

Not All Bad: The Truth About Tannins

Although U.S. grain sorghum does not contain tannins, tannin sorghums still exist in much of the world and include many properties which may be beneficial for human use. The Sorghum Checkoff is currently funding research to compare the glycemic index (GI), basically the speed of digestion, of cooked sorghum products with and without tannins. The results will compare fat deposition levels and ultimately measure the effectiveness of tannin properties that could produce foods beneficial to diabetics and those requiring low-calorie diets.

Texas A&M Professor Lloyd Rooney, Ph.D., said he believes the high antioxidant levels in tannin sorghums are the greatest benefit of the grain.

"Tannin sorghums can actually be very beneficial to humans by slowing digestion and improving antioxidant levels," Rooney said.

Studies have also indicated anti-inflammatory traits in specific genotypes of tannin sorghums that could act against certain types of cancers, although there have been no human trials yet. Rooney said tannins interact with carbohydrates, which slows the digestion of those complexes and can have excellent effects in regard to Type II Diabetes.

For all of their potential human benefits, according to sorghum producer Earl Roemer, sorghum tannins also bind with digestive enzymes and impede feed conversion in livestock. This means animals must consume more feed to produce the same or even less weight gains.

"For this reason," Roemer said, "sorghum hybrids containing tannins have been eliminated from production in the



United States in order to maximize the utilization of sorghum in the livestock feeding industry."

Both Rooney and Roemer said the potential benefits of sorghum tannins are great, but there must be more research to fully understand their potential benefits to both human and animal health. Utilizing these attributes for humans could lead to very positive new market outlets for sorghum.

"The fact that sorghum digests slowly and keeps you full longer may benefit people with diabetes or excessive weight gain," Roemer said. "The potential for these specific sorghums to be utilized in a manner that will benefit human health is an exciting new use for our industry."



Online Research Database Posted

The Sorghum Checkoff launched an online collection of research articles in conjunction with Texas Tech University, through the Great Plains Sorghum Initiative. The Sorghum Research Database will give producers an avenue to search and view thousands of research articles.

This Sorghum Research Database is available online at www.sorghumcheckoff.com under the Sorghum Research tab, where anyone may search by keyword or choose a category from the drop-down menu. This checkoff-funded project is updated with new articles every day and, when complete, will house around 5,000 research articles.

Jeff Dahlberg, Sorghum Checkoff Research Director, said that this is a great tool for researchers.

"This database will give them the advantage of having many years of articles in one place," said Dahlberg. "It will prevent scientists from re-inventing the wheel in sorghum research, so that the technology gap between sorghum and other crops can be minimized."

From the Field

Kansas Round Tables

Dusti Fritz, along with several Sorghum Checkoff board members, organized producer round table meetings in Kansas in the last month. These meetings are designed to bring small groups of producers, end users, and elevators together for a common purpose and candid conversations.

These meetings accomplished the goal of opening lines of communication between producers and handlers. Many were surprised to learn that by using creative marketing strategies, farmers are likely to improve their bottom line and elevators benefitted from a better understanding of the farmers needs.

Many producers in Kansas were interested in the over-the-top weed and grass control project slated for limited release by DuPont in 2012. Like many other growers, higher yields weighed heavy on the minds of these producers. Dusti and Sorghum Checkoff Marketing Director, Florentino Lopez, explained the benefits of fertilizing their fields for optimal performance.



Above: Producers and end users in Phillipsburg, Kan. discuss their concerns for the sorghum industry with checkoff representatives.

Delta Farm Expo

Sorghum Checkoff Eastern States Field Services Director, Shelee Padgett, represented the Sorghum Checkoff at the Delta Ag Expo in northwest Mississippi where she met with more than 30 growers to talk about their concerns for sorghum in that area. Shelee said a concern in that region is a lack of markets and the need for over-the-top weed control.

The Sorghum Checkoff is currently working with several industries to enhance markets for sorghum in these areas. Exports are a large concern for the producers in this region because the majority of the sorghum grown there is shipped on barges to New Orleans and then to Asia. The recent purchase of 79,000 metric tons of U.S. sorghum by Japan is evidence of the importance of these markets.



Above: Sorghum producers in Kress, Texas enjoy a checkoff sponsored breakfast, including pancakes made from sorghum flour.

Sorghum Checkoff Pancake Breakfast

The Sorghum Checkoff recently gave sorghum growers a taste of the potential future of their crop. Representatives from the checkoff were present at the Evans Grain annual meeting in Tulla, Texas. The meeting allowed the company, located in Kress, Texas, to touch base with farmers in the area. The Sorghum Checkoff was invited to give an update of current checkoff funded projects and future opportunities for sorghum.

"The theme we wanted to portray was that many farmers grow sorghum without ever actually tasting or using it," said checkoff representative Kristin Heinemann.

The Sorghum Checkoff representatives served the farmers pancakes made from sorghum flour in order to introduce the topic of new uses for sorghum. Representatives also served breakfast at the Robinson Grain annual meeting in Panhandle, Texas, in order to show farmers the new and delicious uses for sorghum as part of the checkoff update.

