





Improving Life in Arkansas, the Nation and the World



SAFHS 2017-2018 Annual Report

SAFHS Interim Dean/Director's Message



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UNIVERSITY
of ARKANSAS
AT PINE BLUFF
1873

School of Agriculture, Fisheries and Human Sciences

The University of Arkansas at Pine Bluff School of Agriculture, Fisheries and Human Sciences (SAFHS) is excited about opportunities in 2018! At SAFHS, we take seriously our responsibility as an 1890 land grant institution to improve the quality of life for people in Arkansas, the nation and the world through education, research, Extension and public service with an emphasis on rural development.

We are revitalizing our regulatory science bachelor's degree program at our North Little Rock site with expanded course offerings to allow students to complete their degree in North Little Rock. SAFHS researchers have attracted new grant funds and launched new projects to positively impact lives in the Arkansas Delta and beyond.

After consulting with regional employers, the Department of Human Sciences is developing a new degree option in nutrition and food science. It will provide students with job skills to match area employment opportunities. The Aquaculture/Fisheries Department continues generating exceptional research that promotes and increases the profitability of the aquaculture industry in Arkansas. Also, two of the department's faculty have been elected to important leadership roles in the American Fisheries Society which provides research that helps grow and protect Arkansas wild fish populations.

The Department of Agriculture continues to reduce the impact of disease on important Arkansas crops such as rice and sweet potatoes through research and its Foundation Seed Sweetpotato Program. Students in our 4-H, summer high school AgDiscovery and study abroad programs participate in experiential learning activities that enrich their understanding of the impact of agriculture on their lives. Outreach activities like the Annual Rural Life Conference and Agriculture Field Day impact all residents of the Delta by providing up-to-date information to improve their lives.

At SAFHS, excellence is the expectation. SAFHS's emphasis on rural development improves the quality of life for people in Arkansas, the nation and the world. We wish you a happy, healthy and prosperous 2018!

PARTNERSHIP ENSURES SOCIALY DISADVANTAGED HOMEOWNERS RECEIVE NEEDED HOME REPAIRS

Many socially disadvantaged individuals in southeast Arkansas need to make improvements to their homes. These individuals – many of whom are elderly – live in counties with high poverty rates, with 25 to 51 percent of the African-American populations in poverty. Some of the home improvements required include new roofs, new heating and cooling units, handicap-accessible ramps and the remodeling of bathrooms and kitchens. The USDA Rural Development (RD) Agency operates a housing program for rural communities, but it does not have an office in every county. Some people are not able to drive to the RD area offices located throughout the state, are not aware of available housing programs and need assistance in completing housing applications.

UAPB's Small Farm Program and RD partnered to reach more families in four counties in southeast Arkansas. UAPB worked with the regional RD office to conduct informational housing outreach meetings and provide housing application assistance. They also assisted elderly individuals in obtaining bids for their housing work.

As a result of the partnership, RD provided approximately \$250,000 in housing grants (504 Grant Program) and \$500,000 in housing loans (502 Housing Loan Programs) to socially disadvantaged individuals in southeast Arkansas. Many program participants installed new roofs, received new central heating and air units and remodeled their kitchens. One 107-year-old participant received a wheelchair-accessible ramp and new lights for her mobile home.



GLOWING FISH SHINE LIGHT ON FISH STOCKING SUCCESS

Stock enhancement is the process of raising fish in a hatchery and releasing them to a body of water to add to existing fish populations or create a population where one previously did not exist. For decades, the marking of fish has been used to determine the success of stocking programs in recreational waters. Researchers have commonly used a chemical that produces fluorescent marks on the internal bony structures of fish. Because workers can never be sure if they are netting a marked fish in the field, they must spend many hours in the lab, dissecting sampled fish and examining their bones to determine if they were part of the stocking program.

Researchers at UAPB are testing the application of calcein, a fluorescent dye that produces visible external marks on fish, as a potential substitute for traditional chemicals. After being marked with calcein, crappie were stocked in eight Arkansas reservoirs, which were later sampled to determine the survival rate of stocked fish.

UAPB researchers found that the use of calcein allowed for near real-time estimates of stocking success since the marks are visible on the surface of the fish for at least a year. Sampling a population of the dye-marked fish took only a day or two, as opposed to the hundreds of hours required to analyze fish marked with traditional chemicals in the lab. Additionally, instead of being sacrificed, the sampled fish can continue to contribute to the fishery.



