

Institutional Information Request Form

Southern Region: Value of Extension Services and Experiment Stations

The Battelle Memorial Institute is working with the leadership of the *Association of Southern Region Extension Directors* and the *Southern Association of Agricultural Experiment Station Directors* in producing analysis and a high-profile report on the special value of extension and experiment stations in the development of the 21st Century agbioscience economy. Each of the land grant universities in the 13 state and 2 U.S. territory southern region is collaborating in performance of this important project.

For each of the land-grant institutions participating in this project, Battelle is requesting information, data, project examples, etc. that will help illustrate the value of experiment stations and extension services. Completion of this information request is an important step in the information gathering required for this project. We are requesting that at each institution, the Experiment Station Director and the Extension Director **jointly** complete each section to the best of your collective ability. Note that within this form, Agbiosciences includes all aspects of agricultural, environmental, and biological sciences; as well as forestry, fisheries, wildlife, agro-tourism, and recreation; which are within the purview of the experiment station and/or extension service. Also, if you have additional supporting documents, reports, statistical summaries, etc. that you believe would be helpful to this project please forward them to the consulting team at Battelle together with your completed form. The form is set-up using MS-Word tables so you can type directly into the table boxes.

Please return the completed form to Simon Tripp at Battelle via email to triggs@battelle.org If you have questions please direct them to Simon at:

Simon J. Tripp
Senior Director
Battelle Memorial Institute
Technology Partnership Practice
6 Jaycee Drive
Pittsburgh, PA 15243
412-276-1986
Cell: 412-523-6895
triggs@battelle.org

Section 1: Institutional Profile

<i>University Name</i>	University of Arkansas Division of Agriculture
<i>Extension Service Director (name, phone, email)</i>	Dr. Tony Windham 501-671-2001 twindham@uaex.edu
<i>Experiment Station Director (name, phone, email)</i>	Dr. Clarence E. Watson 479-575-8703 cwatson1@uark.edu

Personnel

<i>Number of Personnel in Extension (FTE)</i>	631
<i>Number of Personnel in Experiment Station (FTE)</i>	554

** Please do not include student employees, graduate assistants or temporary personnel*

Section 2: Income/Revenue Sources

Income Source	2011 \$ Income Received by Extension	Funding Trend for Past 3 Years	2011 \$ Income Received by Experiment Stations	Funding Trend for Past 3 Years
Federal Formula Funds	\$6,459,679	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$4,582,697	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
State Appropriations	\$31,069,696	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$36,838,808	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Local Government Appropriations (Counties, etc.)	\$2,912,870	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$0	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Federal Grants and Contracts	\$4,107,757	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$9,935,437	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
State Grants and Contracts	\$161,845	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$361,289	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Local Grants and Contracts	\$0	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$0	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Industrial Grants and Contracts, including grants and contracts from commodity groups	\$2,493,939	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$7,767,705	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Foundation Grants and Contracts	\$0	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$0	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
All Other Grants and Contracts	\$502,792	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$0	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Sales of Products and Services	\$2,900,056	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$4,554,709	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Intellectual Property Revenues	\$0	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$185,148	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Gifts	\$447,443	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$2,602,967	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Other	\$551,129	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$825,122	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
TOTAL	\$51,607,207	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$66,947,282	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing

Are these income/revenue numbers based on a cash or accrual accounting basis? Accrual

Income Trends:

During the past five years, what trends have been observed in the funding for extension and experiment station activities? What are key funding challenges? Where have the most notable funding declines or increases occurred?

1. In Arkansas Funding for Research and Extension has been stable at the state level and we have seen a small increase in federal capacity funds (i.e., Hatch, Smith-Lever, McIntire-Stennis, and Animal Health).
2. Major funding challenges for the future include:
 - Increased operating costs (e.g., salaries, benefits, utilities, supplies, etc.) with little or no increase in appropriated funds.
 - Increased competition for state appropriations due to decreased federal funding for state programs such as Medicaid.
 - Competition with academic units that have tuition revenue. AES and CES are often challenged to match tuition-funded raises from colleges on faculty with joint appointments.
 - Greater reliance on competitive grants with increased competition for those grant funds.

Section 3: Research and Extension Activities

Key Initiatives, Institutes and Programs:

Please provide a description of FIVE key centers, institutes, programs or initiatives that are true signatures of experiment station and extension work at your institution. Here we are looking for descriptions of initiatives, centers, programs, etc. for which your university is internationally or nationally well-recognized as a leader.

1. **Rice Research and Extension Program** – Arkansas is the leading producer of rice in the United States and the Division supports research and extension programming to support the industry addressing production, soil fertility, plant breeding and genetics, pest management, water management, engineering, economics, post-harvest processing, and value added. The Division conducts basic and applied rice research and education programs to develop solutions to help rice producers and processors remain competitive and economically and environmentally sustainable. <http://www.aragriculture.org/rice.htm>

<p>2. John W. Tyson Center of Excellence for Poultry Science, a comprehensive research, teaching, and Extension effort addressing all components of the poultry industry. The Center develops knowledge and intellectual capacity to meet the needs of poultry production/ processing/ marketing firms to help them remain competitive in a global economy. The Center addresses the needs of society regarding issues such as food safety and security, human nutrition, animal health and well-being, and environmental stewardship. http://poultryscience.uark.edu/ http://poultryscience.uark.edu/4533.php</p>
<p>3. Southern Region Risk Management Education Center (SRMEC) - to empower individuals in the Southern region involved in agricultural production, financial, legal, and human resource risks.) http://srmec/</p>
<p>4. National Agricultural Law Center - The center sponsors objective and authoritative agricultural and food law research and provides bibliographic and other resources on agricultural law. The center disseminates findings through seminars, publications, newsletters, website and webinars. Center staff members are frequent speakers at events for producers, Extension personnel, lawyers and state and federal policy-makers nationwide. http://www.nationalaglawcenter.org/</p>
<p>5. Herbicide-Resistant Pigweed Education – comprehensive research and extension effort aimed at managing and responding to a rapidly evolving and major group of <i>Amaranthus</i> weeds, resistant to glyphosate and other herbicides. http://www.aragriculture.org/weeds/herbicide_resistance.pdf http://arkansasagnews.uark.edu/6581.htm</p>

Special Research and Extension Infrastructure

Please provide a description of FIVE special assets or infrastructure investments that support agbioscience and related development at your institution. Examples might include pilot plant facilities, unique scientific research infrastructure, biosecurity facilities, camps, etc.

