From the Dean and Director

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Act of August 7, 1914, as amended, Kansas State University, County Extension Offices, the United States Department of Agriculture Cooperative Extension Service, and United States Department of Agriculture Cooperating. John D. Floros, Director.

2015 sees us moving forward to address five grand challenges that directly or indirectly affect all Kansans: global food systems, water, health, developing tomorrow’s leaders, and community vitality. We aren’t going to solve these challenges alone. By developing partnerships within Kansas, across the United States, and internationally, we are educating and working with the next generation of students, learners, and extension educators. The new ideas and knowledge developed through research and extension will be used to solve the five grand challenges.

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Districting Offers Kansas Counties New Partnership Opportunities

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Research and Extension Facilities Across the State

Headquartered in Manhattan, K-State Research and Extension includes statewide county and district offices, research centers, and experiment fields supported by county, state, federal, and private funds. K-State Research and Extension supports faculty in more than 20 academic departments across five K-State colleges plus the K-State Olathe campus.

Investing in Research and Extension Benefits Everyone in Kansas

Kansas Dollars for Agricultural Research and Development

Average annual return $10.2% $33.6

Long-term benefit-cost ratio

Studies for Kansas have shown a long-term benefit-cost ratio of $33.60 for agricultural research, yielding a 10.2 percent average annual rate of return to agricultural productivity that can be directly correlated with in-state investment.

www.ksu.edu/challenges

From the Dean and Director

2014 saw the celebration of the 100th anniversary of the Cooperative Extension Service, which is our partnership with the national government, all state and territorial land-grant universities, and local county governments. The Cooperative Extension Service uses an exemplary system to share new research and knowledge with the citizens of Kansas, the United States, and the world. Extension activities are conducted by dedicated faculty, staff, and volunteers in local offices across our great state and nation. K-State Research and Extension is a success story we must continue to celebrate for the next 100 years.

Our Vision

By 2025, K-State Research and Extension will be one of the world’s top destinations for education, research, and extension.

Our Mission

We are dedicated to a safe, sustainable, competitive food and fiber system and to strong healthy communities, families, and youth through integrated research, analysis, and education.

Making a Difference for Kansans

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

January 2015

K-State Research and Extension

www.ksu.edu/challenges
Why K-State Research and Extension is a trusted source to help find solutions for these five grand challenges

We have:
- statewide network to share unbiased information,
- expertise on topics important to Kansas, and
- established local, state, regional, national, and international partnerships.

Knowledge for Life

Global Food Systems

As the world’s largest employer, agriculture drives the Kansas economy. In 2013, the agriculture sector contributed $53 billion and 37 percent of the state’s gross regional product. The Kansas agricultural sector also supported 256,000 jobs andSaga $25 billion worth of goods making agriculture the leading export category in 2013. We are improving food and agricultural systems to feed the world’s growing population, while well economically benefit Kansas.

What We Are Doing

- Developing and testing new crop, vegetable, and tree varieties that are suited to the Kansas climate.
- Reducing food waste caused by insects, poor storage, and processing techniques.
- Creating sustainable agricultural systems that internally productivity.
- Helping farmers to manage cattle rangeland threatened by variations in climate.
- Leading national and international teams to solve global food issues.
- Helping families stretch their food dollars.

Results

- Provided technical expertise to 532 contacts with 142 different companies and 86 additional entrepreneurs in 2013 through the Kansas Value-Added Foods Laboratory.
- Developed a recipe for a novel product, which was planted on more Kansas acres in fall 2013 than any other variety.
- Used foliage supplies and supplemental ingredients to develop cattle feed rations that significantly saved Kansas ranchers on average $1,100 each.

Water

Water quality in central and eastern Kansas is an important issue. Current irrigation trends could double the amount of water used in irrigating crops, drastically affecting the Kansas economy. Sediment and air are also the major environmental risks from agriculture to water and recreation to many Kansans. Researchers and extension specialists are tackling these very important issues.

What We Are Doing

- Developing and testing new crop varieties that can be used for human and pet food, livestock feed, and fuel.
- Developing new efficient irrigation and water monitoring systems for home and farm use.
- Reducing runoff and sedimentation into reservoirs.
- Improving livestock genetics to increase feeding efficiency, which reduces feed and water needs.
- Working with the State of Kansas and partnering with stakeholders to develop a new 50-year water plan.

