

To: Blue Ribbon Funding Task Force for Water Resource Management

From: Kansas Corn Growers Association  
Greg Krissek, CEO

Date: April 19, 2016

Thank you for the opportunity to present our comments regarding the funding of water initiatives in Kansas. I am Greg Krissek and I am the CEO of the Kansas Corn Growers Association.

Kansas corn producers have a vested interest in the conversation about water quantity and quality in our state. Water quality is a key issue for our growers. Protecting our water quality through improved farming practices, using best management practices for pesticides and fertilizers, and employing conservation measures like reduce and no-till farming and using riparian buffers. By controlling sedimentation and pesticide runoff, we are also controlling our future access to crop protection tools and ultimately the use of our land to produce needed crops.

Farmers are always looking to the future, especially when we talk about water quantity. Irrigation has been key to growers in specific areas of the state, especially over the Ogallala aquifer. This resource plays a key role in the economic well-being of western Kansas. High-production corn farming, cattle feeding, pig farms, dairies, beef processing, grain handlers, ethanol plants, equipment dealers, ag retailers, and transport companies to move corn, cattle, pigs, meat, milk, ethanol, distillers grains and a host of other products, have all contributed to build a thriving agribusiness complex in Kansas.

In Kansas, corn acres have doubled in the past 20 years, but irrigated acres have remained virtually unchanged. The doubling of our corn acres has come from the growth of non-irrigated corn. In 2015, 64% of the state's corn acres were non-irrigated. 36 percent of our corn acres were irrigated, producing over half of the state's corn crop. In the past 10 years, corn has accounted for only 21 percent of the state's harvested major crop acres, but has produced 44 percent of the state's total grain production.

Most of our irrigators are already taking measures to conserve water as a practical business decision driven by economics. Corn farmers have made great strides in water conservation through improved farming practices, improved irrigation mechanics and technology, and continuing advances in the corn seed itself through breeding and biotechnology. As we continue down this path, we must remember that technological advances in corn and corn farming will continue occur and improve the use of water for this needed crop.

Kansas corn farmers through their corn checkoff have a long history of funding projects to improve water use efficiency, primarily through K-State Extension research projects on water use, irrigation timing and efficiency, and more water efficient equipment like more efficient nozzles to reduce water use. In the past five fiscal years, the Kansas Corn Commission has funded \$456,000 predominantly in K-State research related to water usage, drought tolerance and water quality. The Kansas Corn Commission recently committed grower checkoff funds to support research at the Water Technology Farms in Finney County and in Pawnee County. We anticipate further participation in similar projects.

The Kansas Corn Growers Association supports the commission's efforts in these areas and also supports the continued development and approval of corn varieties enhanced with biotechnology to allow weed and pest



control and traits that increase drought tolerance. It is important to recognize the role that private industry has played in water conservation efforts, whether it is seed companies or irrigation equipment manufacturers who are working to meet the needs of their customers who are eager to adopt effective new technologies.

This task force is considering funding for the Water Vision efforts. When our members look at the manner in which the Kansas State Water Plan Fund has been handled, they become concerned about new water fees that may be proposed by the state. Not only the current administration but past administrations have a track record of reducing the state's funding obligations, sweeping fee funds or eliminating funding altogether to address budget shortfalls. By using these short-term fixes to balance the state budget, the long-term effectiveness of the State Water Plan Fund has been severely constrained. Before we can have confidence in creating new fees and funds, the existing Water Plan Fund should be funded by the state as it is required by statute.

This effort requires a long-term perspective which recognizes that economic and environmental sustainability go together. Economic conditions and the financial wellbeing of most of Kansas agriculture today are tenuous at best.

Thank you for your work on this important issue. KCGA looks forward to working with the task force as the process moves forward and is committed to being a part of this effort to find solutions to the state's water issues.

## **Blue Ribbon Task Force Testimony**

by Kent Winter, Sedgwick County Kansas farmer

*on behalf of the Kansas Grain Sorghum Producers Association and National Sorghum Producers*

*April 19, 2016*

Greetings members of the Blue Ribbon Task Force. Thank you for your focused commitment to the serious task of translating our state water priorities from a vision to funded action. As a fifth generation farmer from Mount Hope, I am proud to serve as president of the Kansas Grain Sorghum Producers Association (KGSPA) as well as a member of the National Sorghum Producers Legislative Committee. I testify today on behalf of both of these organizations and our members thank you for your interest in sorghum.

Indeed, Governor Sam Brownback and many other legislators deserve credit for their persistent interest in sorghum. Now is the time to secure sorghum's place as a top-priority crop in Kansas.

My farming operation includes sorghum, soybeans, corn, alfalfa and wheat, along with a sweet-corn patch managed by my children. Like all farmers across the state, I know how finite and valuable our natural resources are. To manage our farms and derive prosperity for Kansas, we must not only extensively manage our water resources but also expand upon the technologies to complement and enhance our management abilities. Today, my testimony will address the following: why sorghum is well positioned for investment, the crop's water-sipping attributes and how the industry's momentum enhances sorghum's contribution to sustaining Kansas water while providing a viable economy.