<p>1. Soil Test Laboratory (Mariana, AR) - The mission of the Soil Test Laboratory is to provide accurate and timely soil analyses and unbiased nutrient management guidelines that are based on the best available science. Soil tests are free to Arkansas producers through support from the Arkansas fertilizer check-off. http://www.uark.edu/depts/soiltest/NewSoilTest/index.htm</p>
<p>2. Veterinary Diagnostic laboratory (Fayetteville, AR) - provides reliable, consistent and timely results for animal disease diagnostic services, health monitoring programs, and authorized USDA testing programs. http://vdl.uark.edu/</p>
<p>3. Rice Processing program (Fayetteville, AR) - conducts basic and applied research to improve efficiency and effectiveness of current processing operations, as well as to provide fundamental information to be utilized in the development of new products and processes. The ultimate goal is to enhance the quality and value of rice and rice products. The research scope ranges from property characterization at harvest to assessment of consumer preferences of processed rice; emphasis areas include: pre-harvest property measurement, drying, storage, milling, quality assessment, and cereal chemistry of rice and rice products. . http://uarpp.uark.edu/index.htm</p>

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| <p>4. Poultry Pilot Processing Plant (Fayetteville, AR) - The 10,000-square-foot pilot processing plant is used for teaching processing techniques and for on-going food safety research projects. The primary and further processing areas allow commercial groups and students access to all areas of modern poultry processing. http://poultryscience.uark.edu/4536.php</p> |
| <p>5. The John Kirkpatrick Skeeles Poultry Health Laboratory (Fayetteville, AR) - The 12,000-square-foot Poultry Health Laboratory is capable of the highest bio-safety rating (P3) of any university laboratory dedicated to poultry research. http://poultryscience.uark.edu/4540.php</p> |

Most Notable Assets, Centers, Programs or Initiatives by Category

For each of the areas of focus listed below, please provide what you consider to be the top TWO most notable strengths (programs, assets and infrastructure, centers, etc.) of your institution :

Plant Sciences, Crop Science, Plant Genetics and Agronomy

- | |
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| <p>1. Rice Research and Extension Program - Arkansas is the leading producer of rice in the United States and the Division supports research and extension programming to support the industry addressing production, soil fertility, plant breeding, pest management, engineering, economics, post-harvest processing, and value added. The Division conducts basic and applied rice research and education programs to develop solutions to help rice producers and processors remain competitive and economically and environmentally sustainable. http://www.aragriculture.org/rice.htm</p> |
| <p>2. Herbicide Resistant Weed Management - comprehensive management and response to a rapidly evolving and major group of <i>Amaranthus</i> weeds, resistant to glyphosate and other herbicides. http://arkansasagnews.uark.edu/6581.htm
http://www.aragriculture.org/weeds/herbicide_resistance.pdf</p> |

Animal Sciences, Animal Health, Livestock

- | |
|--|
| <p>1. John W. Tyson Center of Excellence for Poultry Science - a comprehensive research, teaching, and Extension effort addressing all components of the poultry industry. The Center develops knowledge and intellectual capacity to meet the needs of poultry production/ processing/ marketing firms to help them remain competitive in a global economy. The Center addresses the needs of society regarding issues such as food safety and security, human nutrition, animal health and well-being, and environmental stewardship. http://poultryscience.uark.edu/</p> |
| <p>2. 300 Days of Grazing - A model farm demonstration of practices to manage pastures and the herd to extend the number of on-farm grazing days to at least 300 days and reduce expense associated with forage harvesting and storage. The system reduces expenditures for cutting, storing and feeding hay. It includes the practice of stockpiling fall pasture growth for winter grazing.
http://arkansasagnews.uark.edu/3916.htm
http://beefmagazine.com/pasture-range/grazing-programs/grazing-project-shows-how-to-cut-feed-costs</p> |

Food Science, Food Product Development, Advanced Nutrition and Health Products

- | |
|--|
| <p>1. Rice Processing program - conducts basic and applied research to improve efficiency and effectiveness of current processing operations, as well as to provide fundamental information to be utilized in the development of new products and processes. The ultimate goal is to enhance the quality and value of rice and rice products. The research scope ranges from property characterization at harvest to assessment of consumer preferences of processed rice; emphasis areas include: pre-harvest property</p> |
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measurement, drying, storage, milling, quality assessment, and cereal chemistry of rice and rice products. <http://uarpp.uark.edu/index.htm>

2. **Sensory Science Laboratory** - maintains professional descriptive panels for profiling food products for appearance, aroma, flavor, and texture; conducts consumer testing; and Preference Mapping/Modeling to provide directions in the optimization of food products.

<http://www.uark.edu/ua/sensory/services.htm>

Food Safety and Biosecurity-SORTOR

1. **National ServSafe program for food service workers** - Extension FCS offered and delivered the national ServSafe program for food service workers. There were 337 participants in the ServSafe program with 271 being certified. This is a partnership with the Arkansas Restaurant and Hospitality Association. http://www.arfamilies.org/health_nutrition/food_safety/serv_safe/serv_safe.htm

2. **Center for Food Safety** - Develop technologies and methodologies for rapid detection and identification and control of food-borne pathogens, toxins and chemicals in food that impact food safety and quality (bacterial and viral pathogens, spoilage microorganisms, chemical residues, bacterial and fungal toxins. <http://cfs.uark.edu/>

Industrial Bioeconomy, Biofuels, Biobased Chemicals, Biobased Materials and Fibers

1. **Mid-South/Southeast BioEnergy Consortium** - Growth, adaptation, and nutrient use of grasses (e.g. switchgrass) for biofuel production, and conversion of woody (cellulosic) plant material to biofuel. <http://www2.astate.edu/dotAsset/226113.pdf>

2. **Center for Agricultural and Rural Sustainability (CARS)** - is an interdisciplinary effort to increase prosperity for rural Arkansas through sustainable practices. The Center seeks to balance the demands of community, agriculture and ecosystems in order to meet the needs of current generations while enhancing the opportunity for future generations to meet their needs. <http://www.uark.edu/ua/cars/>

