
**HOUSE COMMITTEE ON AGRICULTURE AND LIVESTOCK
TEXAS HOUSE OF REPRESENTATIVES
INTERIM REPORT 2002**

**A REPORT TO THE
HOUSE OF REPRESENTATIVES
78TH TEXAS LEGISLATURE**

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Committee On
Agriculture and Livestock

October 15, 2002

David Swinford
Chairman

P.O. Box 2910
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The Honorable James E. "Pete" Laney
Speaker, Texas House of Representatives
Members of the Texas House of Representatives
Texas State Capitol, Rm. 2W.13
Austin, Texas 78701

Dear Mr. Speaker and Fellow Members:

The Committee on Agriculture and Livestock of the Seventy-Seventh Legislature hereby submits its interim report including recommendations and drafted legislation for consideration by the Seventy-Eighth Legislature.

Respectfully submitted,

David Swinford, Chairman

Jim McReynolds, Vice Chairman

Betty Brown

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INTRODUCTION

At the beginning of the 77th Legislature, the Honorable James E. “Pete” Laney, Speaker of the Texas House of Representatives, appointed nine members to the House Committee on Agriculture and Livestock. The committee membership includes the following: David Swinford, Chairman; Jim McReynolds, Vice Chairman; Betty Brown; Wayne Christian; Rick Green; Rick Hardcastle; Suzanna Hupp; Lois Kolkhorst; and Sid Miller.

During the interim, the Committee was assigned five charges by the Speaker: study the effects of exotic pests on Texas agriculture; evaluate the ability of the Texas agricultural community to gain access to capital markets throughout the state; identify the potential benefits associated with no-till farming; gather information about the production, distribution and use of agricultural chemicals and fertilizers, including the aerial application of chemicals; and, actively monitor the agencies and programs, including the university programs under the committee’s oversight jurisdiction.

The Committee has completed their hearings and investigations. The Agriculture and Livestock Committee has adopted and approved all sections of the final report.

Finally, the Committee wishes to express appreciation to the agencies, associations and citizens who contributed their time and effort on behalf of this report.

HOUSE COMMITTEE ON AGRICULTURE AND LIVESTOCK

INTERIM STUDY CHARGES

- CHARGE** Study the effects of exotic pests on Texas agriculture. Consider risk pathways, control strategies and potential impacts on the agricultural economy. Identify partnerships involving the private sector along with state and local governments.
- CHARGE** Evaluate the ability of the Texas agricultural community to gain access to capital markets throughout the state. Identify barriers to financing viable agricultural and value-added enterprises. Review and evaluate the finance programs administered by the Texas Department of Agriculture. (Joint with House Committee on Financial Institutions)
- CHARGE** Identify the potential benefits associated with no-till farming. Discuss the conditions under which no-till practices are beneficial, as well as those where the practices may not be effective.
- CHARGE** Gather information about the production, distribution and use of agricultural chemicals and fertilizers, including the aerial application of chemicals. Review government regulations and business practices to determine whether legislation is needed to protect life and property and to detect, interdict and respond to acts of terrorism.
- CHARGE** Actively monitor the agencies and programs, including university programs under the committee's oversight jurisdiction. Monitor the progress of federal farm legislation and evaluate its effects on Texas producers.

EXOTIC PESTS AND DISEASES

BACKGROUND

Recent cases of exotic pests and diseases plaguing agriculture have been especially vivid. The horrific scenes associated with the loss of over 6 million cattle in Great Britain to Foot and Mouth Disease, significant losses on the poultry industry in the United States due to low pathogenic avian influenza, the loss of over 2 million citrus trees in Florida to citrus canker, or severe complications associated with Karnal Bunt in some Texas wheat all serve to remind how devastating the impact of exotic pests and diseases can be and spur Texas to increase its vigilance accordingly.

The state of Texas possesses unique characteristics that place the state's agricultural industry under increased risk as compared to other states. The state shares a 1,237 mile boarder with Mexico and is home to 20 busy land ports of entry. The coast line of Texas is a substantial area of trade with nine seaports. Combine these with four international airports and one can see why Texas plant and animal agriculture faces appreciable risk from foreign pests and diseases due to large amounts of international traffic of both people and product. Risk is high and much is at risk. Texas agricultural commodities generated over \$13 billion in cash receipts in 1999 with the livestock industry estimated to generate around \$8 billion. Agriculture depends heavily on imports and exports which would be stifled by the presence of a foreign animal disease or pest. For example, in 2000, 2.7 million cattle were shipped into Texas and 1.3 million cattle were shipped out to other states.

