NATIONAL
SORGHUM
PRODUCERS

NATIONAL SORGHUM PRODUCERS FARM BILL TESTIMONY

Presented to:

House Committee
on
Agriculture

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1300 Longworth House Office Building
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presented by

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Introduction

On behalf of the National Sorghum Producers, I would like to thank the House Committee on Agriculture for the opportunity to discuss the farm bill and its impact on the sorghum industry and my farm.

My name is Greg Shelor, and I am third-generation farmer near Minneola, Kansas. I raise dry-land sorghum, wheat, and I have 100 cow-calf pairs with my son on our grassland. My 1700 acre cropping system is a wheat-sorghum-fallow rotation which enhances water conservation and prevents wind and water erosion.

This year has been a very trying year in my area of the country as we are significantly behind last year in rainfall. Over the last 30 days, my land has been blessed with 8 inches of rainfall. But for the 12 months prior, I only had 7 inches. The recent rains will help later-planted sorghum, but comes too late for the crop planted earlier. Our grasslands have recovered nicely.

Also, I should add that I marketed all of last year's sorghum production to a hog farm for use in their feed ration. This was my best local market, even though I still had to transport grain 100 miles south of my farm.

Regarding the sorghum industry, ethanol production is the fastest growing value-added market for the sorghum industry. Producers are working to attract ethanol plants to their areas because it can increase the local cash price. Sorghum is a good fit for ethanol production because one bushel of sorghum produces the same amount of ethanol as one bushel of corn. In the state of Kansas, we produce more ethanol from sorghum than from corn.

My written testimony will follow the titles of the farm bill. However, the sorghum industry is interested in the energy title and ready for energy production opportunities that are available for agriculture industry. Including sorghum in the energy title expands the ethanol industry outside the traditional Corn Belt, as one bushel of sorghum produces the same amount of ethanol as one bushel of corn. I ask that this Committee give serious consideration and discussion to this growing segment of the industry. While the commodity title remains the most significant title to most sorghum farmers, the energy title and energy legislation are drawing an increasing amount of attention.

NSP represents U.S. sorghum producers nationwide. Our organization is headquartered in Lubbock, Texas, and our major responsibilities are to increase the profitability of sorghum producers through market development, research, education, and legislative representation.

NSP is committed to work with the Committee and its staff as it works to reauthorize our nation's farm laws. The organization and industry is very supportive of the current farm bill. However, we believe that Congress can clarify rules so that USDA interpretation does not impact producers' ability to use sorghum in a profitable cropping system.

A Brief Description of Sorghum

I would like to give you a brief history of sorghum and outline for you some of the unique opportunities that we have in sorghum. Sorghum originated in Africa and continues to be a staple in the diet of many Africans. Benjamin Franklin first introduced sorghum to the United States in 1725. In the 1850s, the U.S. government began introducing various forage varieties from China and Africa.

This versatile crop is used both in human food systems and, primarily in the United States, as an animal feed. It is currently a non-GMO crop though NSP supports work on moving new technologies into the crop. Industrially, sorghum, like corn, is valued for its starch content. A prime example of this is the ethanol industry, which can use both corn and sorghum interchangeably in ethanol production. Its co-product, distiller's grain, is a valuable and widely accepted feed for both cattle feeders and dairies.

Industry Overview

The U.S. grain sorghum belt is primarily made up of nine states in the Great Plains, although grain sorghum is grown from California to New Jersey. Sorghum is produced in many of the states that you represent. This includes Kansas, Georgia, Nebraska, Mississippi, Missouri, Texas, Louisiana, Arkansas, Colorado, South Dakota, Oklahoma and California. Over the past ten years, grain sorghum has ranged from a high of 13.1 million acres in 1996 to a low of 6.2 million acres planted in 2006. Production from the last 10 years has ranged from 360 million bushels to 795 million bushels, with an approximate value of 1.1 billion dollars annually. In addition, sorghum utilized as silage, hay and grazing represents another 5 million acres of production. The USDA reported that in 2005, 311,000 acres of sorghum were harvested for silage, producing approximately 3.5 million tons of silage.