Environmental Sciences, Natural Resources, Sustainability

1. **Arkansas Discovery Farms** - monitoring of water quality on different types of farms and education concerning water quality and nutrient management from various agricultural production systems. The program assesses the need for Best Management Practices related to water conservation, as well as reduction of nutrient and sediment loss. Within the program, a partnership is formed among public and private sectors and agricultural and natural resource communities. <http://watersustainability.wordpress.com/agriculture/arkansas-discovery-farms/>

2. **N-STaR (Nitrogen Soil Test for Rice)** – implementation of a novel soil test for rice to increase efficiency of nitrogen fertilization and reduction of nitrogen fertilizer to the environment. This technology is the first and only site-specific test of mineralizable soil nitrogen as a basis for nitrogen fertilizer recommendations in any crop. http://aes.uark.edu/NSTAR_video.html

Agritourism and Recreational Hunting and Fishing

1. **Reintroduction of Elk** – Elk have been successfully reintroduced to Arkansas. Currently, there are approximately 500 elk in the vicinity of the Buffalo National River in Northwest Arkansas and in six counties in the state. Through the reintroduction of elk, an herbivore has resumed an important role in the maintenance of the natural state's ecosystems and provides recreational value to the citizens of Arkansas. <http://biggame.cast.uark.edu/elk/>

2. **Agritourism education** – The University of Arkansas Division of Agriculture, inclusive of both research and extension, was one of the founding organizers of the Arkansas Agritourism Initiative. This is a multi-agency collaborative that works together to support the agritourism industry in Arkansas. Other members include the Arkansas Department of Parks and Tourism, Arkansas Farm Bureau, Arkansas Agriculture Department, National Agricultural Law Center, and University of Arkansas Winthrop Rockefeller Institute. By leveraging our collective assets, we are able to dynamically meet the needs of agritourism operators in our state through cross-referrals and collaborative research and programming evidenced through activities such as conferences, workshops, publications, and grant-funded research projects.
<http://www.aragriculture.org/agritourism/default.htm>

Family Development

1. **Child Care Provider Education Program (Best Care, Best Care Connected, Guiding Children Successfully)** – A program partnership with Arkansas Department of Human Services to provide statewide training to child care workers. During 2011 4,301 child care professionals successfully completed 29,006 hours of training. http://www.arfamilies.org/child_care.htm
- 2.

Youth Development

1. **4-H ATV Safety Program** is a program through Extension that deliver rider course safety to youth across the state. Grant funding provided through National 4-H Council, Arkansas Attorney General's Office and Arkansas 4-H Foundation. A strong partnership exists with Arkansas Children's Hospital. Trained instructors reached and certified 167 youth and adults through the 4 hour ASI RiderCourse. http://www.kidsarus.org/kids_go4it/safety/atv/default.htm
- 2.

Community and Economic Development

1. **UA Division of Agriculture's Public Policy Center** - provides Arkansans with research-based, non-partisan analyses and evaluation of public policy issues. The Center's goal is to increase citizens' awareness and knowledge of policy and to enhance their participation in the decision making process. The Public Policy Center has a track record of providing citizens with nonpartisan and easy-to-read descriptions of important policy issues, including potential state laws that appear on Election Day ballots. The Public Policy Center has access to University of Arkansas faculty for research assistance and peer review of work put out by the Center.
2. **Stronger Economies Together (SET)**. The SET program is a national initiative sponsored and funded by USDA Rural Development in Washington and the four Regional Rural Development Centers, who are working with land-grant university partners, like the University of Arkansas. SET was initially launched in 2010 and is now in place in nearly 40 regions in 19 states.

SET is a research based outreach program focused on helping multi-county regions work together in developing and implementing an asset based strategic plan. The SET strategy is a shift from older and increasingly ineffective economic development models focusing on rural industrial attraction. It emphasizes economic development as process depending on rural and metro counties working together as regions to assess, design, and implement plans that build on their assets and comparative economic strengths.

Benefits to clusters of counties participating in the SET program include:

- More than 35 hours of step-by-step training to guide production of a practical and viable regional economic development plans
- In-depth data tailored to the region, describing its current and emerging clusters, comparative economic advantages, and detailed demographic and socio-economic information
- Tools to uncover local assets and resources that can advance the region’s economic strategies
- Up to 40 hours of technical assistance from Extension educators, USDA RD state staff and the Regional Rural Development Centers to guide the implementation of regional goals and strategies
- Opportunities to apply for a special assistance grants to support more advanced regional data analyses or to connect with those with specialized expertise needed to reach your regional goals

Other, including multi-focus:

1. Arkansas Master Gardeners – one of the largest and most successful Master Gardener programs in the nation http://www.arhomeandgarden.org/master_gardener.htm

2. Arkansas Disaster Education Network. Our disaster education network is emerging primarily from needs in the state of Arkansas, but it has been assisted by the availability of funding from FEMA and from USDA Smith-Lever Special Needs Funding. FEMA had already provided funding to the University of Arkansas and the Southern Rural Development Center to develop educational materials for disaster awareness and preparedness. During the spring of 2011, County Agents trying to cope with tornadoes and flooding in AR turned to U of A CED and Communications for assistance in providing educational materials on disaster preparedness and recovery in their counties. At that point, we received \$60,000 from Smith-Lever to address flooding issues and disaster education in Arkansas. We also worked closely with our Communications Department, who released more than 50 news stories and press releases about extreme weather and its consequences. The disaster response and resources pages on the UA CED website recorded over 4000 hits since last spring. We have started forming cooperative relationships with other Arkansas organizations involved in disaster management. In addition to our Federal partners (including the Extension Disaster Education Network), we are currently working with the Arkansas Department of Emergency Management, the state offices of the USDA agencies, and Presbyterian Disaster Assistance. We are in the process of becoming involved in Arkansas VOAD which will help us develop cooperative relationships with Red Cross, the Salvation Army and other volunteer agencies within the state.

Intellectual Property

	2009	2010	2011
<i># of Invention Disclosures</i>	16	18	11
<i># of [US] Patents Applied For¹</i>	10	12	10
<i># of Patents Awarded²</i>	2 US	3 US, 1 foreign	2 US, 1 foreign
<i># of Licenses Executed</i>	56	54	24
<i># of Business Start-Ups</i>	1	0	0

¹ We defined “# of Patents Applied For” as number of first in family applied for. (Similar to AUTM’s definition.) If you need foreign applications, please advise.

² We separated awarded US patents from foreign.

