee wellness program that encouraged people to reacquaint themselves with bicycling. The Friday lunchtime activities included an educational segment as well as a ride time. The Ride Days were a buildup to the May 18 National Bike to Work Day. A team of more than two-dozen extension and systems office staffers took part in a two-wheeled commute that ended at the Cooperative Extension Service Little Rock headquarters. The bike program proved so popular, many of the participants want to make it a weekly activity.

"We're very pleased about the number of participants and especially



**PRACTICE RIDE** — Extension Friday Ride Day participants take a practice ride through the neighboring campus at the University of Arkansas at Little Rock.

happy to see how many people are continuing to walk and ride," said LaVona Traywick, associate professor for the University of Arkansas System Division of Agriculture. ■

### Electric Cooperatives of Arkansas sponsors O-Rama banquet

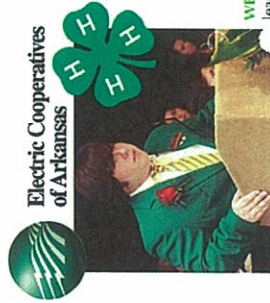
The Electric Cooperatives of Arkansas are sponsoring the 2012 O-Rama Excellence Banquet with the support of a \$25,000 donation to the Arkansas 4-H youth development program. The O-Rama banquet is part of the largest gathering of 4-Hers in Arkansas every year. The banquet is an opportunity to recognize the highest achievers

among Arkansas 4-H members in various project areas. Also recognized at the banquet are the year's 4-H scholarship winners.

"The Electric Cooperatives of Arkansas are excited about partnering with Arkansas 4-H to promote learning and growth opportunities for young Arkansans," said Doug White, vice president of systems services for the Electric Cooperatives of Arkansas. "Like 4-H, the cooperatives work tirelessly to make our communities better through service and volunteer efforts. We look forward to working with 4-H to further our mission."

Anne Sontor, who heads up the Arkansas 4-H program, said the partnership would provide much needed support for the program.

"Leadership and public speaking are among the many skills to be learned through the 4-H Youth Development program."



**Electric Cooperatives of Arkansas**

**WELL-SPOKEN** — Leadership and public speaking are among the many skills to be learned through the 4-H Youth Development program.

BY FRED MILLER

# From the Ground Up

When Scott Meins of Almyra plans his farming strategy for the coming season, he begins at the base of the pyramid. "Everything is important," Meins says, "but the soil is the basic thing. If you don't start out right there, you're not going to get a good crop."

Soil fertility, along with good seed and good weather, are the base of the pyramid, he says, and when he wants to get his fertilizer right for his 2,000 acres of rice, soybeans or winter wheat, Meins looks to recommendations from the University of Arkansas System Division of Agriculture.

So does Scott Everett, who grows rice, cotton, soybeans and wheat on 5,000 acres in Woodruff and White counties. Fertilizer is his highest input cost, so making sure he's giving his crops all the nutrients they need and no more is a top priority.

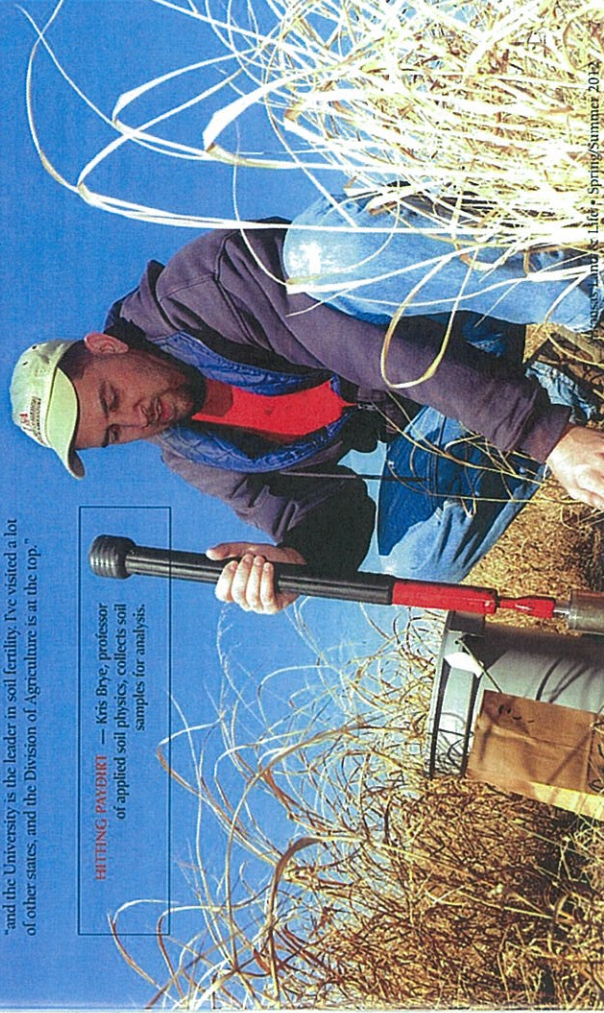
"There's a lot of misinformation out there," Everett says. "A lot of companies are making fertilizer recommendations without any research behind it. But I trust the University of Arkansas (Division of Agriculture) to provide sound recommendations based on research."

Farmers try to make educated decisions," Everett says, "and the University is the leader in soil fertility. I've visited a lot of other states, and the Division of Agriculture is at the top."

Meins and Everett, like many other Arkansas farmers, invest in Division of Agriculture research by permitting scientists to use their land for field verification tests of new and developing technologies.

The varied physical geography of Arkansas includes one of the most diverse collections of soils in the nation, says Kris Brye, professor of applied soil physics for the Division of Agriculture. About a third of the state is mountainous, with managed grasslands, forests and steep slopes. Another third is the coastal plain of a long-gone shallow sea, with coniferous forests and sandy soils atop sedimentary bedrock layers. The eastern third of Arkansas has alluvial soils laid down by flooding from the Mississippi River and its tributaries.

This diversity of soils means there's no single solution for soil fertility in Arkansas' farmlands.



**HITTING PANDORA** — Kris Brye, professor of applied soil physics, collects soil samples for analysis.

Illustration by Lisa • Spring/Summer 2012





**DREAM TEAM** — (above l-r) Rick Norman, professor of soil fertility; Jeremy Ross, former grad student and extension agronomist; Trent Roberts, assistant professor of soil fertility testing; Nathan Slaton, professor and director of soil testing; Andrew Sharpley, professor of soils and water quality; and Kris Bbye (pictured on page 7), professor of applied soil physics; have been key in developing accurate soil testing for Arkansas producers.



Slaton focuses on phosphorus and potassium. "We're pretty comfortable with what we know about potassium in rice and soybeans," he says. "The research has been done and published in peer reviewed journals."

"The big challenge now is phosphorus, especially in rice, but also in soybeans and other crops," Slaton says. "These studies are also related to ground and surface water quality."