The U.S. is the world's chief producer and exporter of grain sorghum, and the crop ranks fifth in importance as a U.S. crop behind corn, cotton, soybeans and wheat. Roughly 45% of the crop is exported. Of the 55% of the crop that is not exported, 36% goes into pork, poultry, and cattle feed; 15% goes into ethanol production; 3% goes into industrial use; and 1% goes into the food chain. In fact, sorghum's newest market is the exponentially growing ethanol industry. We have seen a 57 percent increase in that market over the last 2 years.

The growth of the ethanol industry in the sorghum belt has been phenomenal. For example, more than 86 percent of Kansas sorghum production is in a county that is within 50 miles of a proposed, under construction or producing ethanol plant. On a national average, more than 60 percent of sorghum production fits this scenario. And, my fellow sorghum producers in New Mexico and Texas tell me that based on current sorghum production and the ethanol plant construction, they expect they could only produce enough sorghum to supply 15 % of the all the plants' needs.

Worldwide, approximately half of total production of grain sorghum is consumed directly as human food. In addition, the U.S. dominates world seed production in sorghum with a billion dollar seed industry focused on 200,000 acres primarily in the Texas Panhandle.

Sorghum is a unique, drought tolerant crop that is a vital component in cropping rotations for many U.S. farmers.

Title 1 -Commodity Programs

Our sorghum producers have been strong supporters of the 2002 farm bill due to the equitable treatment given sorghum producers relative to other feed grains, and would favor extension of the current bill. When a new farm bill replaces our current farm legislation, maintaining equitable direct payments and loan rates are high priorities.

Most of the sorghum growing region is in the High Plains region. Due to the extreme weather conditions that our farms are vulnerable to, on my own farm I would like to see more emphasis placed on a well funded and policed disaster provision that would supplement the limited safety net that crop insurance provides.

In preparation for the reauthorizing of farm laws, there has been a lot of discussion about what a Green farm proposal would look like and how it would operate. This task has been more difficult than we anticipated since the program cannot be based on price or production. Because of that fact, we ask that any new programs that may be developed or discussed to replace the current Commodity Title be thoroughly vetted with the agriculture industry.

Also, if another new policy option, revenue assurance, becomes part of serious policy debate, then it will be important for Members of the Agriculture Committee to understand that drought can impact the baseline period for the semi-arid sorghum belt. Seventy percent of a zero yield is still zero revenue - no matter how high the price. This method of delivering farm benefits may not be "bankable" to many lenders.

Title II - Conservation Policy

Because of WTO issues, more emphasis may be placed of conservation funding in farm policy discussions. However, Kansas sorghum producers would be very, very anxious about switching from our current commodity based farm programs and farm policy to a completely conservation-based payment policy, if that new program would be operated similar to the current administration of the current programs. Our Kansas membership is frustrated with the operation of the Conservation Security Program in the state. Only a few Kansas farmers have even been allowed to apply for conservation programs under the CSP because of the limited geographical areas approved, and only a few of the applicants have been accepted.

Our members feel strongly that serious problems exist with the program. First, sorghum farmers consider sorghum a conservation crop because it uses less water and works very well on marginal lands around the country.

Their next concern is that USDA started funding the top tier of the programs and focused the programs on what looks like an all or nothing concept. Either farmers were in all tiers or he was not in the program at all. Next, our livestock members say that they have

numerous more hoops to navigate to be in the program, than they have for the crop side of the program. Finally, the CSP Tiers need to be designed to meet the dynamic management needs of an individual farm and maintain a degree of flexibility to meet the needs of the farm. Our organization feels that a CSP-type program can be an important part of a farm program; however, the rules of the current program and the implementation of the current program are causing a significant amount of frustration among our membership.