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# of Plant Variety Protection Certificates Applied For	2	4	0
# of Plant Variety Protection Certificates Awarded	0	0	0
\$ Value of Income received from Plant Variety/Germplasm Development	\$427,096.26	\$252,855.40	\$421,094.79
\$ Value of Income received from all other Intellectual Property	\$418,438.23	\$409,768.84	\$344,042.41

Company Spin-Offs and Commercialization

Please provide examples of any start-up companies located in your state or the southern region that resulted from research discoveries, innovations or technologies developed at your institution in the past 10 years:

1. Pacific Vet Group –A startup company based on University licensed technology which develops, manufactures, and markets a line of direct-fed microbial products, including a lactic acid bacterial probiotic and a neonatal nutritional product. PVG products are used by poultry producers around the world, particularly those raising antibiotic free poultry, those interested in Salmonella control, and those looking for reductions in necrotic enteritis losses.
2. BlueInGreen – Start-up company marketing a patented technology that employs supersaturated dissolved oxygen or ozone (SDOX®) for remediation of impacts from point and non-point pollution, for providing refuge for critical species, and for enhancing ecological services. http://www.blueingreen.com/2011/06/sdox-technology-by-scott-osborn/
3. American Vegetable Soybean and Edamame, Inc. - The AES and CES assisted in the creation of the edamame soybean industry in Arkansas during 2010 – 2012 including the release of ‘Kirksey’ an edamame-type soybean variety. http://arkansasagnews.uark.edu/6331.htm http://arkansasagnews.uark.edu/6997.htm

High Impact Innovations and Technology Development

Please provide FIVE examples of innovations or technology developments that have had a substantial impact on the field of agbioscience and/or associated agbio industries in the past 10 years. Examples might include crop varieties with enhanced yield characteristics, new processes or technologies introduced that significantly enhance productivity in industry, etc.

1. Small-fruit breeding program. Internationally recognized for developing cultivars with traits for commercial operations. This program has resulted in 16 blackberry (including 3 Prime-Ark® Primocane - Fruiting Blackberries), 12 table grape, 2 blueberry, 10 peach, 3 nectarine, and 4 ornamental <i>Prunus</i> varieties. The program generates approximately \$250,000 in royalties annually http://www.araagriculture.org/horticulture/fruits_nuts/default.htm
2. BlueInGreen – Patented technology that employs supersaturated dissolved oxygen or ozone (SDOX®) for remediation of impacts from point and non-point pollution, for providing refuge for critical species,

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and for enhancing ecological services. http://www.blueingreen.com/2011/06/sdox-technology-by-scott-osborn/
3. Poultry Vaccines – novel poultry vaccines developed by UA Division of Agriculture Poultry Center of excellence faculty. http://arkansasagnews.uark.edu/6488.htm
4. Rice varieties ‘Wells’ and ‘Francis’ – popular varieties which occupied a significant market share http://www.aragriculture.org/crops/rice/Publications/wells.pdf http://newswire.uark.edu/article.aspx?id=9892 http://www.aragriculture.org/crops/rice/PerfTrials/arpt0911.pdf http://aaes.uark.edu/pdf_files/RREC_News-W09-R.pdf
5. ‘UA-48’ cotton variety – exceptionally high fiber quality combined with high yield http://aaes.uark.edu/UA48.html

Additional comments or items of note regarding experiment station and extension impacts:

We assisted in the re-emergence of the peanut industry in eastern Arkansas 2010 – 2012.
 We have provided novel remote sensing/GIS management information for watersheds in the state.

Section 4: Extension Service Programs

Statistics: please provide basic metrics and statistical information for extension:

Metric	Number
<i>Number of county/parish offices</i>	82
<i>Number of multi-county/multi-parish regional offices</i>	0
<i>Number of major 4H camps</i>	0
<i>Number of 4H participants</i>	134,000
<i>Number of contacts with clients recorded by extension for the most recently completed year (include professional and volunteer contacts)</i>	2,996,002.00 contacts 56,682.00 Volunteers TOTAL = 3,052,684
<i>Number of volunteers for the most recently completed year and number of hours volunteered</i>	56,682.00 Volunteers 671,574 Hours

Please provide selected examples of notable/high impact projects or programs of extension that you would like considered for inclusion within the Battelle report. Please give consideration to including both rural and urban programs.

Business Development Programs/ Impacts

- Arkansas Procurement Assistance Program (APAC)** - APAC is a counseling and support organization that helps Arkansas businesses negotiate the complex processes of bidding for and successfully fulfilling the obligations of contracts with public agencies and organizations. The program of APAC is accomplished through a grant with the Defense Logistics Agency and support from the UA Division of Agriculture’s Extension Community and Economic Development unit.
- Hispanic Entrepreneurship Project** - Our Hispanic Entrepreneurship project identified barriers faced

by Latino entrepreneurs in starting and managing their businesses and then developed training and resource materials to assist Latino entrepreneurs overcome many of these obstacles. The training and resource materials were used to conduct three pilot workshops for Latino entrepreneurs in two rural Arkansas communities. Thirty-five Hispanic entrepreneurs participated in the workshops and many have either developed proposals to start a new business or implemented changes in their current business to make them more competitive. In addition the workshops provided an opportunity for local officials and Hispanic entrepreneurs to meet and discuss the opportunities and concerns in starting and growing their businesses. As the Hispanic population continues to grow, Hispanic entrepreneurs can play a key role in helping revitalize local economies in Arkansas.

Community Development Programs/ Impacts

1. **LeadAR** - LeadAR is a statewide leadership development modeled on the Kellogg Foundation's Rural and Agriculture Leadership Development model. LeadAR began as a program sponsored by Kellogg and the UA Division of Agriculture Cooperative Extension Service. The program is beginning the selection process for its 16th class. LeadAR has an alumni base of more than 450 people living and working within Arkansas, nationally and internationally. The program boasts an endowed base of approaching a quarter million dollars and annual developmental support from alumni and class participants exceeding \$50,000. The LeadAR Program curriculum consists of eleven in-state seminars on topics ranging from education and criminal justice to forest resources and agriculture. The curriculum also includes a national study tour to Washington D.C., an exchange with another state leadership program and an international study tour. Graduates have found their way into leadership roles ranging from business and civic organizations, local quorum courts and city councils and to the Arkansas Legislature.