The measured level of phosphorus in the soil, called soil test P, is not by itself a good predictor of yield response to phosphorus fertilizer, Slaton says.

"Most of the soil test methods in use today were developed for upland crops," Slaton says. "The flooded condition of rice fields affects the way phosphorus behaves in terms of its availability to the plants." He said the results are not much clearer for irrigated soybeans.

"We're building a database that will be the foundation of knowledge," Slaton says, "so that later we can go into the lab and develop a soil test that will provide accurate and reliable fertilizer recommendations for rice and improved recommendations for soybeans."

Slaton says rainfall variation and other factors affect rates of nutrient loss. Accurate soil sampling and testing helps save farmers money. "Making decisions without soil tests is difficult," Slaton says. "With a test, you know. You're working with better information to make a decision."

"Accuracy is what we're working toward as scientists, more than just precision," Slaton says. "I want the technology to move toward accurate and precision agriculture."

Bbye focuses on soil and water issues in production agriculture and also advises the undergraduate soil judging team, which won the regional soil judging contest in 2011.

Bbye is taking a long-term look at how changes in land-use



applications that row crop farmers use today. The pinnacle of this work is the N-STAR Nitrogen Soil Test for Rice that was inaugurated for silt loam soils in 2011, a system that provides fertilizer recommendations specific to a field instead of a more general recommendation for all fields with a particular soil.

Norman is quick to share credit with his Division of Agriculture colleagues. "Nathan Slaton (professor of soil fertility and director of soil testing) is the best field man I know," Norman says. "He is very good at diagnosing or troubleshooting soil fertility and plant nutrition problems in the field."

"We needed a top soil physicist," Norman continues, "and we got Kris Bbye. And Andrew Sharpley (professor of soils and water quality) is the leading scientist in soil and water ecology." Norman lavishes equal praise on his former graduate students. When he was looking for the best depth from which to take samples for accurate soil tests, graduate student Jeremy Ross did the work and found that 18 inches was the optimal depth for testing nitrogen for rice in silt loams.

In 2006, Norman was sure he was onto a new way to test the levels of usable nitrogen in soils, but he needed to prove it and show how it worked. "I needed a soil genius," Norman says, "and in walks Trent Roberts."

Roberts now runs the N-STAR program, and his lab in Fayetteville tested more than 2,500 samples in the programs first year. The research team is also working to extend the program for use in rice on clay soils and wheat on silt loam in 2013. The long-term goal is to extend the technology to corn, cotton and grain sorghum.

In many cases, N-STAR recommendations result in considerably lower application rates of nitrogen, Roberts says. This fact is not lost on farmers like Meins. "There's an economic benefit to knowing exactly how much fertilizer is enough, especially when the cost is high," Meins says. He also notes an environmental benefit in reducing the risk of excess nitrogen in runoff.

"As a group, farmers are probably among the biggest environmentalists there are," Meins says. "A system like N-STAR is important in demonstrating that we're tackling the problem of excess nutrient runoff."



From beef and dairy pastures in the west to rice, soybean, cotton, corn and wheat fields in the east — with vegetable and fruit operations in between — the state's farmers need accurate and unbiased information to ensure the yields they need to make a profit. The Division's Soil Testing and Research Laboratory at Marianna provides growers with accurate analyses of soil pH and fertility. The lab processed about 180,000 samples last year, and that number has grown every season for the last five years, says director Morzeza Mozaffari.

"I'm going to have to start charging rent when the labs in full swing," Mozaffari says. "Some of the staff practically live here in order to keep up with the demand."

The accuracy of soil tests relies on continuing research, and Division of Agriculture soil scientists have had their hands in Arkansas soils for decades. Rick Norman, professor of soil fertility, began laying the groundwork years ago, pioneering the



**IN DEMAND** — The Division's Soil Testing and Research Lab processed about 180,000 samples last year to provide growers with accurate analyses of soil pH and fertility.

use of an isotopic tracer to understand how nitrogen behaves in the soil and how rice plants use it. "The N-15 tracer helped us determine how well plants took up fertilizer and soil nitrogen and how to time nitrogen fertilizer applications to plant growth stages for maximum yield," Norman said.

The knowledge gained over 28 years has helped refine the Division of Agriculture recommendations for nitrogen fertilizer

affect the soil. For example, he's studying the long-term effects of management practices for poultry litter and managed pastures in the Ozark's highlands. He's also comparing the effects of conventional and no-till farming.

"Two to three years isn't long enough for soil to adjust to changes in management practices, such as switching from conventional tillage to no-till," Bbye says. "A typical research program may take only two to three years, but the soil could take seven years to reach equilibrium."

"I want to know what is affected by varying levels of fertilizer, irrigation and other practices," Bbye says.

Wherever possible, Bbye is also comparing native ecosystems and soil characteristics with cultivated land to see how crop rotation and other agricultural practices have changed the soils. "Native ecosystems can tell us about the effects of cultivation practices on the lands around them," he says.

"We're building a data set that will help us know what to expect when environmental regulation requires changes in management practices," Bbye says. "What happens, for example, if burning crop residue is banned or if there are changes required for greenhouse gas emissions?"

"We're looking for the answers," he continues, "to how we can provide improved environmental benefit just by tweaking management practices." ■

## The accuracy of soil tests relies on continuing research, and Division soil scientists have had their hands in Arkansas soils for decades.



# Pursuit of a BETTER DIET

BY DAVE EDMARK

It's common knowledge that the public is more interested in nutrition. Almost half the people surveyed last year said they actively seek information about nutrition, up from only 19 percent in 2000, according to the American Dietetic Association. Pursuit of a better diet for more people is also a concern of the University of Arkansas System Division of Agriculture.

## The Consumer Programs

The Cooperative Extension Service has responded to the national obesity epidemic by offering programs and classes to shift people into a healthy lifestyle. A 13-week class called Reshape Yourself emphasizes balanced diets. "Participants first learn their calorie needs and then set goals to help them achieve a healthy weight," said Rosemary Foodbaugh, extension professor of nutrition. "Then they learn practical information that they can incorporate into their lives."

The Madison County Extension Office teamed with the Office of Human Concern to offer a three-week class in Huntsville in February. During their final class session, the class of six students prepared a couple of the recipes from their cookbook — mango salsa and pineapple carrot muffins. The dishes they prepare generally get good reviews from the class members and their families at home.

Melissa Anent of Huntsville enrolled in the class after learning of it through her son's Head Start class. "We've learned about lower sodium intake and to use spices instead of salt," she said. "My family is eating healthier, and they like it." When she prepared Asian noodles with peanut butter sauce, "My husband asked where the meat, and I told him he won't miss it."

Cooking Matters class members.