Results

- Subsurface drip irrigation uses up to 25 percent less water than traditional irrigation methods and helps address water issues throughout the state.
- Developed technology to schedule irrigation, determine which crops to plant, predict crop yield, and evaluate fuel costs.
- Educated landowners on how to reduce runoff and protect surface water that supplies drinking water to just over 60 percent of Kansas.

Health

Thirty percent of Kansas adults are obese, and 19 percent of Kansas children live in poverty. Targeting the diversity of Kansas counties requires addressing quality of life, healthy development, and health behaviors across life stages for all socioeconomic groups.

What We Are Doing

- Identifying and implementing practices to help prevent adult and childhood obesity.
- Providing resources to help families and practitioners understand health care choices for elderly Kansans.
- Sharing unbiased information about national changes in health care regulations and their impacts.
- Educating consumers on safe food handling with food preparation, food preservation, food service, and more.

Results

- Walk Kansas, an eight-week program to increase exercise and improve nutrition,创造了 positive results for more than 10,000 Kansans annually.
- In 2013, senior citizens saved more than $3 million in prescription drug costs using educational programs.
- More than 6,000 Medicare participants saved an average of $1,025 per person through Senior Health Insurance Counseling for Kansas.
- Trained 355 Kansas in ServSafe Food Service Manager and 738 Food Handler classes.

Devising Tomorrow’s Leaders

The complex global society of the future will require leaders with effective teamwork and communication skills. What We Are Doing

- Establishing a national model for bringing ethically diverse families to K-4.
- Adding value to the economy. 4-H members are twice as likely to attend college and pursue careers in science, engineering, and computer technology.
- Meeting the needs of military youth and their families through Kansas military installations and deployed members of the National Guard and Army Reserve.
- Providing resources of all ages to be better citizens and more informed.

Results

- Introduced 4-H to 719 youth through multicultural and Personal Health (PH) 4-H clubs in 12 Kansas counties.
- Trained adults in the Kansas Agriculture and Value-added Leadership and Board Leadership programs.
- Trained 355 Kansas in ServSafe Food Service Manager and 738 Food Handler classes.
- Meeting the needs of military youth and their families through Kansas military installations and deployed members of the National Guard and Army Reserve.
- Providing resources of all ages to be better citizens and more informed.

Community Vitality

Rural, suburban, and urban communities throughout Kansas face many challenges. When Kansans are encouraged to combine their experiences and skills to work together, everyone in the community benefits.

What We Are Doing

- Living and working in every county, K-State Research and Extension staff engage community groups and share expertise from the three K-State campuses.
- Helping to develop a variety of community services, such as grocery stores, that help locally and provide economic development.
- Working directly with farmers, ranchers, and families to develop better financial management practices.

Results

- Improved communities through the Kansas PRIDE program, which supported 40 collaborative partnerships and $69,723 adult and youth volunteer hours worth $115,063.
- Trained Master Gardeners who donated more than 75,000 hours per month, a value of $1.5 million.
- Provided financial information through workshops to 16,000 visitors per month.
- Partnered with state agencies to develop a Rural Grocery Food Kit with resources for existing grocery stores and communities wanting to establish a new store.

Results Are in the Numbers

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<tr>
<th>#522</th>
<th>Number of counties served by the Kansas Value-Added Foods Laboratory</th>
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<tr>
<td>#3</td>
<td>Percentage of irrigated water supplied by subsurface drip irrigation</td>
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<tr>
<td>#3,000</td>
<td>Percentage of Kansas families who donate their drinking water from lakes and reservoirs</td>
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<td>#1</td>
<td>Number of Kansas who annually participate in Walk Kansas</td>
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<td>#4</td>
<td>Number of adult and youth volunteer hours through the Kansas PRIDE project, worth $51.6 million</td>
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<td>Hours of service donated by the Kansas Agricultural and Rural Leadership program since 1983</td>
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<td>#7,000</td>
<td>Number of adults and youth volunteers through the Kansas PRIDE program, worth $1.6 million</td>
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*figure updated Feb. 2015"