Sorghum is a model crop for both public and private investment opportunities. Sorghum, despite only having far fewer acres nationwide compared to corn, soybeans or wheat, is an important crop to the state of Kansas. In 2015, Kansas farmers saw record yields and an overall state production of 30 percent over the preceding year, even with new pest issues and a lack of research investment similar to other crops. Now is the time to support the effective management of Kansas sorghum farmers with investment in sorghum's genetic potential. With more than 40,000 accessions in the world germplasm collection and the current adaptability expressed in commercial sorghum production, new attributes and traits are waiting to be discovered and utilized for Kansas fields. In particular, traits including yield and enhanced heat and drought resistance are crucial to leveraging sorghum's future.

Let me share with you why I call sorghum a water-sipping crop. *Appendix 1* includes a graphic highlighting the physiological properties of sorghum that allow the crop to sustain harsh heat and water environments. Traits including a fibrous root system and the utilization of dormancy during extreme heat are unique to sorghum. Sorghum's ability to thrive in a water-optimized region is highlighted in the Sheridan Six Local Enhanced Management Area (LEMA). Within the LEMA, farmers had their allocations restricted by 20 percent over a five-year timeframe. While the LEMA is a small sample size, farmers within the LEMA grew 68 percent more irrigated sorghum. The return per unit of water is highlighted in *Chart 1* with sorghum exhibiting an enhanced ability to optimize water output at \$90 per inch of water applied.

Chart I. Producer data from inside and outside the LEMA in 2013 and 2014.

	Irrigation Application	Yield	Cash Flow per Acre	Cash Flow per Inch
Corn inside the LEMA	10.55	213.75	\$ 426	\$ 41
Corn outside the LEMA	16.75	241.80	\$ 452	\$ 28
Sorghum inside the LEMA	5.05	152.00	\$ 436	\$ 90
Sorghum outside the LEMA	No data	No data	No data	No data
Soybeans inside the LEMA	9.65	62.25	\$ 340	\$ 35
Soybeans outside the LEMA	9.00	69.00	\$ 400	\$ 47

Source: Dr. Bill Golden, KSU

The prosperity of water, agriculture and Kansas are intertwined – and sorghum plays an important role in the Kansas agricultural economy. Kansas is consistently the top sorghum growing state. Kansas grew a robust 2015 crop with 280 million bushels of production and an average yield of 88 bushels per acre. Based on the 2015 sorghum crop, the Kansas Department of Agriculture reported that grain sorghum production contributed \$1.5 billion to the Kansas economy. This generated an estimated 1,640 direct jobs and supported a total of 5,785 jobs.

Sorghum is inherently adapted for Kansas and will produce in a changing water resource environment. The *Technology and Crop Varieties* section of *A Long-term Vision for the Future of Water Supply in Kansas* establishes the following sorghum-related goals:

**Phase I:** Form a collaborative stakeholder team to set sorghum research priorities and develop research and funding strategy and present strategy to potential funding partners, including the Kansas Legislature.

**Phase II:** Implement sorghum research funding mechanism based on a public-private partnership.

- Address sorghum research needs such as yield, stalk strength, silage density, nutritional value to livestock, weed control and ability to be used for biofuels production.
- Consider pursuit of grant funds (National Science Foundation (NSF)) or multi-state partnerships for initial sorghum research start-up efforts.

**Phase III:** Implement research in order to increase select pesticide resistance for sorghum and cotton along with drought resistant corn production

The sorghum industry has collaborated with leadership at the Kansas Department of Agriculture and the Kansas Water Office to mobilize these goals. Let me share with you the successful foundation and momentum created towards accomplishing these targets.

First, under the Kansas Department of Agriculture's leadership, sorghum farmers and industry leaders convened a Sorghum Task Force in spring 2014. The task force was charged with identifying core research priorities in relation to sustaining the economic and water resources of Kansas farmers. The taskforce developed a Kansas Sorghum Priority document that serves as a reference for strategic sorghum research investments, located under *Appendix II*.

Second, I am excited to share with you a newly established collaborative research and marketing program for the sorghum industry. Effective April 1, 2016, the Sorghum Checkoff, Kansas Grain Sorghum Commission and Kansas State University (K-State) entered into a cooperative agreement to increase grain sorghum productivity and expand markets by 2025.

Coordinated efforts for the Collaborative Sorghum Investment Program will operate through the Center for Sorghum Improvement at K-State. However, results will impact sorghum producers throughout the country. Support for this program will total \$4.8 million, consisting of a \$2 million investment from the Kansas Grain Sorghum Commission and \$2 million from the Sorghum Checkoff, both made in annual payments of \$200,000 for 10 years, as well as an \$800,000 investment from K-State.

