NATIONAL SORGHUM PRODUCERS

NATIONAL SORGHUM PRODUCERS FARM BILL TESTIMONY

Presented to:

House Agriculture Subcommittee
on
General Farm Commodities and Risk Management

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1302 Longworth House Office Building
Washington, D.C.

presented by

Gregory Shelor
11421 Yucca Road
Minneola, KS 67865

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 farm near Minneola, Kansas. My 1700-acre cropping system is a wheat-sorghum-fallow rotation, which includes 250 acres of irrigated corn. My no-tillage practices enhance water conservation and prevent wind and water erosion. In addition, I have recently bought stock in the Dodge City, Kansas ethanol plant that will produce 110 million gallons of ethanol per year. I expect that half of the feedstock used will be sorghum.

My written testimony will follow the Titles of the farm bill. While the commodity title remains the most significant title to most sorghum farmers and this Subcommittee, the energy title and energy legislation are drawing an increasing amount of attention.

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. NSP endorses the Renewable Fuels Association's Energy Title recommendations.

I have historically marketed all of my sorghum production to a local hog farm for use in their feed ration. This past fall, all my sorghum went to an industrial starch processor, which converts my sorghum into starch that is used to make wallboard.

NSP represents U.S. sorghum producers nationwide 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 are supportive of the current farm bill. However, we believe that Congress can clarify several program details 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 and energy crop. 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 Great Plains states produce the largest volume of grain sorghum, but the crop is grown from California to North Carolina. According to the National Agricultural Statistics Service, last year sorghum was produced in many of the states that you represent. This includes North Carolina, Kansas, Georgia, Illinois, Texas, Oklahoma, South Dakota, Colorado, Nebraska, Missouri, Louisiana, Arkansas, Mississippi, New Mexico and California. Over the past ten years, grain sorghum acreage has ranged from a high of 13.1 million acres in 1996 to a low of 6.5 million acres planted in 2006. Annual production from the last 10 years has ranged from 795 million bushels to 360 million bushels, with an approximate value of 1.2 billion dollars annually.

The creation of the Conservation Reserve Program in the 1985 farm bill had a significant impact on the sorghum industry. Today's sorghum acreage is one-third of what it was prior to the 1985 farm bill. It is a goal of the industry to increase producer's profitability and to take acres back closer to the pre-1985 farm bill level. NSP expects that returning acreage to that level will help ensure the infrastructure to supply the needs of the ethanol industry, livestock industry and export markets. The sorghum industry has submitted to USDA a national check off which will allow producers the opportunity to direct research funds towards their priorities. It will ensure research and development funding to continue to improve our crop. In addition, forage sorghum utilized as silage, hay and direct grazing represents approximately 5 million acres of production in addition to grain sorghum 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 exporter of grain sorghum, and the crop ranks fifth in size as a U.S. crop behind corn, soybeans, wheat, and cotton. Historically, roughly 45% of the crop is exported. This represents approximately 80% of world market share in sorghum exports. Of the 55% of the crop that is not exported, 27% goes into pork, poultry, and cattle feed; 24% 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 and expect it to grow even faster over the next 12 months as we have over one billion gallons of ethanol capacity coming on line in the sorghum growing areas in the next 12 months.

The growth of the ethanol industry in the sorghum belt has been phenomenal. For example, marketers tell us in western Kansas that the new plants under construction in

my low basis area of our state will push the use of sorghum for ethanol production in our area to 50% of our 2007 grain sorghum production. Worldwide, approximately half of total production of grain sorghum is consumed directly as human food. In addition, the U.S. dominates world sorghum seed production 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

Sorghum producers like me have been strong supporters of the 2002 Farm Bill because it significantly improves the equitable treatment given sorghum producers relative to other feed grains. However, many of the county loan rates of the organization's board of directors are still below the loan rates of other feed grains.

For example, in the two largest sorghum-producing states of Kansas and Texas, which produced 75% of the U.S. grain sorghum crop, only 33 of the 359 counties had loan rates equal to or above corn. In those 33 counties, the average sorghum loan rate was 3 cents per bushel over corn. In the other 326 counties, the average sorghum loan rate was 15 cents per bushel under corn. In an average loan rate situation, this difference costs a producer $10/acre (.15 cents x 70 bushels) and makes a difference in which crop he may chose to plant. Fortunately, I can sell sorghum today for double my county loan rate, but only last year this was a significant factor in my decision on which crop I grew even though my cash price for feed grains was within a couple of cents of equal.