LESSONS FOR LIVING — Elizabeth McGinley, FCS agent at the Madison County Extension Office, demonstrates how to prepare mango salsa to Cooking Matters class members.

## The Nutrition Curriculum

A rise in interest in nutrition isn't an abstract concept to Cindy Moore, a clinical assistant professor of food, human nutrition and hospitality and director of the Didactic Program in Dietetics in the Dale Bumpers College of Agricultural, Food and Life Sciences at the U of A in Fayetteville. By the fall of 2011, the college's dietetics program attracted 200 majors compared to about 150 a year earlier.

The curriculum is rigorous enough that it's only five courses shy of what a student would need to meet pre-med requirements, which is one reason why the program attracts pre-med students and those who go on to physician assistant school.

"As they discuss things, they're going to learn to work an interdisciplinary approach to the problem and deal with the issues so that it mirrors what's like in the real world in the workplace," Moore said. The dietitians skills should mesh with those of teachers, child development center directors and marketing directors so they can work together on the issue.



HANDS-ON — Blake Sandridge (left) and Holly Points work in a fruits lab for their nutrition class. Their work for the day also included identifying pigment changes in vegetables.



SOY OIL RESEARCH — Ulmarsh Shah, a food science graduate student in Professor Andrew Proctor's lab, works in the photoradiation unit where ultraviolet light is shined on soy oil to cause a reaction that creates nutritionally beneficial conjugated linoleic acid (CLA).

## The Food Science Research

Professor Andrew Proctor leads a Food Science Department project that has shown soy oil's nutritional value can be enhanced by converting the soy oil linoleic acid to conjugated linoleic acid (CLA). CLA consists of fatty acids with health benefits that include reducing tumor sizes, decreasing body fat and reducing the risk of diabetes. It is used as an anticarcinogenic, anti-obesity, anti-heart disease material. In Proctor's Fayetteville lab, soy oil rich in CLA is synthesized.

"CLA is produced in fermentation in cows, and that's why it's found predominantly in dairy and beef products," Proctor said. "So we're producing something from a vegetable source. The advantage of our source is that its low in saturated fat and contains no cholesterol, whereas dairy and beef products are high in those. To get a significant amount of CLA from dairy or beef you have to take a significant amount of saturated fat and cholesterol. With our product, you don't need to do that."

Professor Luke Howard orients his food science lab toward finding the health-promoting aspects of cranberry pomace, the material that's left after the juice is squeezed out of the cranberries. The benefits of pomace come from the natural components known as polyphenolic compounds. The key is to extract the polyphenols that are highly bound to the cell wall. Howard has patents pending for the process that would also be applicable to materials other than cranberries.

Howard's lab has been developing alkaline hydrolysis extraction methods to recover pro-cyanidins, a subclass of polyphenols, from the cell walls of the pomace. "This treatment could allow the processors to recover those from waste material," Howard said. ■



Arkansas Land & Life • Spring/Summer 2012



BY KIM DISHONGH

# Farming Goes Mobile

## Smart phone apps give producers access to info anywhere

Computers with Internet access might be rare in the middle of rice fields but with the increasing popularity of smart phones they aren't really necessary. The development of new mobile agricultural applications for those smart phones make the jobs of producers, consultants and extension agents even more efficient.

Dharmendra Saraswat, Ph.D., assistant professor-geospatial in the Department of Biological and Agricultural Engineering

with the University of Agriculture System Division of Agriculture Cooperative Extension Service, has developed more than 20 web applications that can be accessed through any Internet-connected device including smart phones.

Saraswat's web application development efforts were spurred in 2009 by funding from the Southern Region Water Program.

"The first grant-funded output, titled Google Earth for Water Educators' is a web application for use by water educators to learn about the potential

of Google Earth, a free web-based mapping tool, for visualizing, sourcing and creating spatial datasets and developing virtual watershed tours for various educational programming purposes," said Saraswat.

More than a dozen other web applications followed after the program was enlarged in November 2010, including those based on the MP44, MP144 and MP154 series of publications by the Division of Agriculture on weed and brush, plant diseases and insecticides. Those are pictorial

guides for users, updated not just each year as the hard copy is but as often as specialists deem worthwhile.

"A typical cycle is that once you publish a new fact sheet then you have to mail it to county offices statewide. Unless and until you walk into a county office or you meet with an extension agent or a specialist or search extension's website, you won't get access to a new fact sheet," Saraswat said. "But by using this technology, everything is going to change."

In the process of developing these web applications, Saraswat heard from people out in the field that some parts of the state lack high-speed Internet capability at this time.

In response, he has created operating system specific, or native, applications, as well, for use on iPhone, iPad and Android smart phones. These are designed to run without requiring mobile devices to be connected to the Internet.

The native apps are still in the approval process within the University of Arkansas System Division of Agriculture, so they aren't yet widely available.

Saraswat can add new information and recommendations to both web and native apps as soon as it has been approved by the specialists.

"And as soon as I put it on the native app, all of the users who have downloaded the app will receive a notification that this app has been updated, and as soon as they download the updated app, they get access to all the new stuff,"

**These apps are quick, handy and very targeted.**

Saraswat said. "These apps are quick, handy and very targeted. It won't go to all the people in the state; it will go only to the people who have shown interest in this type of information."

"Hort Apps," for example, offers quick access to assorted lists of 161 horticulture publications with subjects broken into topics like diseases, insects, weed control, lawn and fruits and vegetables.

Saraswat said a search tool has been developed to streamline the search for applications specific to iPhone, Android, Windows Phone 7 and BlackBerry in six different categories based on cost and 20 different key words. The tool can be accessed at: <http://baeagrisk.ddns.wark.edu/geospatial/smartPhoneSearch.aspx>

Saraswat depends on a team of Division of Agriculture employees to help come up with ideas and to troubleshoot the apps, including Keith Perkins, Lonoke County extension agent. Perkins has field-tested the apps.

Perkins has long seen the benefit of using a smart phone to take a photo of something in the field and text or email it to a specialist for help in identifying and treating it. These apps often allow him to skip that step so he can offer a farmer immediate advice.

"To me the benefit of it is that I can be working out in the field and I can pull out my phone and look up

on in this field.' And then it will have information on what you can do to control those things to that specific problem. It covers the whole gamut of agricultural production." ■

**I can be working out in the field and I can pull out my phone and look up photos of insects or weeds and say, "This is definitely the same situation that is going on in this field."**



INSTANT ACCESS — Using a smart phone app, Lonoke Co. Extension Agent Keith Perkins, center, quickly identifies problems with Jody Spears, left, and Sharon Spears, right.



For Heath Long,  
farming is a family tradition.

# Farm Family of the Year 2011

TEXT BY KIM DISHONGH. PHOTOS BY KELLY QUINN.