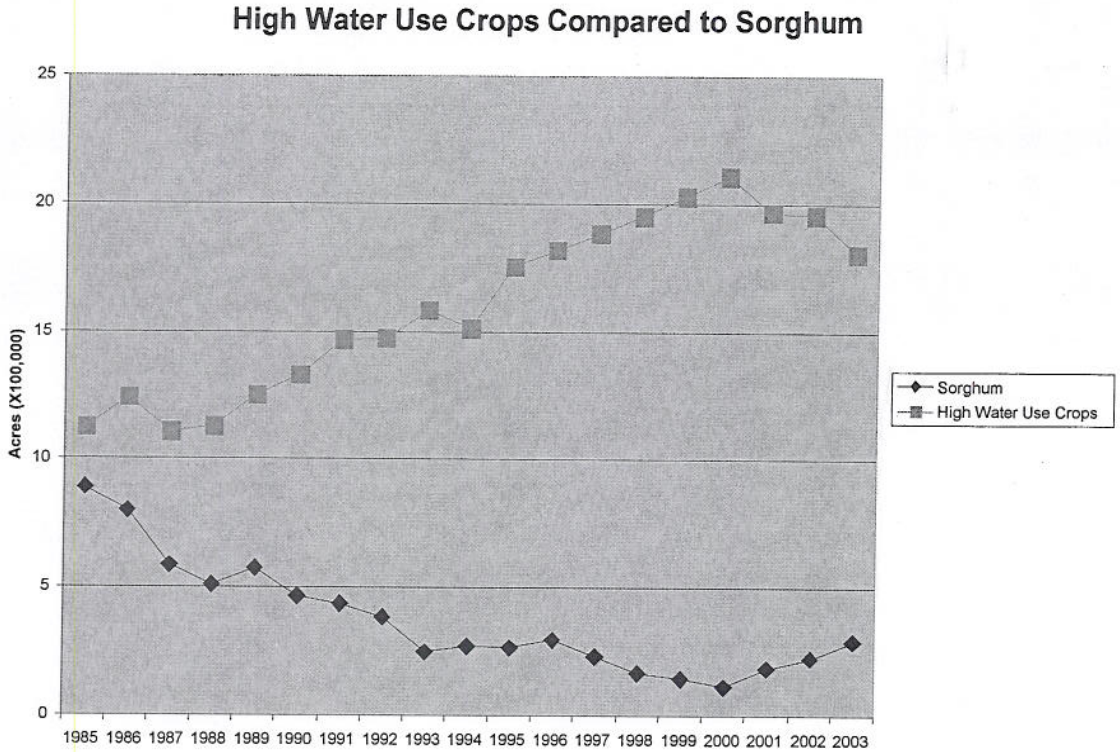
Conservation programs must be flexible enough to meet the diverse needs of different cropping systems and climatic conditions.

Water Use is Increasing

NSP applauds the Committee for giving serious consideration to the future of water supplies in the semi-arid regions of the Plains, a region highly dependent upon sorghum, by creating the Ground and Surface Water Conservation Program as part of the Environmental Quality Incentive Programs (EQIP). However, more can and must be done to conserve water in the country's semi-arid agricultural producing region. NSP leadership believes that water quantity issues will continue to grow in importance and urgency as non-agricultural uses compete with agricultural uses in the sorghum belt.

Sorghum is known as a "water-sipping" crop. According to research conducted at the USDA Agricultural Research Service facility in Bushland, Texas, sorghum uses approximately 1/3 less water than either corn or soybeans, and 15% less water than wheat. It is a crop that is adapted to semi-arid agricultural regions; that is, regions that may receive less than 20 inches of rain a year or in higher rainfall areas that have soils with poor water holding capabilities. Corn and soybeans, on the other hand, are primarily grown in areas that receive 30-40 inches of rain a year. Because of its excellent drought tolerance and varied uses, sorghum is a viable option for producers in the Plains states.

