COMMITTED TO INCREASING PRODUCER PROFITABILITY

SORGHUM: THE SMART CHOICE
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SORGHUM REMAINS STRONG

This year was filled with wins for sorghum producers. From a strong number of bushels harvested to advancements in sorghum genetics, 2016 continued to show that sorghum is a smart choice for any grower.

A major win for sorghum farmers in 2016 was the completion of the Collaborative Sorghum Investment Program. After years of discussion and active steps to bring parties together, the Sorghum Checkoff board members and staff fulfilled the time and energy making this collaboration a reality. This project reflects a direct response to producer requests to further develop opportunities with Kansas State University. Though marked with many roadblocks, this project with the Kansas Grain Sorghum Commission and Kansas State University will provide the necessary investments to help reach the goals outlined in the program by 2025. First and foremost, the investment is intended to continue facilitating the Sorghum Checkoff’s mission of improving sorghum producer profitability.

A steady 480 million bushels of sorghum was harvested this year, and a national yield record was reached at 77.9 bushels per acre. I continue to get excited when I see producers able to manage their crop and produce record sorghum yields as demand continues to grow and markets expand.

Sorghum has been a focus of several research efforts this year. A total of $350,000 was invested to study sorghum and the sugarcane aphid in an effort to provide producers with best-management tips. Though the aphid affected many sorghum growers this year, the information and research provided to farmers helped protect yield in several areas. The Department of Energy also invested in sorghum this year with research focused on understanding the root system and characteristics of the crop. This year also kicked off sorghum phenotyping for researchers as a way to help us all understand more about the grain.

Sorghum exploded into the consumer market in 2016. The gluten-free grain had immense popularity in the food market, making a presence in more than 1,000 consumer products and nearly 150 pet-related products. Sorghum received great press coverage on a national level and continues to be a grain to invest in over the coming years. Of course, we can’t forget the export market that continues to draw bushels. China remains the leading purchasing country and seems to be poised to do so in the future.

Sorghum continues to be a great crop for producers, and I am proud of the advancements we have made in markets, genetics and management. Throughout the coming year, our board will continue to wisely invest your checkoff funds to increase producer profitability across the country. Please feel free to contact your checkoff at 877-647-8727 or visit sorghumcheckoff.com for more information.

David Fremark
Chairman
Sorghum Checkoff
FURTHERING YOUR INVESTMENT

As you read through this year’s report, you will notice continued movement of your Sorghum Checkoff. From the beginning, your Sorghum Checkoff was created to serve a purpose. That purpose has been to provide a mechanism for you as sorghum producers to fund research and promotion as well as gather information that will help further the industry.

From the beginning, checkoffs were intended to focus on developing programs that established themselves as revenue centers for producers and the industry they represent. In essence, your investment over time must provide a return to you and the industry. That’s one reason the Sorghum Checkoff has partnered with organizations like the U.S. Grains Council and companies like DuPont Pioneer, Chromatin and others. These relationships and collaborations help share your desires and needs while taking an active role to create change by providing financial investment. In due course, these investments should flourish and lead to advancements in sorghum yield and demand, which are the most significant areas that affect your profit potential.

Of course, it is hard to live for the future when the here and now is nipping at your heels. That’s one reason your Sorghum Checkoff has invested in pressing, immediate issues like the sugarcane aphid. Your funding has resulted in gained and shared knowledge concerning this pest. As well, relationships have been established with researchers, companies and extension offices to continue the educational process.

Without your Sorghum Checkoff, it is safe to say the information and overall awareness about the sugarcane aphid and its effect on sorghum would not exist. Your investment of nearly $900,000 has been a catalyst in maintaining and enhancing sugarcane aphid research, as well as sharing that information with you.

The Sorghum Checkoff will continue on a path toward closing the disparity gap. As farmers, you need crop options that will give you profit potential. Sorghum must provide competitive yields, pricing and manageable input costs to remain a viable crop option. Our goal is to help close the gap and make sorghum a more reliable, cost effective, profit-producing crop. This will help sorghum continue to be a rewarding crop option and live up to its Smart Choice label.

Florentino Lopez
Executive Director
Leadership Sorghum launched the third membership class this year, with a total of 15 farmers from seven different states. During Class III’s 2016 sessions, the group visited Lubbock, Texas, where they focused on the sorghum seed industry as well as basic and applied research with the Sorghum Seed Tour. They also visited Kansas City, Kansas, for professional development with Sarah Aubrey of ACT Training and an overview of domestic markets and public sorghum research.

WHERE ARE THEY NOW?

All classes combined, Leadership Sorghum has had a total of 45 members from 13 different states. Many program graduates became involved in numerous leadership opportunities across the Sorghum Belt.
INVESTING IN THE FUTURE OF BIOFUELS

The U.S. Department of Energy (DOE) has made significant investments in sorghum over the last two years, including a $30 million commitment for sorghum to be researched as a model feedstock through the Transportation Energy Resources from Renewable Agriculture (TERRA) program. To show their commitment to this effort, sorghum farmers invested $500,000 in the TERRA program in 2016.