The program will aim to increase the average national yield from 61.95 bushels per acre to 100 bushels per acre by 2025 by funding research in beneficial areas such as over-the-top grass control and yield improvements involving breeding program developments and field-level management techniques. Long-term research areas such as seed innovation and information management will also be addressed, including the development of new and novel genetic traits and the development of research and genomics databases.

The program will work to develop marketplaces, attributes, qualities and other factors capable of increasing demand to 1.25 billion bushels of sorghum by 2025. This will include the expansion of international markets, domestic food use, livestock feeding, ethanol production, specialty products and more. In addition, tools, information and other factors will be developed in an effort to decrease the trading discount of sorghum to corn from 4.6 percent to 2 percent by 2025.

The resources will be used to hire a managing director of the program in Manhattan, Kansas, provide capital for center activities and research funding, and build the Center for Sorghum Improvement Excellence Fund for long-term support of sorghum initiatives. The managing director will actively seek additional funding for projects that serve the objectives of this program and to extend the life of the program beyond 2025.

The completion of the first two phase goals in *A Long-term Vision for the Future of Water Supply in Kansas* poises the sorghum industry to collaborate with the Blue Ribbon Task Force to provide novel, new technologies to Kansas farmers to optimize water output.

The Center for Sorghum Improvement is the prime vehicle to leverage Kansas dollars towards the investment of new technologies addressing the long-term Kansas water supply. The \$2 million investment in water intensive crop research you learned about during your March 2016 meeting would have a mobilizing impact on our water resources and economy. I stand here to ask you to invest in sorghum's future. Water is truly the resource of prosperity for our time and our ability to manage through strategic investments will certainly position Kansas for future generations. Thank you to the Blue Ribbon Task Force for your time in hearing my comments.

I am happy to respond to any questions when appropriate.

# Sorghum: Maximizing Water Efficiency Rain or Shine

Smaller leaf pores reduce sorghum's leaf water loss



Dormancy traits allow sorghum to tolerate stressful conditions



**6"** It only takes six inches of total water to produce the first bushel of grain sorghum, making it suitable for harsh climates

Sorghum has a long planting season and diverse hybrid portfolio, offering farmers a broad window to take advantage of moisture patterns

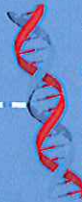
Waxy leaves hold in moisture during dry conditions



In low water settings, sorghum can produce more grain per inch than comparable grain crops.



The DNA composition of sorghum attributes to beneficial qualities such as stay green, drought and heat tolerance



When incorporated into a cropping mix, sorghum stover will increase soil water holding capacity and reduce runoff

Sorghum's fibrous root system increases its ability to mine water



**SORGHUM: THE SMART CHOICE**

[www.sorghumcheckoff.com](http://www.sorghumcheckoff.com)

1320 Research Park Drive  
Manhattan, Kansas 66502  
(785) 564-6700



900 SW Jackson, Room 456  
Topeka, Kansas 66612  
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

## Kansas Sorghum Priorities

The sorghum industry's viability is critical to the Kansas agricultural economy. Kansas consistently grows more sorghum than any other state. With benefits from drought tolerant traits to alignment with value added grain end-users, sorghum is a natural fit for Kansas farmers. Kansas producers need viable cropping options given today's water realities. The Kansas agricultural industry from livestock to ethanol need consistent, reliable grain production to sustain the economic multipliers these businesses provide Kansans. Key sorghum investment targeted towards producer profitability and productivity will have significant ramifications for Kansas.

Recognizing the importance of sorghum the Kansas Department of Agriculture convened the Kansas Sorghum Taskforce to identify what key investments are needed to advance the sorghum industry. The Taskforce is comprised of farmer leaders, end-users, Kansas State University, and seed technology companies.

The Taskforce quickly acknowledges Kansas State University as a key provider of sorghum expertise. Kansas State is the most inclusive entity of sorghum expertise from grain science to agronomy. To best mobilize this expertise and move the sorghum industry forward the Taskforce identified the need for key sorghum priorities within Kansas State. The two key priorities are:

- **Extension Program in Limited Water:** Develop an extension model specifically to support LEMAs and limited water areas. The model will generate expertise and demonstration trials centered on sorghum production with cooperative efforts of local crop consultants and the agriculture extension network. Innovative approaches should be engaged including:
  - Cropping system evaluation and demonstration
  - Weather prediction models and forecasting
  - End-user market development and utilization evaluation including ethanol and unique high value sorghum chemistry
- **Crop Breeding and Genetics:** Focus current breeding programs to deliver material that links to private breeding programs. Outcomes of the breeding program should be high performing parent lines and trait specific attributes that support private industry commercialization of new traits and hybrids. Coordinate Kansas State genetic research with private industry to develop new crop breeding tools and markers that will accelerate crop advancements.

Investing in key priorities to guide both the Limited Water Extension Program and Crop Breeding and Genetics focus would hone the current sorghum infrastructure and expertise held at Kansas State for optimized results. It is the intention of the Kansas Department of Agriculture to advocate for these identified priorities.