**FAMILY TOGETHERNESS** — Farming is second nature for fourth-generation farmer, Heath Long, his wife, Betsy, and their girls, Shelby and Sydney. The Longs were named 2011 Farm Family of the Year.

“grew up doing it, and it means something to me to know that you’re growing the things and feeding the world,” said Long, a fourth-generation farmer. Long, his wife, Betsy, and their daughters, 10-year-old Shelby and 5-year-old Sydney, were named the 2011 Arkansas Farm Family of the Year.

They rent 2,230 acres of land near Tipton, south of DeWitt in Arkansas County. Of that, 1,137 acres is dedicated to soybeans, 869 acres to rice, and 198 acres to wheat.

“I don’t guess I ever thought about being anything else,” says Heath Long, who graduated from Arkansas State University in 1994 with a degree in agriculture and returned home to partner with his parents and his brother in Long Farms Inc.





He and Betsy met in college and married in 1998. They started Heath Long Farms a year later. Long's father retired in 2009 after the death of Heath's mother. In 2010, Heath and Betsy Long formed Long Planting Company.

Andy Gullef, coordinator of the Arkansas Farm Family of the Year program, said the Longs strive to keep the relationship with their landowners while improving and expanding their operation. "They've shown a dedication to using technology or innovation that's failed to their operation to give them the best performance that they could get," Gullef said.

"If I can improve the land, that helps the landowner," said Long. "If it makes me more efficient and I can get an extra boost out of it, it helps both of us."

Finding ways to make fewer trips across the field, for example, allows Long to use less diesel fuel and cut down on land erosion at the same time.

"We'll do some dirt work or install a hydrant or something somewhere that makes it easier on me but also makes it more profitable. When you take care of a person's land, it's just better for everybody," said Long.

Many of the efficient techniques Long has adopted involve technology that would have been beyond his great-grandfather's imagination, like tractors that use satellites and global positioning systems to calculate and automatically take the fewest trips across the fields and smart

phone apps that can be used to control irrigation wells from remote locations.

"If it comes a rain or something in the middle of the night, you can shut them off," explained Long, who uses his iPhone to check market reports two or three times a day, often from atop a tractor. He admits being a bit reluctant to delve into the science behind it.

The Longs' community involvement also helped win them the title of Farm Family of the Year, according to Gullef.

"It was a good combination of good solid farming techniques, taking advantage of the resources and their community involvement," he said.

"They're involved in not only things that support their community but involved also in things that support their industry."

Betsy Long, a second-grade teacher at Gillett Elementary School, volunteers through the school system and their church, Gillett United Methodist Church.

Heath Long is a volunteer firefighter, vice president of the Arkansas County Farm Bureau board of directors and past president of the Gillett Farmers and Businessmen's Club. He's

a member of the Arkansas County Farm Service Agency board, the Arkansas and USA Rice Councils. He is also on the cooking crew for the Gillett Coon Supper, a spot his father held, as did his father before him.

Long's community involvement stems from appreciation, he says. "You know, I wouldn't be here if it wasn't for a lot of my neighbors and kinfolks and a lot of the people around," he says. "Our community involvement may sound like a lot, but in our community we're just kind of the norm."

Onita Watson, Arkansas County Extension administrative support supervisor for the University of Arkansas System Division of Agriculture, has known the Longs since Heath was a child and his father would come into the office for support.

"They're just a really fine young family," she says. "They're very well-liked and very well-known throughout the community, and they're very conscientious about farming."

Betsy Long grew up in Forrest City, part of a non-farming family — her mother was a teacher, her father ran an employment agency.

"It was definitely foreign to me," she said of farm life. "The long hours and the physical requirements were the biggest surprises to me. It was the long hours — we got married at the end of February, so when we got home from our honeymoon he went straight to planting. He would be gone at 5 in the morning and he wouldn't get home until 8 o'clock at night." ■



## Exactly what is 4-H?

In Arkansas, 4-H takes the form of community clubs, project groups, in-school and afterschool programs. The faces of 4-H kids are as diverse as the activities in which they take part. Some of the exciting programs members are experiencing first hand include:

- Community service
- Citizenship & leadership
- Robotics
- Livestock & poultry
- Gardening
- Shooting sports
- Health, food & nutrition
- Public speaking
- Photography
- And so much more

Best of all, participation in 4-H is free and its programs are available in each of our 75 counties.

[www.kidsarvus.org](http://www.kidsarvus.org)

## Edamame... a new crop for Arkansas

A new vegetable soybean variety, named 'UA Kirissey,' developed in our Soybean Breeding Program is being grown in 2012.

It will be processed and packaged at a new American Vegetable Soybean and Edamame plant in Mulberry.

This new enterprise makes Arkansas the first state where edamame is grown on a commercial scale in the United States.

Arkansas Agricultural Experiment Station  
[aaes.uaark.edu](http://aaes.uaark.edu)

**U of A**  
DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION  
University of Arkansas System



**LONG FAMILY** — The Longs have deep roots in their community with involvement in their church, the county farm bureau and the Arkansas and USA Rice Councils



BY HOWELL MEDDERS

# Protein Per Acre

## Global Demand Raises Stakes for Food Efficiency

**A** strengthening U.S. economy and growth in developing countries has increased demand for Arkansas crops, poultry and livestock. As incomes rise in developing countries, demand is growing for meat and poultry and for grain and soybeans for animal feed, says Mike Kidd, director of the University of Arkansas System Division of Agriculture's Center of Excellence for Poultry Science and head of the U of A Department of Poultry Science.

However, nearly one billion of the world's seven billion people are undernourished, according to the United Nations. The population is expected to swell to nine billion by 2050. Increased demand for protein raises the stakes, because it takes more land to produce the same amount of calories in an animal protein-based diet compared to a plant-based diet.

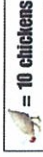
"The potential to increase agricultural land is very limited, so the burden of meeting growing demand for food, and especially protein, falls on technological advances," says Kidd. "Of course, that's nothing new. We have been meeting that challenge and will continue to do so."

"**Feed conversion efficiency**" is a key, Kidd says. Since the 1950s, the poultry industry has steadily increased the efficiency with which feed ingredients are converted to protein. "An advantage for poultry scientists is that the chicken is easy to study," Kidd says. "We can develop a hypothesis and test it in a few weeks or months."

Since 1965, the amount of feed required to produce one pound of chicken has declined from 2.4 pounds to about 1.7 pounds today. With escalating feed costs, each ounce represents major savings. The Poultry Science Association says on a per-pound retail basis, chicken prices today, accounting for inflation, are half of the chicken prices of 1966.

Arkansas has also made

The number of chickens that can be supported by one acre of land has more than doubled since the 1970s.



**1970:**

One acre feeds 208 chickens



**2000:**

One acre feeds 440 chickens



Due to increased yields and greater feed conversion efficiency, an acre of land that could have supported the production of about 208 chickens in the 1970s can support about 440 chickens today.