Family and Consumer Science Programs/ Impacts

1. In 2011, with a budget of \$343,979 for all three programs, 4,301 child care professionals successfully completed 29,006 hours of training, a calculated cost of \$11.86 per training hour. *With an estimated value of \$25 per training hour, our child care professional training programs saved Arkansas child care professionals \$725,150 in training costs in 2011.

2. More than 2000 individuals indicated that they increased their knowledge of personal financial management practices by participating in Extension programs including Navigating Your Financial Journey, Coupon College, Stretch Your Dollar, and more. Nearly 800 program participants reported making at least one positive change in their money management practices. Specific educational efforts focused on helping consumers to make the most of their household food budgets.

3. The nationally recognized Strong Women program was delivered to 40,840 Arkansas participants. Results indicated that:

- 65% improved upper body strength
- 65% improved lower body strength
- 60% improved balance
- 59% improved upper body flexibility

4. The UACES offered the 15-week Reshape Yourself program in eight counties in FY11. Participants learned to plan balanced diets based on MyPlate, balance calorie intake with calorie expenditure, read food labels, determine which foods are high in calories and fat, find enjoyable ways to be physically

active and many more ideas for maintaining a healthy weight. Two hundred and forty Arkansans participated in the Reshape Yourself program. The 154 graduates lost a total of 944 pounds. The average weight loss per graduate was 6 pounds.

79% of participants decreased body weight

69% of participants reported an increase in walking activity

49% of participants asked about or screened reported decreased blood pressure

42% of participants asked about or screened reported decreased blood cholesterol

20% of participants asked about decreasing medication reported their doctor had reduced or eliminated prescribed medication as a result of lifestyle changes made

Among those who reduced medications, an average of \$50 was saved per month.

5. SNAP-Ed programs were conducted at 451 locations throughout the state, including public schools, Head Start schools, senior centers, food banks, commodity distribution sites, shelters, DHS offices, WIC offices and grocery stores. Parents in 16 counties whose children participated in school-based nutrition projects were surveyed to determine if the SNAP-Ed program was reaching parents through children.

Parents surveyed reported the following:

81% reported their child talked to them about healthy foods and snacks.

74% reported their child asked for more or different fruits, vegetables, milk, or yogurt.

64% made changes in their family's eating and/or were more physically active.

Of families that made changes:

66% consumed more fruits and vegetables.

62% were more physically active.

Adults and youth were surveyed to determine if changes in behavior were made after participating in SNAP-Ed. Adults surveyed reported making the following changes:

74% reported they increased knowledge/skills related to food, nutrition and/or food resource management.

70% reported increased ability to balance calories from food and beverages with calories expended.

69% reported they intend to adopt one or more healthy food/nutrition/food resource management practice.

69% reported eating more fruit.

65% reported eating more vegetables.

64% reported eating more whole grains.

63% reported adopting one or more food resource management practice.

Of youth surveyed that made changes:

51% reported they eat nearer to the recommended number of cup equivalents from the fruit group most days.

48% reported they eat nearer to the recommended number of cup equivalents from the vegetable group most days.

44% reported they eat nearer to the recommended number of cup equivalents of low fat or fat free foods from the dairy group most days.

44% reported increasing physical activity by 30 minutes or more per week.

38% reported they eat nearer to the recommended number of ounce equivalents of whole grains most days.

Walk Across--Arkansas program included 3,285 participants walking a total of 618,151 miles. Improvements in health and well-being were reported as positive outcomes. Based on research stating that 1,000 steps taken saves \$1 in healthcare costs, participants contributed to a potential healthcare savings of \$61,815 in 2011.

The Arkansas Extension Homemakers Council is one of the largest nonprofit volunteer groups in the state with a membership of 6,000. Collectively, Arkansas Extension Homemakers contributed 348,694 volunteer hours in 2011 in direct support of Extension programs; indirect service through community projects; service learning to support the delivery of programs; and support through boards, committees, commissions, and advisory councils. Based on hourly rates, the result is an economic impact of \$8.7 million to Arkansas.

4-H and Other Youth Development Programs/ Impacts

Due to the work of the Arkansas 4-H ATV Safety educational program, in 2011 over 9,515 individuals have been exposed to the 4-H ATV Safety message. This extraordinary effort has resulted in 167 youth and adults participating in the 4 hour ASI RiderCourse and becoming certified safe riders through the Arkansas 4-H ATV Safety Program. Media efforts, including television, radio, and print, have helped us reach an audience of over three million. Numerous partnerships have been established with groups such as Arkansas Children's Hospital, state agencies, ATV dealerships, and other businesses and organizations to help deliver the program.

Other high impact/notable Extension programs

1. Working with the Hospital Industry – This program works with rural hospitals to assist them with identifying and illustrating the economic contribution of their hospital to the local rural economy. Easy access to good health care, including hospitals are critical to the viability and growth of rural communities. In addition to the health care services that hospitals provide, they provide jobs and income that help support the local economy. Many rural hospitals have used the information about the economic contribution of their hospital to garner additional local support to maintain and enhance the local hospital.

2. Working with the Retiree Relocation Industry – This program works with the retiree relocation industry in Arkansas to assist them identify the amenities desired by retirees wishing to relocate and to illustrate the economic and fiscal benefits to the state and local communities from in-migrating retirees. The state and local Arkansas communities benefit from well-educated and wealthy retirees who often use their experience and expertise to the benefit of schools, social service organizations and civic groups. They also contribute to the local economy through their construction of new homes and purchases of goods and services. Retirees also make substantial contributions to local governments and schools through their payment of property and sales taxes.

Additional comments or items of note regarding extension:

What diagnostic or other service facilities are operated by extension? What is the annual volume of business in number of clients and dollars?

Plant Health Clinic (Extension, AAREC Fayetteville) – provides free diagnostic services to the public for plants and processes about 3000 samples (2550 individuals) per year. Commercially, sample diagnosis averages \$55.00 each. <http://www.aragriculture.org/diseases/clinic/>

The Plant Nematology Diagnostic Laboratory (Extension, SWREC Hope) – provides diagnostic services to the public and industry with regard to plant nematodes and processes up to 4000 samples (1100 individuals) per year at \$17.00 per sample. This facility also provides phytosanitary analysis of rice grain samples for export from Arkansas. http://www.aragriculture.org/nematodes/nematode_clinic.htm

Section 5: Off-Campus Experiment and Extension Stations, Research and Extension Farms, and Outlying Research and Extension Centers

Please provide a listing of your off-campus agricultural experiment and extension station locations, including those near the main campus but not on campus, and other key research and extension locations across the state where faculty conduct research and/or extension activities, together with key characteristics or focus areas of each. *Note: please cut and paste table as needed to create enough entry places for all of your experiment station sites.*

Station 1.