The goal of the TERRA program is to integrate high throughput phenotyping by developing cutting-edge remote sensing platforms, which will transform crop breeding and advance biofuel production. TERRA kicked off in April 2016 when sorghum was planted in Maricopa, Arizona, to study sorghum phenotyping in an effort to connect the crop’s physical characteristics to its genetic qualities.

Sorghum breeders are the first to utilize the state-of-art technology developed under TERRA projects that will ultimately lead to better understanding of sorghum varieties and will help bring better hybrids to market. The new phenotyping technology can also help farmers analyze their fields and inspect if any issues arise to gain real-time knowledge.

The Sorghum Checkoff board of directors is committed to funding projects that will support increases in field-level productivity as well as market-level demand and value enhancements, which continue to be seen as a valuable means of increasing opportunities for farmer profitability.

DOE ANNOUNCES ROOTS PROGRAM

In December 2016, the DOE announced another $6.4 million investment to study sorghum under the Rhizosphere Observations Optimizing Terrestrial Sequestration (ROOTS) program. Of the investment, $2.4 million will fund research monitoring plant roots for drought tolerance and heat tolerance. The remaining $4 million will fund the development of a portable magnetic resonance imaging system to examine root architecture and soil water distribution.

$6.4 MILLION INVESTMENT IN SORGHUM ROOTS
The Sorghum Checkoff board of directors examined historical investments in crop improvement in 2016. This included a look back at nearly $10 million of investments since the launch of the Sorghum Checkoff in 2008. Investments in the crop are providing new tools to help increase producer productivity and profitability.

**EXPANDING GENETICS**

Some 55 percent of dollars invested thus far in sorghum genetics can be traced to upcoming field-level advancements or expansion of the sorghum genetic spectrum. A robust genetic pipeline offers unprecedented opportunity for sorghum in the future.

**KEYSTONE PROGRAMS**

Keystone programs, such as the Sorghum Conversion Program and advances in herbicide tolerance, have played a key role in bringing new technology to the field while also expanding the opportunities for novel and new genetic sources.

**A GROWING TOOLBOX**

Additional tools approached final stages of development in 2016. These advancements include double haploid technology, which will allow sorghum breeders to more rapidly and accurately advance sorghum genetics.

**STANDING AGAINST THE PEST**

In 2016, the *Defense Against the Sugarcane Aphid* book was distributed to 15,000 farmers and consultants to provide guidance and best management practices. Additionally, the Sorghum Checkoff invested $300,000 into sugarcane aphid research conducted throughout 2016. In collaboration with Bayer CropScience, Dow Crop Protection and researchers across the country, the Sorghum Checkoff established six main research areas of focus:

» Optimum Threshold Between Differing Growth Stages
» Managing SCA in the Presence of Other Pests
» Managing SCA at Harvest
» Optimum Threshold Between Differing Growth Stages
» Evaluating Reduced Rates and Tank Mixes of Insecticides
» Evaluating Seed Treatments
CREATING A HIGHER VALUE

Demand for sorghum continued to grow and develop in 2016. Traditional marketplaces began shifting back into their typical paces. While exports decreased slightly from 2015, this opened the door for the ethanol and livestock industries to regain usage. Value-added marketing opportunities, like the food and pet food industries, continue to provide tremendous benefits for sorghum producers. A focus on research in various market development areas in 2016 provided key insight for future market expansion.

AN UPWARD TRAJECTORY

The food industry is exploding with opportunity for sorghum. Retail food products containing sorghum now total more than 1,000, and that number continues to grow. The most visible growth in 2016 was attributed to sorghum’s use in restaurants. Sorghum is now included on 1.6 percent of menus across the nation, an eightfold increase over the last three years.
STRENGTH IN NUMBERS
The United States exported 339 million bushels of sorghum to 11 customers during the 2015/2016 marketing year. Top U.S. export customers were led by China, followed by Mexico, Pakistan, Sudan and South Africa. Continued efforts to develop international marketplaces for sorghum is crucial to creating diverse and astute demand.

TOTAL EXPORT VALUE: $1.68 BILLION

SORGHUM ENHANCES PET FOOD
Sorghum has become a preferred pet food ingredient due to its cost competitiveness and key nutrient attributes. In 2016, there were 13 brands using sorghum in more than 130 pet food products. New research by Dr. Greg Aldrich of Kansas State University demonstrated nutraceutical benefits in canines in terms of overall digestibility, enhanced circulating antioxidant levels and blood sugar balance as a result of processing sorghum into millfeed components.

SEEKING NEW OPPORTUNITIES
Exploring marketplaces for sorghum, a new study unveiled opportunities for sorghum as a natural meat preservative. In the study, Sorghum Bran as an Antioxidant in Frozen Meat and Poultry Products, high-tannin sorghums and onyx brand sorghums were added at specific dosages as a meat extender for unique pre-cooked and frozen meat products under unique storage conditions and were found to be comparable substitutes for chemically-induced extenders.