Annual Report Available NOW!

The Sorghum Checkoff released its 2009 Annual Report at the Commodity Classic in Anaheim, Calif. on March 4, 2010. This report is designed to inform producers how their checkoff dollars were spend in the first year of operation.

In 2009 the Sorghum Checkoff funded 27 research projects. Some of these included research in cold and drought tolerance, over-the-top grass and weed control, nitrogen use and best management practices. The Sorghum Checkoff has also added a database of thousands of research articles to sorghumcheckoff.com for easy access to a wealth of information.

"Although it takes time for many projects to make it to the market, the checkoff board and staff have worked together with great efficiency to see that producers have more profitable sorghum as soon as possible," said Bill Greving, Sorghum Checkoff Board Chairman.



Market development is a major priority for the Sorghum Checkoff and, in conjunction with the U.S. Grains Council, the checkoff sponsored several foreign buyer missions. One directly resulted in a 25,000 ton purchase of U.S. sorghum by the Moroccan poultry industry. The checkoff also worked with ethanol plants to increase their inclusion of sorghum in ethanol. The Sorghum Ethanol Inclusion Calculator is a tool developed by the Sorghum Checkoff to help ethanol producers calculate their returns by including sorghum as a feedstock for their ethanol.

The Sorghum Checkoff will soon offer production handbooks as a pocket guide to growing better sorghum. The Sorghum Checkoff has also made an abundance of information available to producers at sorghumcheckoff.com. This Web site is updated constantly to ensure that producers always have access to new research results and resources to expand their marketing options.

The Sorghum Checkoff annual report is intended to tell producers how their checkoff dollars are being utilized. Please, take the opportunity to claim your annual report and see what the Sorghum Checkoff is doing for you. Request your copy at www.sorghumcheckoff.com by clicking on the Contact Us tab, or by emailing your request to info@sorghumcheckoff.com.

SORGHUM CHECKOFF MISSION:

Investing your Sorghum Checkoff dollars to increase profitability for the sorghum industry.

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INDUSTRY EVENTS CALENDAR

March 23	Mid-America Farm Show
April 12	Mid South Nutrition Conference Arlington, Texas
April 15 - 17	Oklahoma Farm Show Oklahoma City, Okla.
April 19 - 20	Texas Grain & Feed Annual Meeting Fort Worth, Texas
April 22	Plains Nutrition Conference San Antonio, Texas
May 5 - 7	3-1 Farm Show Great Bend, Kan.

Sorghum: High Energy, Less Water

In the past, sorghum was widely used as cattle feed. However, the swine industry now consumes 19 percent of the sorghum grown in the U.S. and the pet food industry consumes about 10 percent. For this reason, the Sorghum Checkoff has been working with experts to develop and distribute technical documents on the benefits of sorghum as a livestock feed. These technical documents will educate the livestock industry on the benefits of including sorghum in their rations to increase demand for sorghum.

"As a sorghum grower and livestock producer, I'm glad to see the Sorghum Checkoff take on this challenge," said Sorghum producer and Sorghum Checkoff board member Troy Skarke of Claude, Texas.

Because our understanding of feed processing and the nutrient profile of grain sorghum has increased, greater opportunities for expanded use of sorghum exist to exploit its potential in livestock diets. Livestock nutritionists have discovered that sorghum has higher levels of protein than corn, and less unsaturated fat. The fatty acid profile (amount of unsaturated fat) of a diet fed to pigs can influence the firmness of fat. Fat quality has become very important in the pork industry because firmer fats are more easily preserved and easier to slice for cuts like bacon.

"Sorghum brings many advantages to the table. It requires less water to produce, offers a high energy value and has performed well in several feed trials."



Mike Tokach, a researcher at Kansas State University says many swine producers view sorghum as a high quality feed because when processed

correctly and balanced for digestible amino acid and available phosphorus concentrations, grain sorghum has a feeding value greater than 96 percent the value of corn.

"Sorghum brings many advantages to the table," said Tokach, "It requires less water to produce, offers a high energy value and has performed very well in several feed trials. We've learned that pigs who were fed sorghum ate more. Sorghum has a great deal of value in the swine production industry; it's really something to consider if you're a swine producer."



From the perspective of a dairy producer, forage sorghum is a water sipping crop that produces about the same amount of milk when fed to dairy cattle as corn silage.

"Forage sorghum requires less water than other crops and compares very well to other forages," said dairy nutritionist, Lawson Spicer, who is working with the Sorghum Checkoff to produce a feed guide for dairy cattle. "Sorghum's energy value and milk production are very similar to that of corn silage."

"Sorghum's ability to produce higher yields on less water is catching the eye of many competing dairies that traditionally used corn in the Texas panhandle," said Skarke. "Water usage and availability are becoming a very big issue here and sorghum's water sipping characteristics show a clear advantage to bottom line profitability."