<i>Station name</i>	Rice Research and Extension Center
<i>Location (zip code)</i>	Stuttgart, AR 72160
<i>Size (acres)</i>	1,022
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	Rice Breeding, Rice Production (agronomy, economics, irrigation, entomology, physiology, pathology), Foundation Seed (rice, soybeans, wheat)
<i>Notable or unique characteristics or assets</i>	10 research and extension faculty are located at this station.
<i>Number of personnel</i>	44

Station 2.

<i>Station name</i>	Northeast Research and Extension Center
<i>Location (zip code)</i>	Keiser, AR 72351
<i>Size (acres)</i>	750
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	Cotton, soybean, corn, rice, sorghum, and wheat research Notable characteristics = Three research and extension faculty located at Center. In addition to the Keiser station, the Center provides administrative support of the Lon Mann Cotton Research Station and the Judd Hill Cooperative Research Station.
<i>Notable or unique characteristics or assets</i>	
<i>Number of personnel</i>	20

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Station 3.

<i>Station name</i>	<i>Southeast Research and Extension Center</i>
<i>Location (zip code)</i>	<i>Monticello, AR 71656</i>
<i>Size (acres)</i>	<i>300</i>
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	<i>Pest Management, Beef, Agronomy, Horticulture</i>
<i>Notable or unique characteristics or assets</i>	<i>Cutting edge work on resistant pigweed. Quality beef and forage research. Home of Heirloom tomato project.</i>
<i>Number of personnel</i>	<i>15</i>

Station 4.

<i>Station name</i>	<i>Southwest Research and Extension Center</i>
<i>Location (zip code)</i>	<i>Hope, AR 71801</i>
<i>Size (acres)</i>	<i>1100</i>
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	<i>Small farms, Beef cattle, Horticulture, Plant Pathology, Forestry</i>
<i>Notable or unique characteristics or assets</i>	<i>Seventy-five years of un-even aged management of loblolly pine. Response of beef cattle to forage management. Adaptability of horticulture crops to deep south climate. Arkansas State Nematode Diagnostic Clinic.</i>
<i>Number of personnel</i>	<i>24</i>

Station 5.

<i>Station name</i>	<i>School of Forest Resources – UA Monticello</i>
<i>Location (zip code)</i>	<i>Monticello, AR 71656</i>
<i>Size (acres)</i>	<i>N/A</i>
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	<i>Forestry, Wildlife Management, Spatial Information Systems</i>
<i>Notable or unique characteristics or assets</i>	<i>Only forest resources program in the State of Arkansas</i>
<i>Number of personnel</i>	<i>34</i>

Station 6.

<i>Station name</i>	<i>Southeast Research Station</i>
<i>Location (zip code)</i>	<i>Rohwer, AR 71666</i>
<i>Size (acres)</i>	<i>826</i>
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	<i>Primary Mission is Applied Agricultural Research in</i>

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poultry, crop demonstration, etc.)	Soybeans, Corn, Grain Sorghum, Cotton, Rice and BioEnergy Crops. We focus heavily on Irrigation Methods, Timing and Techniques on various soil types; Fertility in both Macro and Micro nutrient levels; Weed Resistance; New and Improved methods for Pesticides; Plant Breeding and Genetics; Variety Testing; and Agronomic Aspects conducive to New Crops related to BioEnergy in region of the state.
Notable or unique characteristics or assets	<p>Leading Station in Resistance Herbicide Weed Management. Nearly 100 studies addressing various aspects of herbicide resistance with a heavy focus in New Technologies such as Dicamba resistance and a strong emphasis on Soil Seedbank Management. This has led to a zero tolerance acceptance and is being adopted Nationwide through education.</p> <p>One of the Leading Stations in Irrigation Techniques and Methods in Soybeans. Arkansas Growers have relied on the Irrigation Scheduling Program for more than 2 decades to effectively irrigate crops in the region. This work continues to improve with New studies that have a focus on new methods that are more user-friendly and can cover broader areas.</p> <p>Leading Station in BioEnergy Crops. We have 6 Faculty working on New Crops that have a fit on Marginal Soils in Southeast Arkansas.</p>
Number of personnel	10

Station 7.

Station name	Lon Mann Cotton Research Station
Location (zip code)	Marianna, AR 72360
Size (acres)	655
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	Research on cotton, soybean, corn, sorghum and wheat.
Notable or unique characteristics or assets	Centrally located in the Delta on prime delta soil with irrigation capabilities.
Number of personnel	11

Station 8.

Station name	Pine Tree Research Station
Location (zip code)	Colt, AR 72326
Size (acres)	11,880
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	Corn, Forestry, grain Sorghum, Rice, Soybeans, switchgrass, & Wheat research. Produce foundation Wheat & Soybeans
Notable or unique characteristics or assets	Designated as a wildlife demonstration area with the Arkansas Game & Fish.
Number of personnel	13

Station 9.

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Station name	Vegetable Research Station
Location (zip code)	Alma, AR 72921
Size (acres)	87
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	Vegetable Research to include breeding programs, herbicide and insecticide studies. Row crop research on edible and conventional soybeans as well as wheat. IR-4 Research Center for Region 4 Southern Region.
Notable or unique characteristics or assets	Deep sandy loam soil with overhead irrigation on all parts of the Station
Number of personnel	6 - Three professional Three classified

Station 10.

Station name	Livestock and Forestry Research Station
Location (zip code)	Batesville, AR 72501
Size (acres)	3,031 acres consisting of 1281 acres of grazing and hay production and 1,750 acres of timberland.
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	Beef cattle research – stocker and cow/calf research. Forage research management. Forestry research, management and demonstrations.
Notable or unique characteristics or assets	Largest beef cattle research operation in the Division of Agriculture with approximately 325 brood cows, plus all replacements, bulls and 600-800 stocker calves maintained annually. Replicated stocker calf receiving pens for health and supplement trials. Established long and short term pine plantations with improved pine seedling genetics.
Number of personnel	10

Station 11.