NATURAL PRODUCTS MAY OFFER SOLUTION FOR PARASITE PROBLEMS IN SHEEP, GOATS

Sheep and goats suffer from a blood-sucking parasitic worm that is developing resistance to all chemical dewormers available in the U.S. On many farms, total failure of chemical dewormers is possible in the future. Death losses could be as high as 20 percent of a flock or herd, which would put sheep and goat producers out of business.

Sheep and goat producers are turning to “natural” products to control parasites because of the failure of conventional dewormers, as well as the desire to raise animals naturally or organically. Because little is known about how well natural dewormers work, SAFHS researchers are investigating the effectiveness of natural dewormers. Research will focus on the potential of diatomaceous earth, black walnut hull, fineleaf fumitory, willow and cinnamon oil as natural dewormers.

Identification of effective natural dewormers will slow development of parasite resistance, provide natural parasite control alternatives to farmers and increase farm profitability by opening organic and natural marketing channels while keeping costs low. Farmers may even be able to produce natural dewormers cheaply on their own farms.



SWEETPOTATO FOUNDATION SEED PROGRAM INCREASES FARMERS' PROFITS

An increasing market demand for sweetpotatoes in Arkansas has led to a greater need for high-quality, disease-free planting material. In the past, Arkansas producers endured high transportation costs to access planting material from neighboring states. With availability dependent on the demand within these states, Arkansas farmers sometimes experienced compromised quality of the materials received and delays in planting.

The UAPB Sweetpotato Foundation Seed Program is helping farmers alleviate this problem by providing virus-indexed planting materials grown at UAPB to farmers in Arkansas. During the 2016 and 2017 planting seasons, the program delivered over 100,000 virus-indexed cuttings (slips) and over 2,100 pounds of seed stock to the industry.

With access to quality planting materials within the state, Arkansas farmers have reduced their transportation costs and are now able to raise their crop on time, thus capitalizing on premium early season prices. The lower cost of production and higher prices have led to increased profits. As health-conscious consumers continue to boost sales of fresh sweetpotatoes, as well as processed products such as sweet potato chips and fries, the regional market is benefitting from the increased participation of local farmers.



STUDENTS GAIN PROFESSIONAL EXPERIENCE, CONFIDENCE AT INTERNSHIPS

While theoretical learning in the classroom is essential to academic success, college students also benefit from engaging learning activities in the world of work. Potential employers prefer graduates who have hands-on professional experience.

To help students understand how classroom learning applies to their future careers and provide them with the work experience so highly sought by employers, the UAPB Merchandising, Textiles and Design (MTD) Program requires students to gain six university credit hours – or 225 clock hours – at an internship to complete their degrees. In 2017, two students completed internships at the Arts and Science Center for Southeast Arkansas, where they taught local youth about textiles and fashion design. In the past, MTD students have pursued internships with local clothing retailers, designers or events such as the annual Little Rock Fashion Week.

The responsibilities of an internship allow students to put knowledge gained in the classroom into practice, as well as meet professional expectations. The experience prepares them to interact with diverse audiences in various work environments. Internships can have a profound effect on students by giving them confidence in their ability to do good work, expose them to new ideas and opportunities and connect them to others in the community in a productive way.



4-H STUDENTS LEARN LEADERSHIP THROUGH COMMUNITY SERVICE

Helping youth think critically to identify ways they can give back to their own communities is an important tenet of 4-H programming. When students have the opportunity to address challenges in their communities, they develop confidence and the skills necessary to become future community leaders.

To build their leadership skill set, 4-H members from Quest Middle School in Pine Bluff traveled to Washington, D.C. to participate in Citizen Washington Focus, a weeklong leadership training experience for 4-H youth. In addition to working with other students from across the country to draft bills, write laws and debate timely agricultural issues, they were challenged to put their new leadership competence to the test and create step-by-step action plans to address important issues in their own community.

The students came up with ways to assist the people most in need in Pine Bluff, including the city's homeless population. They developed a plan to volunteer with various local organizations including St. Peter's Catholic Church, which operates a soup kitchen on Saturdays, Neighbor to Neighbor, a food pantry that serves lunch to the needy on a daily basis, and the Salvation Army, which provides emergency assistance. They also proposed hosting a donation drive in which they will collect donations of blankets and books for distribution to clientele at the various centers.



UAPB DELEGATION PROVIDES VEGETABLE PRODUCTION ASSISTANCE TO FARMERS IN NIGERIA

As part of the Global River Basin Initiative, the UAPB Office of International Programs and the Department of Agriculture work to enhance the livelihoods of small farmers and rural communities in the Niger River Basin in West Africa. Partner institutions in the region asked UAPB for agricultural assistance in response to recent difficulties growing certain vegetable crops due to a pervasive nematode infestation endemic to and exacerbated by the region's tropical climate and soil conditions.