Demand for water is increasing in the semi-arid regions of the U.S., especially for non-agricultural uses. NSP is concerned that the demand for water for both agriculture and non-agriculture use could create a climate of tension that is not productive for either group. Since 1985, five million acres of high water-use crops have replaced sorghum acres throughout the country. A prime example of this is Western Kansas, which has had serious drought for the last 5 years. Yet, irrigated acres for high water-use crops continue to increase. As a result, since 1985, Western Kansas has lost 600,000 planted acres of irrigated sorghum. Sorghum producers in Kansas and in other sorghum states believe that this trend needs to be reversed. The following chart shows the decrease in sorghum acres and the increase in higher water-use crops (USDA, NASS 2003 data).



Increasing water demand for agricultural and non-agricultural use is also a global concern. According to the National Water Research Institute (NWRI), 25 percent of the world's population will be facing a severe water shortage by 2025. However, the NRWI says that 50 percent of the increase in demand for water by 2025 can be met by increasing the effectiveness of irrigation and by growing more water-use efficient crops like sorghum. This projection shows that appropriate crop selection and conservation efforts can save water.

Policy Changes

We have some particular concerns that we would like to share with the Committee in our efforts to strengthen federal government support for sorghum. Unfortunately, concentrating solely on improving irrigation technologies and increasing efficiencies does not necessarily translate into less water usage. NSP supports conservation programs that encourage planting of appropriate crops based on decisions that are environmentally sustainable and market driven. **Overall, NSP believes that Congress and USDA need to emphasize water quantity, as part of water management, in both current and future conservation programs.**

How Much Water Can be Saved?

A Regional Water Plan prepared for the Texas Panhandle Water Planning Group in Amarillo, Texas, has found that the water savings over 50 years for 524,243 acres spread over 21 counties in the Texas Panhandle would amount to 7,360,000 acre-feet of water if irrigated corn acreage were converted to irrigated sorghum. On average, that's 147,200 acre-feet saved per year. An acre-foot of water equals 325,850 gallons, roughly enough to

supply two, four-person homes with water for a year. Theoretically, this 50-year water savings would amount to 147,200 acre-feet per year, enough to supply water to 294,400 four-person homes in a year. For reference, the city of Austin, Texas, has 276,842 housing units and a population of 642,994, according to the U.S. Census Bureau.

On a broader geographic basis, the economic impact of converting irrigated corn and soybean acreage in the semi-arid regions to grain sorghum could be astounding. As you can see, encouraging the production of crops that are suited for a given area can save an enormous amount of water.

Current Water Situation

Currently, agriculture uses approximately 95% of the water drawn from the Ogallala Aquifer. Towns and cities within the region have aggressively educated citizens and in some cases implemented new laws that are forcing homeowners and businesses to conserve water. According to NRCS's National Water Management Center (NWMC), water use for irrigation has increased by 125% over the past fifty years. NWMC also found that some aquifers have been permanently damaged because the full recharge of depleted aquifers storage may not be possible where compaction has occurred. The sorghum belt remains in a long-term drought, and the water table continues to drop as ground water supplies dwindle. NSP encourages NWMC to proactively consider long-range planning that focuses on ground water, because agricultural and non-agricultural users are critically dependent on water.

Because of these concerns, NSP encourages the Committee to promote conservation programs that save water. We have members that tell the organization that they find that they use more total water as they increase the efficiencies of their existing irrigation and add more new irrigation systems. NSP views this as contrary to the goals of a program like the Ground and Surface Water Conservation Program, and contrary to the best interests of producers. We believe that the best way to conserve water is to lower the amount of water used within an agricultural system, not to just improve irrigation delivery technologies.

Improving Current Programs

NSP has encouraged USDA to develop a Ground and Surface Water Conservation Program that includes support for cost share-funds to significantly increase water conservation. NSP believes that EQIP and other conservation programs should be playing an integral part of a system-wide approach that encourages and rewards lower water consumption. For example, the program could encourage producers to change from an irrigated high water use crop that on average uses 30 inches of irrigated water from a center-pivot watering 125 acres, to dry-land sorghum. This would save 3750 acre-inches of water a growing season. An incentive equal to the difference between irrigated land rental rates and dry-land rental rates could entice farmers to make the conversion and help save water.