When a new farm bill replaces our current farm legislation, maintaining equitable direct payments and loan rates between all crops are high priorities. The direct payment is very important to growers like me, as it is critical in the years we have a drought, which are not uncommon in the semi-arid sorghum belt.

We also understand the cyclical nature of the farm economy, and it is a matter of time until prices drop. Therefore, the sorghum industry is asking for a safety net that is on par with other crops as a counter cyclical type program. Most of the sorghum-growing region is in the Great Plains region. Due to the extreme weather conditions of the area, our farms are vulnerable to significant yield variability. Sorghum farmers support a well funded and policed disaster provision that would supplement the limited safety net that crop insurance provides if funding is available.

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 the devil is in the details of how the program functions. For example, 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 must be closely studied and well funded at a local level for our producers to support it.

Risk Management

If the Committee decides to address crop insurance, the price election mechanism for the sorghum industry is in desperate need of reform. The manner in which RMA sets price elections in sorghum is antiquated and it does not accurately reflect current market realities. Corn is used as a base comparison since both are feed grains, and in the CRC Commodity Exchange Endorsement, RMA uses a percentage of the corn price election to set the sorghum price election. For reference, the MPCI price election for corn in 2006 was 2.5% higher than sorghum. The CRC price election for corn was 11% higher than sorghum. In 2007, RMA set price elections for sorghum at 94.3% of corn for MPCI and 94.4% of corn for CRC policies. This was after repeated attempts by NSP to encourage RMA to set them equal or above corn. NASS' *Agricultural Prices* monthly publication has shown sorghum equal or above corn since May 2006. NASS valued sorghum 16% higher than corn in January 2007. WASDE also reported a $.10/bu higher price range for sorghum over corn in their last report. A crop insurance guarantee is a vital part of most farmers' cash flow plans and makes a difference in the crop that is planted on that farm. Sorghum producers deserve a level playing field to compete with other crops.

Title II - Conservation Policy

Sorghum producers would be extremely 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 membership is frustrated with the operation of the Conservation Security Program in many states. Only a few farmers have even been allowed to apply for conservation programs under the CSP program because of the limited geographical areas approved, and only a few of the applicants have been accepted. Often, advice from local NRCS officials on one simple question has been the difference between farmers receiving a significant contract or nothing at all. That uncertainty is causing a lot of angst toward the program.

Our members feel strongly that serious problems exist with the program. First, sorghum farmers consider sorghum a conservation crop because it uses less water, fertilizer and chemicals and works very well on marginal lands around the country. We believe that a "water-sipping" crop like sorghum should be a natural fit for the program.

Our producers would ask that the new Conservation Security Program operate in a manner that allows them more flexibility in the tiers of the program so they can participate.

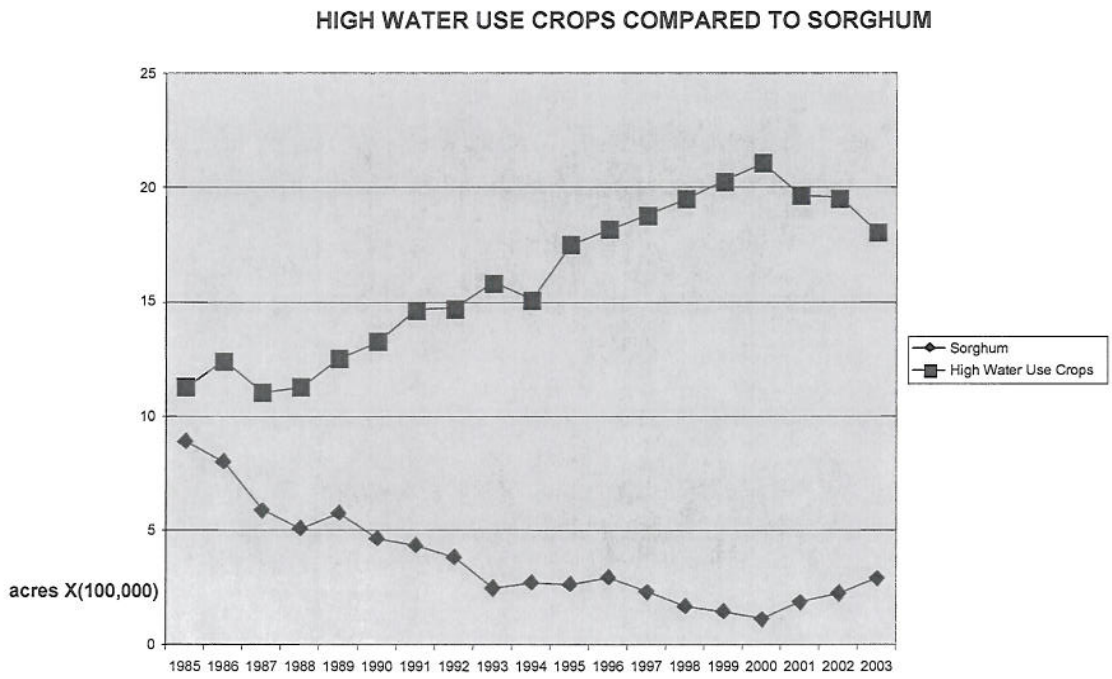
Conservation programs must be flexible enough to meet the diverse needs of different cropping systems and climatic conditions.