SMART LIVESTOCK NUTRITION
Sorghum is valued for its feed quality in the beef, swine and poultry industries. In 2016, Dr. Bob Goodband of Kansas State University unveiled sorghum has the same feeding value as corn, which can be attributed to advanced sorghum varieties and improved understanding of digestible amino acids and phosphorus. Sorghum’s flexibility in swine diet formulation offers nutritionists the ability to lower diet costs while maintaining similar growth performance of pigs. Another study exhibited a better true metabolizable energy value than like-type grains for broiler chicks. This came as a result of a specific yellow endosperm sorghum variety being processed via rotary compression systems. These results lend to better nutrient digestibility and improved growth performance for poultry.
ENHANCING THE SORGHUM BRAND AND IMAGE

To showcase the evolution of the Sorghum Checkoff, the organization rebranded in 2016. With this came a redesign of SorghumCheckoff.com as well as all digital and print materials. The now mobile-friendly website has the ability to provide growers with the information they need while in the field, at home or wherever they go.

The goal of the site is to become the go-to resource for information relating to sorghum agronomics, marketing information and more. A key feature of the website is the sorghum connections directory. This tool connects producers seeking new markets with manufacturers and end-users of sorghum looking to purchase grain.

COOPERATIVE BRANDING PROGRAM

The goal of the Sorghum Checkoff’s Cooperative Branding Program is to leverage sorghum’s presence in the industry through partnerships with companies and organizations wishing to promote sorghum. Through farmer and commercial-directed promotion and advertising, the Sorghum the Smart Choice® brand is reaching a larger, broader audience. To date, the Sorghum Checkoff has secured 10 branding partnerships.

BRANDING PARTNERS

» Cool Canine
» Delta BioRenewables
» James F.C. Hyde
» Nu Life Market
» Pheasants Forever

» Quail Forever
» Roots for the Home Team
» Still 630
» Sweetgrass Granola
» Wondergrain
Demand for sorghum as a consumer food product is at its highest level in history. To meet the demand of sorghum’s consumption as a healthy whole grain, the Sorghum Checkoff launched its first consumer-facing brand, Sorghum. Nature’s Super Grain™, and SimplySorghum.com. Serving as the premier source of information for consumers as well as food and health professionals, the website contains valuable information relating to what sorghum is and how it can be used in the kitchen.

**SETTING GOALS**

The goal of the Sorghum Checkoff’s consumer branding efforts is to educate consumers as well as food industry and health professionals about the wholesome goodness of sorghum and the vast possibilities it has to offer in a healthy diet.

**KEY FEATURES**

The key features of SimplySorghum.com include a sorghum cooking-directions library, recipe catalog, nutritional information for consumers and dietitians, a list of chefs and restaurants using sorghum, coupons, brands using sorghum and more.

**HELPING THE CONSUMER**

These consumer branding efforts help enhance consumer awareness of sorghum and close missing gaps for consumers by giving them a place to locate sorghum brands and take action to request products containing sorghum in their local grocery stores.

**STRENGTHENING AWARENESS**

Sorghum’s whole grain goodness was highlighted via multiple platforms in 2016. From features in Vogue, Food Network, TODAY.com and more, to engaging content on social media, sorghum reached a large audience.

- **PRESS IMPRESSIONS**: 385.3 million impressions
  - A combination of media unique monthly viewers and circulation.

- **SOCIAL IMPRESSIONS**: 36.8 million
  - A combination of Facebook, Twitter, Pinterest and Instagram.
COLLABORATIVE SORGHUM INVESTMENT PROGRAM

In 2016, the Sorghum Checkoff, Kansas Grain Sorghum Commission and Kansas State University developed the Collaborative Sorghum Investment Program to increase grain sorghum productivity and expand markets for U.S. sorghum farmers by 2025.

IMPROVEMENTS IN PRODUCTIVITY

The program will aim to increase the average national yield from 61.95 bushels per acre to 100 bushels per acre by 2025 through 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.

IMPROVEMENTS IN DEMAND AND VALUE

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. Other key areas include supply chain facilitation and coproduct development.

$4.8 MILLION INVESTMENT

Support for this program will total $4.8 million, consisting of a $2 million investment from the Sorghum Checkoff and $2 million from the Kansas Grain Sorghum Commission, both made in annual payments of $200,000 for 10 years, as well as an $800,000 investment from Kansas State University.
FINANCIALS

TOTAL REVENUE
Collections $11,386,443
Closed Contract Funds Returned $235,367
Investment Income $122,913
Sponsorship Income $32,400
Other Income $3,250
Refund of duplicate payments ($1,577)
$11,778,795.64

TOTAL EXPENSES
Administrative $720,957
Renewables $1,342,487
Collaborative Sorghum Investment Program $2,000,000
USDA Oversight and Passback $2,578,059
Market Development $3,056,140
Crop Improvement $3,281,186
$12,978,829

STATE PASSBACK FUNDS
The Sorghum Checkoff provided 25 percent of total funds to qualified state organizations as approved through the United States Department of Agriculture Agricultural Marketing Service. These states use these funds for additional research, market development and education. These organizations work in conjunction with the Sorghum Checkoff to benefit producers.

- Kansas $1,188,310
- Texas $807,644
- Arkansas $181,804
- Oklahoma $98,809
- Nebraska $77,669
- Colorado $54,974
- Louisiana $27,266
- Kentucky $13,824
- New Mexico $6,941