When one considers the factors that contribute to Texas' increased risk of introduction of a foreign animal disease or pest and the significant industry exposed to this risk, the challenges that face the agencies charged with keeping Texas agriculture safe from diseases and pests and managing them if they are introduced are truly daunting.

PUBLIC HEARING

Animal Agriculture

On May 29, 2002, the Committee on Agriculture and Livestock held a public hearing to study the effects of exotic pests and diseases on Texas agriculture. The Committee requested the witnesses to identify risk pathways, control strategies and potential impacts on the agricultural economy.

Dr. Linda Logan, Executive Director of the Texas Animal Health Commission, gave a presentation that described exotic diseases that threaten the livestock industry in Texas and also discussed strategies for prevention and control. Dr. Logan began her testimony by informing the Committee that some fever ticks on Mexican cattle were making it through the dipping vats on the boarder. The ticks seem to be developing resistance to commonly used chemicals and at least six resistant ticks have entered Texas. She stated that TAHC and USDA-Animal and Plant Health Inspection Service were working on the situation with Mexico through the Binational Commission while maintaining the presence of USDA tick riders on the boarder. She also informed the Committee on a recent outbreak of low pathogenic avian influenza around Giddings in which over 250,000 birds have been depopulated. She stated that keeping this disease out of Texas is of utmost importance for poultry export.

Dr. Logan then commented on the loss of free status for cattle tuberculosis. Texas had achieved free status for all of the state except the El Paso milkshed, which considerably relaxed testing requirements for the exportation of cattle. Since this achievement, cattle TB has been found in a beef herd in South Texas and a dairy herd in West Texas. The loss of free status led to the imposition of an interim rule by USDA which required that adult breeding cattle would have to be tagged and TB tested before leaving Texas. As of January 1, 2003, feeder steers and heifers would have to be officially tagged and feeder heifers would need to be TB tested if not transported to an approved feedlot. Dr. Logan then stated that the TAHC Industry TB Working Group composed of cattle industry representatives would be working on a proposal to submit to USDA to relax some of the severe regulations due to the fact that a downgrade of status on two positive herds was not equitable when one considers the large animal inventory in Texas. The prevalence in Texas is only 2 herds in 153,000 or 1.3 per 100,000. Since the Committee hearing, USDA has indicated that the vast majority of the Industry TB Working Group's suggestions would be accepted.

TAHC, according to Dr. Logan is also closely monitoring brucellosis and scrapie. There have been three brucellosis infected herds detected since September 2001. Herds in Montgomery and Rusk Counties have been depopulated and a herd in Henderson County was under quarantine. Also, two scrapie infected flocks have been detected since 2000. In January 2002, a flock of sheep was depopulated due to a scrapie trace. The Commission continues to test and help implement the National Scrapie Program with the issuance of premises identification numbers. TAHC is also working with Texas Parks and Wildlife on strategies to prevent chronic wasting disease in Texas.

In relation to response strategies and emergency management, the Foreign Animal Diseases Response Plan is contained in Appendix 4 to Annex H of the State Emergency Plan. If a foreign animal disease were to strike Texas, the response would be coordinated by the Texas Animal Health Commission's Texas Emergency Response Team. TERT has been conducting simulations of outbreaks since 1998. This response team is composed of TAHC veterinarians and personnel from USDA APHIS - Veterinary Services. TAHC is a member of the State Emergency Management Council, a group of representatives from 31 different agencies including the Department of Public Safety. The Council would oversee the emergency from Austin headquarters and would work closely with industry groups. According to the Commission, aspects of an emergency response to a foreign animal disease outbreak would include:

- gaining control of the initial incidents;
- assessing indemnification for significant animal slaughter;
- making decisions in regard to slaughter and disposal, control of animal and human movement; and
- a continued effort to inform the public.

Dr. Neville Clark, Director of the Institute of Countermeasures Against Agricultural Bioterrorism, testified that the investment made in diagnosis of and response to a foreign animal disease would be well worthwhile whether the disease was introduced accidentally or intentionally because the course of action would be much the same in both circumstances. One way the two scenarios would be different was mentioned and described. Accidental introduction would likely be a localized incident. Intentional introduction could involve many sites of outbreak at once. Dr. Clark mentioned the need to decentralize diagnostic ability away from Plum Island, New York for more rapid diagnosis and improve systems of carcass disposal. He also commented that foot and mouth disease would, in his estimation, overwhelm our response infrastructure at the current time.