## “When cells and mitochondria are functioning at a high level, the animal grows faster and more efficiently.”

The Division's Center of Excellence for Poultry Science based in Fayetteville is a leading center for research ranging from pen studies to molecular biology. It includes the Applied Broiler Research Unit Farm with four commercial-scale houses and a broiler breeder research farm.

Although gains continue to be made through applied research, Klotz says, basic research is also critical to meeting future world demand for protein. Basic research is conducted mainly in laboratories in the John W. Tyson Poultry Science Building on the U of A campus. One basic research area with potential to help improve feed efficiency in all food animals is directed by poultry physiologist Walter Botje, a leading scientist in the study of mitochondrial function in poultry.

### Mitochondria are the “powerhouses” of the cell.

They produce energy in the form of adenosine triphosphate (ATP). The energy in ATP molecules is released as required to carry out most cellular functions such as building tissues, contracting muscles and generating electrical impulses in nerves.

Part of the ATP produced by mitochondria is used for maintenance of the animal's basic functions. The remainder is available for growth. When cells and mitochondria are functioning at a high level, the animal grows faster and more efficiently, Botje says.

Botje's contributions to the understanding of mitochondrial function include his discovery that

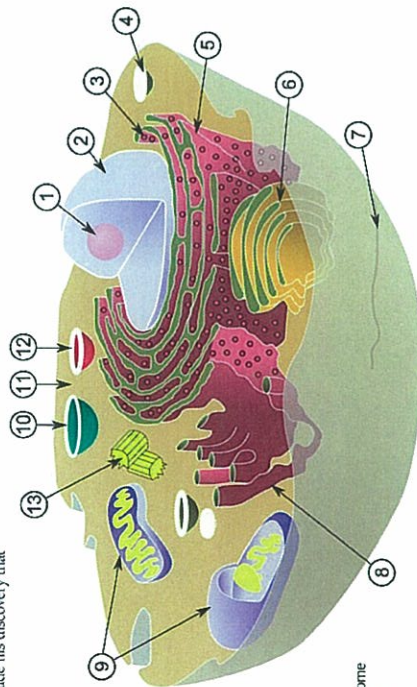
mitochondria in high-efficiency chickens function more efficiently than those in low-efficiency chickens from the same genetic background.

Byung-Whi Kong does genomics research down the hall from Botje's lab in the Poultry Science Center. He has discovered differences in the expression of genes in mitochondrial DNA for the high- and low-efficiency chickens.

“The million dollar question is, what is causing the difference in mitochondrial function?” Botje says. The answer, which may not be simple, could lead to more efficient protein production from chickens and other food animals.

For example, Botje says, the creation of ATP and release of its energy involves an exchange of electrons among molecules in mitochondria. Electrons can “leak” in a manner that creates reactive oxygen species, or free radicals, within the cell. The free radicals can damage parts of the cell, including DNA. Cells can usually repair the damage, but in doing so, they use energy that is then not available for other functions such as growth.

In addition to boosting yields of protein from food animals to meet higher demand from an expanding population, a better understanding of mitochondrial function could also provide insight into human health issues. ■



ANIMAL CELL —

A schematic

of an animal cell:

(1) Nucleolus

(2) Nuclear membrane

(3) Ribosomes

(4) Vesicle

(5) Rough endoplasmic reticulum

(6) Golgi body

(7) Cytoskeleton

(8) Smooth ER

(9) Mitochondria

(10) Vacuole

(11) Cytozol

(12) Lysosome

(13) Centrioles within centrosome

(Messers/Walard, Used by Permisco)



BY MARY HIGHTOWER

## New Country. New Language. New Business.

Project explores the challenges of entrepreneurship for Latino immigrants.

Starting a new business is a big challenge. For Hispanic immigrants, starting a new business in a new country and a new language raises the level of difficulty to new heights.

Hispanics make up a rapidly growing segment in Arkansas, comprising 6.4 percent of Arkansas' population, according to 2010 U.S. Census figures. Before that, the Hispanic population grew more than 120,000 people between 1990 and 2006, a better than 600 percent rise. Like many immigrants, Hispanics seek to build on their own hopes in the U.S.

Finding exactly what barriers exist in rural Arkansas for Hispanic immigrants who want to start new businesses, and finding ways to help them, is what a partnership between the research and extension arms of the University of Arkansas System Division of Agriculture set out to do.

What the Division of Agriculture team found was that many of the “identified barriers are not really different from those of non-immigrant entrepreneurs,” said Stacey McCullough, instructor–community and economic development.



For example, 42 percent of Latino entrepreneurs cited a lack of startup capital as the biggest problem faced in starting their businesses. The second biggest hurdle, cited by 15 percent, was understanding laws, taxes and regulatory systems. Fourteen percent of business owners said advertising was their biggest problem for starting a business in Arkansas. The fourth barrier, cited by 12 percent, was in finding and renting business locations.

The project to gain understanding of perceived barriers to entrepreneurship grew out of another question, said Frank Farmer, professor, Human Environmental Sciences, for the University of Arkansas System Division of Agriculture. Farmer wanted to know: was there any difference in the migrants who chose rural America versus those who chose urban America?

"From that data, I'd seen they were bringing with them a set of skills and human and social capital not normally associated with immigrants," he said.

That's when Farmer connected with Wayne Miller, professor—community development, and McCullough. Also working with the project were researchers Zola Moon, program associate in the Department of Human Environmental Sciences, and Cristina Abreo, a research associate.

The team surveyed 271 participants in face-to-face interviews between April and December 2009. The 171 participants represented 220 Latino immigrant-owned businesses in 59 communities across 26 counties that covered both rural and urban Arkansas.

What the team created, based on the survey results, was a set of tools that will help entrepreneurs succeed. Those tools include the "Checklist for Licensing a New Business," a brochure that was customized to include important govern-

ment contacts for 37 communities in 26 counties, and the 50-page publication "Latino Immigrants' Guide to Starting a Business in Arkansas," a comprehensive guide with chapters starting from "Assessing Your Business Potential," to "Understanding Regulatory Requirements" and "Obtaining Financial Assistance."

Miller said the team, working with Yell County Extension Staff Chair Casey Scarborough and Sevier County Extension Agent Terrie James, had two pilot training workshops — conducted in Spanish — with Latino audiences in Danville and DeQueen.

"The workshops also provided an opportunity for local leaders to share information and interact with the workshop participants," Miller said. "Both the workshop participants and local leaders appreciated the opportunity to get to know each other."

Miller said the project has had a ripple effect. The Rogers Chamber of Commerce was using some of the materials developed by the team in conducting their workshops for Latino entrepreneurs. The Russellville office of the Small Business and Technology Development Center had staff at the Danville workshops, and many of the workshop participants expressed interest in using the center's consulting services.