NSP members are concerned that concentrating solely on the use of efficient irrigation technologies may actually lead to an increase in overall water use. NSP leadership believes that the main priority of conservation programs should be to provide incentives

to farmers to recharge ground water by lowering water use. With that in mind, another significant water saving conversion would be the production of less water intensive crops on irrigated land. Using our center-pivot irrigation example previously mentioned, switching from a high use water crop to a water sipping crop saves over 912 acre-inches of water a growing season. NSP members believe that an incentive to compensate farmers for changing to a less water intensive crop would result in significant water conservation. NSP urges NRCS to work with the local office and state committees to accurately determine the appropriate payment rate for different regions of the U.S.

Title IX – Energy

Sorghum can, and does, play an important role as a feedstock in the renewable fuels industry. The sorghum industry fully supports the President's call in his State of the Union speech to replace 75% of our imported petroleum products with domestic energy sources, like ethanol, by 2025. The sorghum industry believes that the federal government should provide significant research resources, as stated by the President, to the development of cutting-edge methodology for producing renewable biofuels. These technologies must be both economically competitive and feasible in order to meet the stated goal of reducing our "addiction" to fossil fuel by 2025.

The sorghum industry encourages the Agriculture Committees of both the House and Senate to present bold energy concepts and ideas when it re-authorizes the Energy Title of our nation's farm laws. We believe that the starched-based ethanol industry will play an important role in the renewable fuels industry, even after the cellulosic or biomass technology is perfected.

Background on Sorghum in the Ethanol Industry

Currently, 15% of the grain sorghum crop is used by the ethanol industry to make ethanol, and the number is growing each year. That production provides a source of ethanol and jobs outside of the traditional Corn Belt. Ethanol processing plants routinely mix corn and sorghum together in the production of ethanol. Expanding ethanol production outside of the traditional Corn Belt is a priority for the sorghum industry. Sorghum producers are working to expand their role in the renewable fuels industry.

Biofuels production in the United States has been fairly limited to the use of grain for production of ethanol. Research efforts within the United States have focused on improving efficiencies of the use of grains through optimization of enzyme technologies and feedstock improvements. The USDA and the Department of Energy have been investigating the use of biomass for production of biofuels. That research should translate into any crop that produces high biomass yields.

Sorghum has a unique role in bioenergy since it can and does fit into all three schemes for production of biofuels: grain, sugar-based, and biomass feed stocks. Hybrid grain sorghum is routinely used as a grain feedstock in the U.S., sweet sorghum is used widely as a sugar feedstock in India and China, and the potential to produce high tonnage biomass from sorghum silages is well documented in our forage industry in the U.S.

Starch to Ethanol Production

In the U.S., almost all of the current ethanol production is based on starch conversion, using primarily corn and sorghum grain, to produce ethanol. To the ethanol production process, starch is starch; it does not matter if the starch comes from corn or sorghum. Both starch sources yield identical amounts of ethanol from a bushel, and the distiller's grain has almost identical nutritional value when it is fed to livestock.

Sweet Sorghum Conversion to Ethanol

Most Americans know of sweet sorghum as the type that is used to make syrup or molasses. In addition, it is also used worldwide in the production of ethanol. India and China are producing ethanol from sweet sorghum. DOE is currently supporting a sweet sorghum pilot study in Florida to explore the potential of sweet sorghums as a feedstock for ethanol production.

Under current systems, the sweet sorghum is harvested, and then the stems are crushed and juice extracted at a mill. Some harvesters, though not economically viable at this time, are being developed to extract the juice in one operation and leave the residue in the field to be gathered at a later time. Once the juice is extracted, it is fermented and ethanol is produced. This ethanol is then distilled and dehydrated using the same equipment that is being used in ethanol production from starch sources.