Station name	Fruit Research Station
Location (zip code)	Clarksville, AR 72830
Size (acres)	210
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	Fruit Research & Breeding. Working mainly with blueberries, blackberries, peaches, grapes and muscadines.
Notable or unique characteristics or assets	Largest blackberry breeding program in the world.
Number of personnel	10

Station 12.

Station name	AR Agricultural Research and Extension Center
Location (zip code)	Fayetteville, AR 72701
Size (acres)	4,253
Key focus area(s) (e.g.	Animal, Poultry, and Crop sciences, Horticulture, Plant Pathology,

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<i>poultry, crop demonstration, etc.)</i>	<i>Entomology, Agri Education, Crop Variety Improvement, Bio and Agri Engineering, Food Science and Watershed Studies.</i>
<i>Notable or unique characteristics or assets</i>	<i>Animal Science Arena, Alzheimer Lab, Poultry Health Lab, Food Science Department, Watershed Research and Education Center, Animal and Poultry Processing units, Veterinary Diagnostic Lab.</i>
<i>Number of personnel</i>	<i>Full time 195, Part time 62, Total 257</i>

Station 13.

<i>Station name</i>	Newport Research Station
<i>Location (zip code)</i>	Newport, AR 72112
<i>Size (acres)</i>	470
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	<i>Corn, soybeans, wheat, and weed resistance research.</i>
<i>Notable or unique characteristics or assets</i>	<i>Quail habitat restoration and demonstration area</i>
<i>Number of personnel</i>	1

Station 14

<i>Station name</i>	Lonoke Extension and Research Center
<i>Location (zip code)</i>	72086
<i>Size (acres), including owned and long-term leased land</i>	45 acres including leased land at the UAPB Center 4 miles away for weed science work.
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	Central equipment, field lab, pesticide storage, and applied research center with UAPB leased land nearby dedicated to weed science applied research in rice and soybean production.
<i>Notable or unique characteristics or assets</i>	
<i>Number of personnel (FTEs)</i>	10

Additional comments or items of note regarding off-campus experiment and extension stations, county offices, etc.:

Cooperative Extension Faculty conduct applied research and collaborate heavily with all research and extension centers, including field day and tour support and publicity.

More information on research stations available at : <http://aes.uark.edu/researchlocations.html>

Section 6: Industry Partnerships

Please provide a description of FIVE notable partnerships that your experiment station and/or extension service has with industry. Examples might include a joint engineering center with an agricultural equipment manufacturer, plant breeding or transgenics programs with seed companies, bioprocess development with chemical or biofuels companies, food product development with food manufacturing companies, etc.

Provide details on companies, groups of companies, commodity groups etc. worked with, key results achieved and thoughts on benefits provided.

<p>1. Rice Processing Program Industry Alliance – This partnership brings together industry leaders in rice processing and marketing to share information to improve efficiency and effectiveness of current processing operations, as well as to provide fundamental information to be utilized in the development of new products and processes. The ultimate goal is to enhance the quality and value of rice and rice products. http://uarpp.uark.edu/partnerships.htm</p>
<p>2. Ozark Food Processors Association (OFPA) - organization to support food processors, suppliers and associated industries in the Ozark region and surrounding areas. The OFPA works to enhance and promote the food processing industry by providing the science, technical expertise, and programs that support member companies in assuring the safety, quality, and nutrition of products; and provide a source of well-trained personnel. http://ofpa.uark.edu/</p>
<p>3. Center for Agricultural and Rural Sustainability (CARS)/Field to Market: The Keystone Alliance for Sustainable Agriculture - Field To Market (FTM) is a diverse alliance of agricultural industry leaders working to create opportunities across the agricultural supply chain for continuous improvements in productivity, environmental quality, and human well-being to create sustainable outcomes for agriculture. CARS has worked closely with FTM to develop metrics for assessing progress in improving sustainability in agricultural industries. http://www.uark.edu/ua/cars/</p>
<p>4. Cooperative Extension faculty provide education programs to poultry integrators including Tyson, George’s, Cargill, Cobb-Vantress, etc. on management, biosecurity, food safety and other issues in a collaborative and industry supported framework. http://www.aragriculture.org/poultry.htm</p>
<p>5. Rice, Soybean, Corn and Sorghum, and Wheat Promotion Check-offs – these groups support applied research and education to the Division through approximately \$6-7 million in grants each year.</p>

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What areas of R&D at your institution do you believe hold the most promise for increasing industry engagement in the next five years?

Water Quantity and Quality
Herbicide and Fungicide Resistance
Soil Fertility
Crop Protection Product Application Technology
Food Safety
Genetic Technology/Plant Breeding
Poultry
Rice Processing
Sustainability
Specialty crops
bioenergy

What agriculture, forestry, fisheries or wildlife and natural resource-related industries do you expect to see grow in the southern region during the next five years?

Forestry (timber, pulp, biomass)
Water (quality quantity, recreational use)
Wildlife (hunting, fishing, preservation)

Additional comments or items of note regarding industry partnerships:

We must learn to work more effectively with Agricultural industries in the future for our mutual benefit.

Section 7: Regional Cross-Institutional & Governmental Partnerships

Please provide a description of FIVE projects, initiatives, centers or programs, etc. that your experiment station and/or extension service is engaged in together with other institutions in the southern region. Examples might include joint initiatives in biofuels development, food safety, biosecurity, rural economic development, etc.

1. **South Central Sun Grant Center** – A regional bioenergy consortium (OK, TX, AR, KS, LA, NM, CO, MO) <http://sungrant.okstate.edu/>
2. **Rice Technical Working Group** – Regional rice workers association consortium (AR, TX, LA, MS, CA, MO) <http://rtwg.aristotle.net/>
3. **Southern Region Risk Management Education Center** - The Center coordinates risk management education programs throughout the southern region primarily through a regional competitive grants program (AL, AR, GA, FL, KY, LA, MS, NC, OK, SC, TN, TX, VA, PR, VI) <http://srmecl/>
4. **Discovery Farms** – the **Arkansas Discovery Farms** program is part of a national effort for monitoring water quality on different types of farms and education concerning water quality

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and nutrient management from various agricultural production systems. (AR, ND, WI, MN, et al.)
<http://watersustainability.wordpress.com/agriculture/arkansas-discovery-farms/>

5. **SPDN/NPDN Southern Pest Detection Network/National Pest Detection Network** based on Plant Health Clinic and Nematology Diagnostic Laboratory <http://www.sepdn.org/>

What federal agencies do you partner with on major joint projects and programs? Please list the top 3 federal initiatives you are engaged with.