"This is working classic land-grant model," Farmer said. "We saw an issue, we came back, we formulated a research issue from that research, we develop programs to take back to the field."

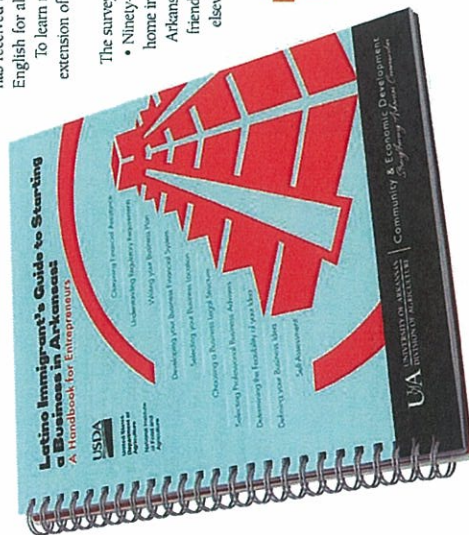
The materials have been shared through the Southern Extension and Research Activity, the New Hispanic South and may lead to "similar research and outreach with other immigrant groups," McCullough said. "In light of the Hispanic entrepreneur workshops we held in Danville, Casey has received inquiries about offering similar training in English for all entrepreneurs."

To learn more about the project, contact your county extension office or visit [www.uaex.edu](http://www.uaex.edu) and ask for MP497.

The survey found:

- Ninety-four percent of all respondents said they felt at home in Arkansas. The primary reason for moving to Arkansas cited by 68 percent was to be near family or friends. Most of those surveyed said that they had lived elsewhere in the United States before coming to

**Based on the survey results, the team created a set of tools that will help entrepreneurs succeed.**

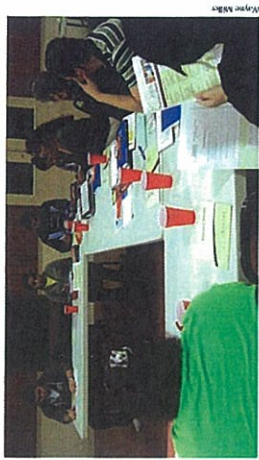


Arkansans. Most, 55 percent, moved from California, while 18 percent migrated from Texas. Twenty-seven percent migrated from a combination of 21 other states.

- Most of the entrepreneurs, 72 percent, migrated to the U.S. from Mexico. According to the survey, Mexicans owned 80 percent of businesses in rural areas and 61 percent of businesses in urban areas. El Salvador had the next largest population with 19 percent of Latino business owners immigrating from the country. Nine percent came from Argentina, Brazil, Colombia, Guatemala, Honduras, Peru, Puerto Rico and Venezuela.

- Most of the Latino entrepreneurs involved in the survey were between 40 and 65 years of age who came from urban communities in their home countries. Most lived elsewhere in the United States before moving to Arkansas, and most have little formal business training for opening their businesses. Thirty percent had previous employment experience in a similar business.

- Other characteristics of Latino immigrant-owned businesses found in the survey were the ownership types and the industry types. The survey found 78 percent of businesses were sole proprietorships, 9 percent were partnerships, 10 percent were corporations and 2 percent were franchises. 70 percent of businesses surveyed fell into two categories of business: retail trade and hospitality and



**TAKING CARE OF BUSINESS** — Spanish speaking entrepreneurs learn the basics about getting a business off the ground in their new country.

food services. More than half — 55 percent — of the businesses surveyed were food related. Thirty-three percent of those were in urban areas and 70 percent were in rural areas.

- The majority of the businesses, 53 percent, have been in business between 1 to 5 years. In rural areas the figure rises to 60 percent, while 35 percent of the businesses surveyed have been in operation five years or longer.



## CAREERS THAT MATTER Advancing Food, Family and the Environment

Our majors prepare students for careers in every facet of the food industry from production to consumption, careers in business and public service serving families and consumers, and careers that advance environmental sustainability.



UNIVERSITY OF  
**ARKANSAS**  
DALE BUMPERS COLLEGE  
OF AGRICULTURE, FOOD  
& LIFE SCIENCES

[bumperscollege.uark.edu](http://bumperscollege.uark.edu)

### Bumpers College Majors

- Agricultural Business
- Agricultural Education, Communication & Technology
- Animal Science
- Apparel Studies
- Biological Engineering
- Crop Management
- Environmental, Soil, & Water Science
- Food, Human Nutrition & Hospitality
- Food Science
- General Human Environmental Sciences
- Horticulture, Landscape & Turf Sciences
- Human Development & Family Sciences
- Poultry Science



# ask the experts

## BUYING ORGANIC

Are consumers willing to pay to purchase organic meats at higher prices?



**A:** Yes, particularly those who habitually buy organic meat. The type of organic label often determines how much more consumers will pay. Our research team surveyed consumers and asked them to make choices in hypothetical situations regarding purchases of chicken, the most popular type of organic meat. We found that they are willing to spend a 35 percent premium for a general organic-labeled chicken breast and would pay a 104 percent premium for a USDA-certified organic-labeled chicken breast. (USDA has specific requirements for production, handling and processing before a product can be certified as organic.)

Our survey indicated that consumers who do not generally buy organic meat products would be unwilling to pay a premium for a meat product with a general organic label. However, when the USDA organic label is present on chicken breast, they are willing to pay a premium of 26 percent. Occasional buyers of organic products would pay a 36 percent premium for a general organic-labeled chicken breast and a 97 percent premium for a USDA-certified organic chicken breast. Habitual buyers of organic products would pay 146 percent premiums for the general organic-labeled chicken breast and a 244 percent premium for the USDA-certified breast, which is close to the current premium charged in the store.

Willingness-to-pay estimates can also provide insights on how consumers value the organic attribute in meat products and can be used to analyze the marketability of the products. More research on this topic is needed, and we are looking forward to opportunities to perform a follow-up study using non-hypothetical methods.

— Ellen Van Loo

## SURVIVING DROUGHT

**Q:** How do I prepare my cattle operation for drought?

**A:** Drought hit many producers hard in 2011, and long-range forecasts for 2012 don't show much improvement. There are some critical actions to take to prep your cattle operation for drought.

- Checking pastures to prevent overgrazing that can lead to reduced cattle performance.
- Being ready to cull non-productive or low performance cattle if the dry weather continues. Record high cow selling prices continue to be a bright spot.
- Planning water supplies for the dry times. Cattle require greater amounts of water during hot weather.
- Weaning spring-born calves early can help reduce a cow's nutritional demands. Remember, it's cheaper to feed a cow and calf separately than it is to feed the cow, which feeds the calf.
- Providing free-choice salt and mineral, even when its dry. Nutrient needs for phosphorus and other minerals and vitamins should be met especially during periods of drought. Provide a good free-choice mineral-vitamin supplement year-round.
- Testing forages. Environmental conditions that retard plant growth often cause excessive accumulation in plants of nitrate and prussic acid. If forage is suspect, have it tested for these poisons. Most common accumulators of nitrates ranked from highest to lowest are weeds, corn, sorghums, sudangrass, cereal grains, tame forage and legumes. Nitrate accumulates primarily in lower stems. Prussic acid accumulates primarily in the leaves.