A UAPB delegation traveled to Nigeria to establish farm demonstration sites that included vegetable production in protective, covered environments. They also installed equipment used to sanitize soil for vegetable production and taught local farmers alternative production techniques. During UAPB demonstrations, the farmers were introduced to the fundamentals of hoop house production at the village level.

While many tomato crops across northern Nigeria were devastated by the outbreak of the *Tuta absoluta* pest epidemic, partner institutions learned that tomatoes produced in protective, covered environments were less susceptible to infestation. Despite losing an initial crop due to other production factors, program partners and small farmers were able to regroup and successfully brought a second tomato crop to production, which generated income from local sales. Leaders at partner institutions gained valuable skills in managing hoop house structures and developed sustainability plans to incorporate in upcoming phases of the project. Partner institutions in Nigeria continue to produce crops through the use of high tunnel structures based on these plans.



UAPB PROGRAM HELPS PARENTS GAIN EDUCATION, EMPLOYMENT OPPORTUNITIES

Child care is costly and parents with little or no education, particularly beyond high school, cannot afford the cost of child care in addition to rent and utilities. Low income parents in Arkansas are better able to continue their education, seek gainful employment and maintain a higher standard of living when they can afford dependable child care services.

In its third year of implementation, the UAPB Early Head Start-Child Care Partnership provides full-day, full-year comprehensive services that aim to meet the needs of low-income working families. Each year, child care services support the development of 88 infant-toddlers through strong relationship-based experiences that prepare them for the transition to preschool. The project has helped four parents complete their high school proficiency exam. Eighteen parents have enrolled in college, while two parents received associate's degrees and two received four-year bachelor's degrees. One parent completed a program to become a certified nursing assistant.

Parent participants have reported they are in a better position to secure higher-paying jobs and relocate to more adequate housing. With the program currently at full enrollment, Arkansas families are taking advantage of the opportunity to work or continue their education with the peace of mind that their children are being adequately prepared for preschool and beyond.



UAPB YOUTH OUTREACH BOOSTS ARKANSAS FISHING INDUSTRY

According to the U.S. Fish and Wildlife Service, approximately 555,000 people, 16 years old and up, fished in Arkansas in 2011 with expenditures totaling \$496 million. One of the keys to maintaining this healthy industry is the recruitment and retention of youth anglers.

Since its creation in 2011, the UAPB Fishing Team has hosted many youth fishing activities to encourage the continued growth and stability of fishing in Arkansas and to recruit for UAPB.

The Arkansas Collegiate Series, hosted in 2016 by the UAPB Fishing Team, attracted 92 students (up 16 percent from 2015) from 13 institutions (up 86 percent from 2015) in Arkansas, Missouri and Texas. The series hosted three qualifier tournaments and a two-day championship, with an average attendance of 59 students per tournament. The net economic benefit to the state was \$22,892 to \$34,407. The ratio of return to the economy on UAPB's investment was \$38 to \$57 for every \$1 invested. All 31 participants surveyed stated they enjoyed the tournaments, and 42 percent said they would fish less often without the availability of tournaments. Increased fishing opportunities boost sales of fishing licenses and profits for the fishing industry and local business, while the involvement of youth in affordable tournaments ensures the retention of more anglers.



RECOGNITION OF SAFHS IMPACTS, ACHIEVEMENTS FORGES PARTNERSHIPS, GROWS CONSTITUENT BASE

Educational, research and Extension activities conducted by SAFHS are diverse and impact the state, nation and world. The School's programming prepares students for rewarding careers, delivers cutting-edge research to policy makers and better the lives of Arkansas families. Public recognition of SAFHS achievements and activities is essential to strengthen the bonds between the School and its public, private and government partners, and to ensure the recruitment and retention of tomorrow's leaders.

The SAFHS communications office creates awareness and informs constituents of the School's achievements and innovations through publications, reports, news releases, photographs, public service announcements and social media. In addition to its news function, the office supports outreach efforts of SAFHS faculty and personnel through the production of exhibits, newsletters, posters and illustrations, as well as the nuts-and-bolts components of School events such as PowerPoint presentations, invitations, nametags, place cards, vinyl signs, tickets and banners.

During the last academic year, more than 150 news releases and feature stories, many with photographs or graphics, were distributed to local, area and national media. Social media presence resulted in a 20 percent increase in those who follow SAFHS news on Facebook. Milestones include the following:

- Total page likes: 861 (up 21 percent from July 2015 to June 2016).
- Total likes and shares of SAFHS posts in the past academic year: 12,000.
- Greatest number of individuals who saw SAFHS posts in their newsfeed within one month: 18,000.