Dr. Lelve Gayle, Executive Director of the Texas Veterinary Medical Diagnostic Laboratory, agreed with Dr. Clark that, at the current time, the state nor federal government had the capacity to deal with a foreign animal disease relating to diagnostics. He also stated that the risk is very high. Dr. Gayle believes that federal and state agencies should strive to be able to effectively react to foot and mouth disease. Due to the fact that the disease exists around the world, year around and is the most infectious foreign animal disease, Dr. Gayle stated, "If you are prepared for foot and mouth, you are prepared for everything". He also spoke to the importance of enabling regional labs, like TVMDL, to play a part in the diagnosis of foreign animal diseases. In the three or so days time it would take Plum Island (home to USDA's Foreign Animal Disease Diagnostic Laboratory) to diagnose a foreign animal disease, the disease would be spreading rapidly and the amount of potential healthy animals destined for depopulation inside the enlarging buffer zone would increase. A regional lab could quickly begin testing around the suspect animal and proceed ahead of the Plum Island results, lessening the impact on healthy animals. (Since the time of the Committee hearing, TVMDL was given financial aide by the federal government and designated as a regional lab to deal with foreign animal diseases.)

Plant Agriculture

Mr. Ray Prewett, Executive Vice President of Texas Citrus Mutual, testified before the Committee, on the threat of exotic pests and plant diseases. He effectively expressed the current threat to plant agriculture when he stated in written and public testimony that, "In recent years the threats to our crops and trees are no longer isolated in faraway places. Modern transportation moves people and goods over enormous distances in ever-shortening times. With the increased travel and commerce we have seen new insects and diseases arrive, spread, and threaten our industry at a growing and disturbing rate". Mr. Prewett mentioned several exotic pests that threaten the citrus industry with special emphasis on Diaprepes Root Weevil and fruit flies.

Mr. Prewett mentioned that Florida growers are spending around \$200 per acre per year to fight diaprepes. It is thought that the weevil was brought to Texas in the soil of a non-citrus plant and spread to groves due to inaction. Detection and accurate identification of the pest at an earlier time could have prevented much expense and effort. Texas Department of Agriculture, Texas A&M University Citrus Center and APHIS are in the process of eradication.

Most fruit flies have been found around Mexican ports of entry and have likely been transported by goods from Mexico. Although eradication efforts for the West Indian Fruit Fly have been largely successful over the years, there is still concern over the Mediterranean and Mexican fruit flies. Many experts agree that an outbreak of the Mediterranean Fruit Fly, which has a host range of about 200 different commodities and impact many fruit varieties, is just a matter of time in Texas. The Mexican Fruit Fly presents a serious problem for exportation of citrus. According to Mr. Prewett, around 30 percent of Texas citrus is exported to California and concerns about Mexfly larvae have interrupted shipments. To combat the problem, Texas has an extensive program to deal with the Mexfly that includes trapping and biological control through the release of sterile flies.

Mr. Prewett, among other suggestions, urged the state to intensify its dissemination of information regarding regulations relating to nursery trees and citrus plants imported into Texas. He also spoke to the need of increasing the inspection effort along the Texas borders with Mexico and Louisiana.

Dr. John da Graca, Deputy Director of the Texas A&M Kingsville Citrus Center, testified on Citrus canker and Citrus tristeza virus. Citrus canker is a bacterial disease that is of major concern to the citrus industry. As of March 2002, over 2 million citrus trees in Florida have been destroyed in an eradication campaign. Grapefruit is especially susceptible to the disease. Dr. da Graca characterized a combination of Citrus tristeza virus and its vector, the brown citrus aphid, as the most significant threat to the citrus industry. In severe forms, CTV kills trees grafted on sour orange rootstock, which is the type that makes up the vast majority of Lower Rio Grande Valley trees. Also, red varieties of grapefruit are very sensitive to stem pitting due to CTV which slowly causes loss of productivity. Dr. da Graca stressed the need of continued support of the grower-funded virus-free budwood program at the Citrus Center with oversight from TDA.

Mr. Eddy Edmondson, President of the Texas Nursery and Landscape Association, described a series of pests that harm the nursery and landscape industry such as the Japanese beetle, Asian long-horned beetle, fire ant, Africanized bees, Dutch elm disease, etc. Mr. Edmondson also emphasized that terms such as “exotic”, “pest”, and “invasive” do not have agreed upon science-based definitions and well intentioned responses to perceived threats can be detrimental to the industry. While admitting that many pests can cause considerable economic damage, Mr. Edmondson also stressed that there is potential economic damage when commonly used plant material is declared invasive. He also suggested that the issue receive further study and that updates may be necessary for the definitions of “pest” and “noxious weed” in state law.

Presentations were made on invasive species such as salt cedar, hydrilla, and water hyacinth. Control efforts directed at salt cedar were highlighted by materials and testimony provided by Texas Cooperative Extension and Texas Department of Agriculture.