- Continue to follow recommended guidelines for vaccinating cattle, controlling flies and other external and internal parasites. Herd health becomes more important during times of dry weather.

—Tom Troxel

## PROTECTING THE HARVEST

**Q:** How do I protect my harvested grain from insects?

**A:** Since the dawn of agriculture, farmers have battled again insects to protect the grain they've harvested.

Stored grain pests can cause significant losses to stored grain if left unchecked. Weevils, beetles and some caterpillars will feed on grain during storage. Many of these species live for several months, and some may live for up to two years. The first line of defense against these invaders is placing grain into a clean bin.

An important source of infestations in grain storage facilities is old grain that has been left in or around the bin. Insects can often survive for long periods of time with little moisture or food. Before placing fresh grain into a bin, floors should be swept clean of all old grain. Cleaning efforts should also include spilled grain near the outside of the bin and the augers.

Once all bins and equipment have been cleaned, bin floors and walls should be treated with a residual insecticide just prior to placing fresh grain in the bin. Remember that proper sanitation of bins will go a long way in preventing insects from attacking grain in storage.

— Glenn Studebaker

## WEATHER IMPACTS INSECT POPULATIONS

**Q:** Are there likely to be more insect pests because last winter was so mild?

**A:** There are some winners and some losers in conditions like these. A mild winter will result in a higher population for some insects and reduced populations for others. Insects spend the winter in a state called diapause, which is akin to hibernation in mammals. A mild winter may interrupt diapause, causing some insects to be active and burning stored fat during a period when normal food sources are unavailable, leaving the population weakened or reduced when spring arrives. For some insects, dry conditions may have a bigger impact than a mild winter. Low rainfall amounts may result in fewer mosquitoes and fleas, for example. On the other hand, ticks are well adapted to dry conditions, and we are already receiving more reports of ticks, mostly on pets, than we normally see this time of year. The bottom line is that ticks may be worse this year, while fleas and mosquitoes are fewer because the spring has been dry (as of late May). However, that situation could change quickly if rainfall increases.



— Robert Wiedenmann

## MEET OUR EXPERTS

■ **Ellen Van Loo**, Ghent University, Belgium (formerly University of Arkansas, Fayetteville)

Loo is a former graduate student in the U of A department of food science and the Division of Agriculture Center for Food Safety. She was the lead author of a consumer organic meat products study that was published in the journal *Food Quality and Preference*. She is currently a doctoral researcher in the food consumer science unit at Ghent University in Belgium.

■ **Tom Troxel**, Professor, Associate Animal Science Department Head, Cooperative Extension Service

Troxel has worked with CES since 1992. Some of his major programming areas include the 300 Day Grazing program, Arkansas Beef Quality Assurance program, Arkansas Beef Audit, Livestock Market news and factors affecting the selling price of Arkansas cattle. He is past president of the American Society of Animal Science — Southern Section.

■ **Glenn Studebaker**, Entomologist, Cooperative Extension Service

Studebaker is an extension entomologist based in Keiser. He is editor of *Insecticide Recommendations for Arkansas*, an annual publication used by thousands of producers and consultants across Arkansas and the Mid-South.

■ **Robert Wiedenmann**, Professor and Entomology Department Head, University of Arkansas, Fayetteville

Wiedenmann, professor and head of the entomology department, is an insect ecologist. His research on overwintering and diapause helped explain the success of insects used for biological control of weeds.

## Have a Question for our Experts?

Send questions to:

askexperts@uaex.edu or

ASK THE EXPERTS, Communications, Cooperative Extension Service 2301 S. University Ave., LR, AR 72204

A sampling of questions will be answered in future issues. Questions may be edited for space and clarity.



## end notes

### EHC marks 100 years of service

The Arkansas Extension Homemakers Council commemorated 100 years of education, community service and leadership at its centennial event June 5-7 at the Hot Springs Convention Center. The Arkansas Extension Homemakers Council is a volunteer organization in partnership with the University of Arkansas System Division of Agriculture. The EHC currently boasts over 5,000 members and more than 400 clubs throughout the state.

The three-day event was themed "100 Years of EHC Service from Washboards to Keyboards." Betty Oliver, the Arkansas EHC volunteer coordinator, said the title reflects the changes in society over the past century and how far the EHC has come. "I have seen so much change in this organization," Oliver said, "and it has changed a lot with the times, too."



**CENTURY OF SERVICE** — The Extension Homemakers Council marked 100 years of service and education during a gala celebration June 5-7 in Hot Springs.

The event was marked by a gala, as well as a remembrance of past service by Betty Bumpers, wife of former Sen. Dale Bumpers. Projects discussed included the coordination of immunizations for Arkansas children, building the Girls' 4-H House in Fayetteville in the 1940s and 50s, the gathering and organizing of cemetery records around the state and the work done with Arkansas Children's Hospital over the past century. ■

### Mulberry, the new Edamame Capital of U.S.

Edamame soybeans are being delivered from Arkansas farms this summer to the American Vegetable Soybean and Edamame, Inc., plant in Mulberry, the first such facility in the United States for receiving, processing, packaging and shipping edamame products.

The new plant and the fact that a new edamame soybean variety is named "JA Kirsey" for Mulberry resident Joe Kirsey give this Sebastian County town a claim on the title "Edamame Capital of the U.S."

The 32,000-square-foot facility will have about 40 employees by fall, Kelly Cartwright, AVS chief operating



**EDAMAME PLANT** — Kelly Cartwright, AVS chief operating officer, supervises construction in Mulberry of the first U.S. facility for receiving, processing and packaging edamame vegetable soybeans on a commercial scale.

ing officer, said. JYC International, a major edamame importer based in Houston, is the parent company of AVS and will market Arkansas grown edamame to a large customer base of warehouse club chains and other retailers.

AVS is contracting with farmers to grow 900 acres of edamame in 2012. "We don't see a ceiling on the market," Cartwright said. He said the acreage will likely double in 2013, and he expects it to continue to increase for several years. The 2012 crop includes organic edamame grown in White County. The rest is grown in the Arkansas River Valley.