USDA-NIFA – Agricultural and Food Research Initiative Grant
USDA-ARS – Dale Bumpers Rice Research Center – Stuttgart, AR
IPM Education thru the Federal Regional IPM Centers –USDA-NIFA

What state agencies do you partner with on major joint projects and programs? Please list the top 3 state agency initiatives you are engaged with.

Arkansas Department of Agriculture and State Plant Board
Arkansas Natural Resources Commission
Department of Social Services

What do you believe are some of the unique assets of the southern region that make it particularly well-suited to leadership in the 21st Century agbioscience economy?

Crop and livestock diversity
Longer growing season
Excellent river transportation system and port facilities
Diversity of production systems
Abundant water resources
Highly developed livestock industries
Strong Research-Extension partnerships
Balanced research portfolio (applied vs. basic)
High proportion of arable land

A history of the southern states working on needs-based programming (multi-state programming) 1890 and 1862 program outreach exists primarily in the southern states.

Additional comments or items of note regarding **potential or existing partnerships** with other institutions across the southern region:

Specialty Crops
Dairy
Water Quality in the lower Mississippi River basin

Soil fertility sustainability in alluvial production areas
 Gardening
 Biomass production for biofuels
 Crop variety testing

Section 8: Education and Human Capital Development

Student Population

<i>Number of students graduated in most recent year with Bachelor's degrees in related field of study</i>	345
<i>Number of students graduated in most recent year with Master's degrees in related field of study</i>	72
<i>Number of students graduated in most recent year with Doctorate degrees in related field of study</i>	22
<i>Number of students graduated in most recent year with Associates or other less than baccalaureate qualifications in related field of study</i>	0

Education and Training Programs

In a science and knowledge-driven economy, skilled human capital is a critically important asset for our states. Please provide details pertaining to education and skills development in the sections below:

New or innovative education programs or degree programs developed (for example: bioprocessing or biorefinery operator training, biosecurity training, education programs in new fields such as functional foods, nutraceuticals, etc.)

Continuing education programs or training for producers or industry

*Arkansas Crop Management Conference;
 Arkansas Master Gardeners;
 Poultry Industry Short Courses*

Professional Certification Programs

Hazard analysis and critical control points (HAACP) – food safety training

*SERVSafe Program Certification for Agents
 Child Care Provider Training hours provided through CES*

Leadership training, including civic, commodity, government, youth, etc.

*EXCEL- Leadership Training program conducted through 4-H programs
 LEAD 21 – Training for agricultural leadership in the Land Grant System*

Entrepreneur training and other special training or education initiatives

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Youth entrepreneur camp and trainings

Youth entrepreneur camp and trainings

Edamame Production

Peanut Production

Small Ruminant Production

Tree Fruit and Nut Production

High Tunnel Production

Market Maker

National defense, including National Guard, training or educational initiatives

Arkansas National Guard Business Development Team Training in 2009 and 2010

Arkansas and regional reserve Army training for Afghanistan in June 2012

K-12 specific educational programs and initiatives

Additional comments or items of note regarding education and training:

Section 9: Into the Future

What key challenges does your institution face in the future:

Top 5 key challenges for the Experiment Station in your state

1. Program funding needed to maintain capacity
2. Keeping current on technology (expense and rapid change)
3. Recruitment/retention of quality faculty
4. Maintaining our network of off-campus sites (budget)
5. Governmental policies/regulations that affect the industry (e.g., Farm Bill, EPA)

Top 5 key challenges for the Extension Service in your state

1. Too much information available with no quality control
2. Stable and Adequate Funding
3. Public Awareness and Understanding of Agriculture, Science and Extension
4. Consolidation of Ag Industries
5. Rapid social, economic and technological change

What emerging opportunities or trends do you see impacting your institution:

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Top 5 emerging opportunities and trends for the Experiment Station

1. <i>Biotechnology of plants and animals</i>
2. <i>Food Safety</i>
3. <i>Water quality and quantity related issues</i>
4. <i>Poultry production</i>
5. <i>Urban Agriculture</i>

Top 5 emerging opportunities and trends for the Extension Service

1. Sustainable agricultural production (herbicide resistance, soil fertility, etc)
2. Water Quality (nutrient management)
3. Plant and Animal Health
4. Ag Awareness and Young People
5. Genetic Technology

For the southern region overall, what do you see as the top five challenges/issues moving forward

1. Climate variability
2. Food safety (on-farm production)
3. Soil fertility
4. Water and environmental quality and protection
5. Public perception and understanding of agriculture, science and land grant institutions

What are the top five differentiating factors of the southern region in agriculture, agbiosciences, community/family/youth development, etc. What makes the region unique or provides key comparative advantages.

1. Climate and climate variability
2. Crop and livestock production diversity
3. Longer growing season
4. Abundant water resources
5. Strong Land Grant tradition and commitment to agriculture

Section 10: Interview Suggestions

Battelle would like to interview some key stakeholders (outside of the land-grant institutions) across the southern region to discuss their perspective on the importance of extension and agricultural research. Please provide the names and contact information for three individuals who you would suggest for interviewing in your state:

<i>Name</i>	<i>Title</i>	<i>Organization</i>	<i>Telephone</i>	<i>Email</i>
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<i>Ewell Welch</i>	<i>Executive Vice President</i>	<i>Arkansas Farm Bureau Federation</i>	<i>(501) 224-4400</i>	<i>ewell.welch@arfb.com</i>
<i>Rich Hillman</i>	<i>Vice Chairman</i>	<i>Arkansas Rice Research and Promotion Board</i>	<i>(870) 552-1002</i>	<i>richreh@centurytel.net</i>
<i>Debbie Moreland</i>	<i>Program Administrator</i>	<i>Arkansas Association of Conservation Districts</i>	<i>(501) 682-2915</i>	<u><i>Debbiepinreal@aol.com</i></u>

Section 11: Additional Comments

Please provide any additional comments, information, data, case-studies, impact assessment results, etc. that you feel may be useful or relevant for inclusion in this project and resulting report:

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