Forage Sorghum's Role in Biomass

Forage sorghums can play a significant role in both cellulosic and lignocellulosic technologies that produce ethanol from biomass. Biomass production is based on utilizing the whole plant (or other organic waste) by breaking down most of the plant's major biological components to produce ethanol. In most cases, tons per acre of convertible biomass would drive the feedstock equation in the conversion to ethanol.

The federal government has been conducting research on the role of switchgrass in biomass production. Switchgrass and sorghum are both from the family Poaceae and probably diverged from each other sometime before the divergence between sorghum and corn. Switchgrass is a perennial plant that can spread by both seed and rhizomes. Though sorghum is thought to be primarily an annual plant, there are related species that are also rhizomatous and perennial. Both plants have open panicles and can be tall and very leafy. Forage sorghums excel in water use efficiency.

Conclusion

You have a big challenge on your hands rewriting our Nation's farm laws and I expect that farm policy in the next five years will look significantly different than it does today because of a potential WTO agreement, efforts to cut the deficit and increased interest in the Energy Title of the farm bill. My industry looks forward to working with you during these efforts. Again, thank you for your interest in sorghum.

Greg Shelor Biography

Greg Shelor was raised on the same Minneola, Kan. farm that he operates today. He is a third generation farmer on his land.

After graduating from Minneola High School, Shelor attended Dodge City Community College before returning back to the operation to farm with his father.

Shelor is President of both the National Sorghum Producers and also the Kansas Grain Sorghum Producers Association. He serves on the Water Basin Advisory Board for the southwest district of Kansas. He is also actively involved in the Kansas Farm Bill Coalition.

He serves on the Minneola Recreation Board and is a member of the Minneola Methodist Church.

Shelor and his wife Le Ann have three sons, two who are married and one who is engaged, and four grandchildren. The oldest, Matthew, works for a feedyard and has 100 cow-calf pairs with his father. Justin works for an equipment company and Derrick is a senior at Kansas State University. All three sons help on the farm when their schedules allow.

Committee on Agriculture
U.S. House of Representatives
Required Witness Disclosure Form

House Rules* require nongovernmental witnesses to disclose the amount and source of Federal grants received since October 1, 2004.

Name: Greg Shelor
Address: 11421 Yucca Road, Minneola, KS 67865
Telephone: (620) 885-4609

Organization you represent (if any): National Sorghum Producers

1. Please list any federal grants or contracts (including subgrants and subcontracts) you have received since October 1, 2004, as well as the source and the amount of each grant or contract. House Rules do NOT require disclosure of federal payments to individuals, such as Social Security or Medicare benefits, farm program payments, or assistance to agricultural producers: **None.**
2. If you are appearing on behalf of an organization, please list any federal grants or contracts (including subgrants and subcontracts) the organization has received since October 1, 2004, as well as the source and the amount of each grant or contract:

Extension Risk Management Education Grant **Silage Sorghum Pilot Project**	Source: **Risk Management Agency** Amount: **$150,000**
2005-2006 Competitive Grant **Sorghum GRIP Education Program**	Source: **Risk Management Agency** Amount: **$30,000**
2006-2007 Competitive Grant **The Use of GRP/GRIP for Coverage of Sorghum Silage in Texas, New Mexico, Oklahoma and Kansas.**	Source: **Southern Risk Management Agency** Amount: **$10,000**

Please check here if this form is NOT applicable to you:

_____

Signature:

Rule XI, clause 2(g)(4) of the U.S. House of Representatives provides: *Each committee shall, to the greatest extent practicable, require witnesses who appear before it to submit in advance written statements of proposed testimony and to limit their initial*

presentations to the committee to brief summaries thereof. In the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include a curriculum vitae and a disclosure of the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by the witness or by any entity represented by the witness.

PLEASE ATTACH DISCLOSURE FORM TO EACH COPY OF TESTIMONY.