Joe Kirsey was a state and national soybean industry leader and former president of the



Arkansas

Soybean Promotion Board, which was instrumental in bringing the edamame enterprise to fruition. Division of Agriculture soybean breeder Pengyin Chen, who developed the new variety, also played a leading role along with other Division faculty and staff, JYC International President Gene Chung, the Arkansas Economic Development Commission, Arkansas Development Finance Authority, Winrock International, Arkansas Farm Bureau, U.S. Department of Agriculture and the City of Mulberry. ■

### Decatur producer earns national bermudagrass title

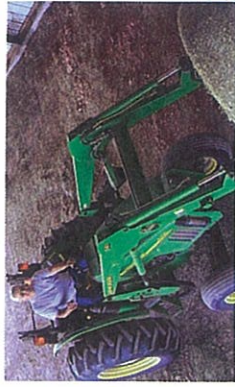
Arkansas has won a 12th straight championship, and it didn't involve a football, basketball, track shoes or even a razorback.

For this year's Bermuda hay contest, the American Forage and Grassland Council hay competition, being part of the state effort to produce the best hay — the Arkansas Quality Forage program — is a family tradition. "We have a generational history," said Dan

Henderson, of Decatur. "My dad was involved way back when they first started this program. He passed away in '04, but I continued so I could keep up with what other folks were doing with their Bermuda and how they were getting the most quality out of it."

Henderson's father was the first Arkansas Quality Forage program grower of the year in 1998.

2012 was the first time the Arkansas Forage and Grassland Council had hosted the contest and American Forage and Grassland Council national field tour. This year also marked the return of the top sample to northwest Arkansas, and another year's peace of mind for Benton County Extension Staff Chair Robert Stacy, who



**PUTTING UP BALES** — Dan Henderson of Decatur was the 2012 winner in the American Forage and Grassland Council's Bermuda hay contest. Henderson's win marks the 12th straight victory for Arkansas in the contest.

confessed to feeling the pressure when seeing some of the out-of-state entries.

However, when it came down to the analysis of nutritional value, "Arkansas growers ended up winning first, second and third," Stacy said. "I can quit sweating now." ■

### 2012 Rice Expo brings the outside in at Grand Prairie Center

The 2012 Arkansas Rice Expo, set for Friday, Aug. 3, will give a whole new twist to the field day, bringing the outside, inside. Last year's field day drew more than 1,000 people with presentations, activities and demonstrations for the whole family, topped off by a barbecue lunch — and that was in spite of 100-degree temperatures.

This year, the 63,000-square-foot Grand Prairie Center in Stuttgart will serve as the hub of activities for the Rice Expo, offering something for everyone in air-conditioned comfort. Opened in April 2011, the center features two salons that hold 420 and 210 people each; a catering kitchen; an outdoor cooking pavilion; four classrooms; four meeting rooms that can seat up to 30 people; and a 750-seat auditorium that can expand to 1,500 seats. There is plenty of parking.

Of course, the Rice Expo isn't forgetting its

roots — there will still be tours of the Rice Research and Extension Center facilities and experiment plots that are the heart of this event, with tours beginning at 9 a.m. and running through 11:30 a.m. Shuttle buses will leave from the Grand Prairie Center and the tours will run every 30 minutes.

This year's expo will feature horticulture guru Janet Carson, plus nearly a dozen "virtual field tours." These video tours are to be shown in the center's auditorium. "This will be unlike any field day we've ever had," said Chuck Wilson, director of the Arkansas Rice Research and Extension Center.

"We'll have all the features of our regular field day, plus the comfort of air conditioning." ■



**HOT TOURS** — 2011 Rice Expo attendees braved the heat to attend plot tours, activities and demonstrations. The 2012 event will be held in air-conditioned comfort.



Arkansas  
**Land & Life**

Communications  
Cooperative Extension Service  
2301 South University Avenue  
Little Rock, Arkansas 72204

ADDRESS SERVICE REQUESTED

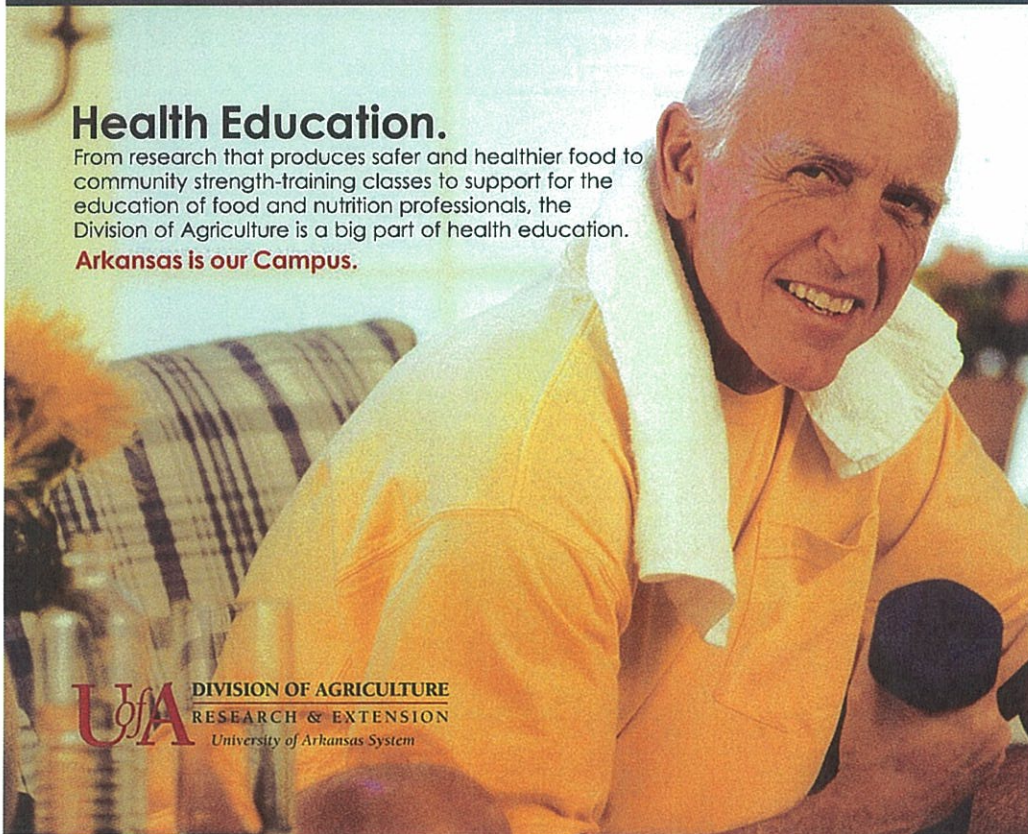
Non-Profit Org  
US Postage  
**PAID**  
Print Group Inc



## Health Education.

From research that produces safer and healthier food to community strength-training classes to support for the education of food and nutrition professionals, the Division of Agriculture is a big part of health education.

**Arkansas is our Campus.**



**U of A** DIVISION OF AGRICULTURE  
RESEARCH & EXTENSION  
University of Arkansas System