Water Use is Increasing

NSP applauds the 2002 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 in the plains states. A prime example of this is Western Kansas, which has had serious drought for the last seven 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 Subcommittee in our efforts to strengthen federal government commitment 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 higher water use 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 subcommittee 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 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 offices 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 to greatly increase biofuel production. The sorghum industry believes that the federal government should provide significant research resources 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.

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, 24% of the domestically consumed grain sorghum crop is used by the ethanol industry to make ethanol, and the number is growing each month. That production provides a source of ethanol outside of the traditional Corn Belt and sorely needed rural development in the sorghum 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 and we are working to ensure that the ethanol industry uses a local grown feedstock. 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 DOE 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 forage sorghum is well documented by the universities in the U.S.

Cellulose Source Comparison (source Texas A&M)

	Corn Stover	Poplar	Willow	Switchgrass	Forage Sorghum (Today)	TA&MES Proprietary High-yield Sorghum
Biomass that can be harvested per acre (in dry tons) and converted	1.25 - 1.50	5	5	6 - 8	13	**20**
Estimated cost (per dry ton) of biomass delivered to local 25 M gal/yr converter	$52 - $60	$69	$75	$65 - $70	$50 - $60	**$42 - $50**

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 with the only differences being that sorghum has slightly more protein and corn has slightly more fat.

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. NSP strongly supports research funding and loan guarantees to insure that sweet sorghum to ethanol can become another component of the US ethanol industry.

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. But just as importantly, forage sorghums have a significantly better water use efficiency. It is important not to limit biomass feedstocks to perennial plants.

DOE has indicated the need and desire to include sorghum in its analysis of ethanol feedstocks. Basic compositional data analysis as well as research regarding cellulosic conversion of various feedstocks is needed. Limiting factors should be studied in regard to biomass-to-ethanol output. For example, Brown midrib (BMR) sorghums may increase ethanol output. We believe that utilizing sweet sorghums is the next logical step to moving sorghum ethanol efficiency forward. China and India have well-established technology and the U.S. should be able to ramp up production to make the U.S. more energy independent. Biomass-to-ethanol production would then be the next step.

NSP supports the Renewable Fuels Association's Farm Bill energy title recommendations. Theses include refocusing the CCC Bioenergy Program to incentivize cellulosic and biomass feedstocks for ethanol production and energy production of ethanol plants; developing pilot and demonstration programs to familiarize growers with new cellulosic crops, including harvesting, transportation and storage issues; studying the concept of a "transitional assistance" program to assist farmers in the adoption of cellulosic crops; establishing a loan guarantee program for cellulosic energy projects, particularly in rural areas; revising the BioPreferred Program to facilitate a timely implementation of this market development program, allow feedstocks (intermediaries) to be designated as biobased products, and implement the labeling program; developing a workforce education program for biofuels technology at land grant universities and biofuels research and testing centers; increasing research for better utilization of distillers grains for use by the livestock industry; and industry-focused cellulosic ethanol research and development on industry, and a commercialization-focused structure for funding.

Conclusion

The Committee has 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 efforts to cut the deficit while meeting needs for domestically-produced, renewable energy in the U.S. My industry looks forward to working with you during these efforts. Again, thank you for your interest in sorghum.

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: Gregory 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 sub grants 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 sub grants 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 Source: **Risk Management Agency**
Silage Sorghum Pilot Project Amount: **$150,000**

2005-2006 Competitive Grant Source: **Risk Management Agency**
Sorghum GRIP Education Program Amount: **$30,000**

2006-2007 Competitive Grant Source: **Southern Risk Management Agency**
The Use of GRP/GRIP for Coverage of Sorghum Silage in Texas, New Mexico, Oklahoma and Kansas. 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 sub grant 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.

Gregory 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 Past President of the National Sorghum Producers and President of 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 who help on the farm when their schedules allow.