NUTRITION PROGRAMS ADDRESS OBESITY RATES IN ARKANSAS

Arkansas faces a big challenge when it comes to obesity in the state. According to research by the Trust for America's Health and the Robert Wood Johnson Foundation, Arkansas has an adult obesity rate of 34.5 percent – the sixth highest obesity rate in the nation.

Two nutrition education programs at UAPB seek to address Arkansas' high obesity rates. The Expanded Food and Nutrition Education Program and the Supplemental Nutrition Assistance Program Education are federally funded projects that target low-income communities. Poor nutrition and limited physical activity are major health concerns for this audience. Both programs aim to help participants make healthy food choices and adopt active lifestyles consistent with the Dietary Guidelines for Americans 2015-2020, published by the U.S. Department of Health and Human Services.

During the 2017 program year, the SAFHS nutrition programs reached over 2,400 adults and 8,000 youth in Arkansas through educational classes, food demonstrations, food tastings and exhibits. These efforts have helped participants increase their consumption of fruits, vegetables and whole grains, add more physical activity to daily routines and make improvements in food safety practices.



FORESTRY PROGRAM KEEPS FAMILY LAND SUSTAINABLE, PROFITABLE

African-American forestland owners operate many acres of unimproved forestland in Arkansas. Most of these producers lack training in forest management, and only a limited number of educational forestry programs are conducted annually. A large amount of African-American-owned forestland remains unimproved because of a lack of forest management education, as well as a lack of knowledge about U.S. Department of Agriculture (USDA) financial assistance programs that can help property owners install forestry improvement practices. Legal issues regarding their property can complicate matters for these landowners, as land without clear titles and with multiple owners is difficult to manage, ineligible for USDA financial assistance programs and subject to a partition land sale.

The UAPB Small Farm Program, in cooperation with local and state partners, received a three-year grant to assist minority landowners improve their forestland. The project provides both direct and group forest management education, USDA forestry financial assistance program information and direct assistance in solving their property problems.

After one year of project activities, 11 landowners obtained forest stewardship plans, and seven obtained forest management plans that identified management practices needed to improve their forestland. Sixteen landowners were assisted during two legal clinics in which four individuals were assisted in developing wills. Fifteen forestland owners were preapproved for \$161,000 in Environmental Quality Incentive Program conservation funds to improve their land.

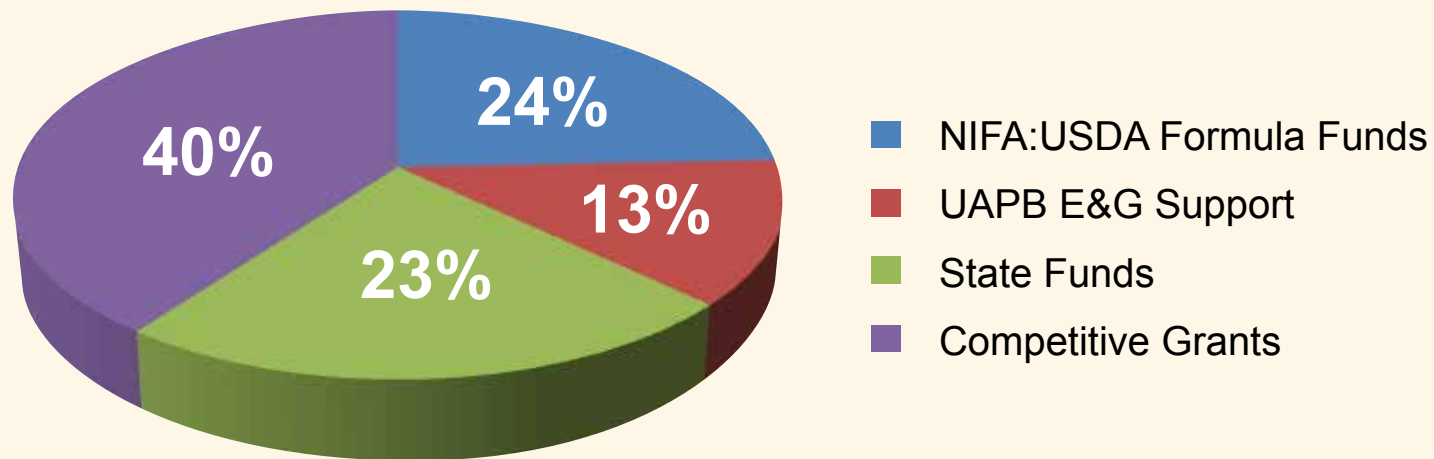


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