Mr. Charles Leamons, of the Texas Seed Trade Association, and Mr. David Worrell gave testimony on Karnal bunt. Karnal bunt is a fungal disease in wheat. Development is influenced by climatic conditions - cool wet weather when the wheat is heading out. In 1997, the disease was found in San Saba County, Texas and in 2001 was found in four other counties in the Rolling Plains. Karnal Bunt has nominal effect on yield and quality and is largely a regulatory and trade issue. Wheat with the disease is not allowed into food channels and seriously devalues the infected crop. The witnesses agreed that the disease should be deregulated and be considered a grade factor. They stated that the United States was the first country to implement a zero tolerance regulation on Karnal Bunt and 80 other countries promptly followed with similar regulations.

RECOMMENDATIONS

The Legislature should continue to support agency efforts to protect both plant and animal agriculture from exotic pests and diseases whether introduced accidentally or intentionally. In this line of thought, the Legislature should seek to give appropriate authority to agencies involved to ensure the efficient and rapid cessation of animal movement in an emergency. An effective diagnostic infrastructure should be maintained in the state so that management activities could be implemented as soon as possible. An upgrade in the state’s ability to effectively diagnose plant diseases should be pursued.

REFERENCES

- House Research Organization. "Farm and Ranch Biosecurity: Is Texas Prepared?". By Dana Jepson. December 4, 2001.
- Testimony: House Committee on Agriculture and Livestock, 77th Legislature, Interim (May 29, 2002) (testimony of Dr. Linda Logan, Executive Director, Texas Animal Health Commission).
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- Testimony: House Committee on Agriculture and Livestock, 77th Legislature, Interim (May 29, 2002) (testimony of Mr. Ray Prewett, Executive Vice-President, Texas Citrus Mutual).
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- Texas Animal Health Commission. "Animal Health Update: Texas Agriculture: Singular Size; Unparalleled Risks. May 2002.

AGRICULTURAL ACCESS TO CAPITAL MARKETS

BACKGROUND

Current Agricultural Lending Market in Texas

The agricultural community in Texas has one of the highest agricultural operator debt levels in the nation, according to a 1997 Census of Agriculture study by the U. S. Department of Agriculture¹. At the time of the study, Texas agricultural operator debt totaled over \$8 billion, with over half of this amount being provided by commercial and savings banks. Other major providers of agricultural operator debt include farm credit system institutions, traditional lenders, implement dealers and finance corporations, farm service agencies and state and county government lending agencies.

Providers of Agricultural Operator Debt - Texas (1997)

<u>Providers</u>	<u>Amount</u>	<u>% of Total Debt</u>
Commercial and Savings Banks	\$ 4,250,000,000	52.0%
Farm Credit System	\$ 1,235,407,000	15.1%
Other Lenders	\$ 745,615,000	9.1%
Mortgage Debt from Seller	\$ 577,946,000	7.1%
Implement Dealers and Financing Corp.	\$ 442,309,000	5.4%
Farm Service Agency	\$ 307,512,000	3.8%
State/County Govt. Lending Agencies	\$ 196,241,000	2.4%
Land Purchase Companies	\$ 155,797,000	1.9%
Other Debt (Unpaid Bills)	\$ 106,598,000	1.3%
Life Insurance Companies	\$ 63,133,000	0.8%
Co-Ops, Merchants and other Input Suppliers	\$ 46,752,000	0.6%
Small Business Administration	\$ 38,701,000	0.5%
Contractors	<u>\$ 7,179,000</u>	<u>0.1%</u>
	\$ 8,173,239,000	100.0%

Source: 1997 Census of Agriculture - U. S Dept. of Agriculture

According to bank published financial reports available at the Federal Deposit Insurance Corporation (FDIC) website, farm loans by Texas banks, both state and national institutions, have increased over the past decade. From 1992 to 2001, total farms loans in the state increased over \$1 billion, from almost \$3.6 billion to almost \$4.7 billion². Of this amount, farmland loans increased from over \$900 million to over \$1.6 billion, while production loans went from over \$2.6 billion to over \$3 billion. Interestingly, while the total loan dollars increased over this span, the number of Texas banks making agricultural loans decreased from 1,089 institutions in 1992 to 686 in 2001. Coinciding with the decrease in lenders was a gradual increase in the percentage of total farm loans compared to total assets from 2.02% to 3.23%.

Agricultural lending markets involve several unique factors not experienced in other capital markets. Some key items to consider in relation to agricultural lending are:

- Government assistance programs and subsidies are necessary to partially offset lending risks and keep independent farmers in business;
- Normal production expenses, particularly irrigation costs, are continuing to rise;

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- Environmental issues associated with pesticides and herbicides may also increase production costs;
 - The availability of water for crop irrigation may be a serious problem in the immediate future; and
 - The ability of young farmers to effectively compete and enter the industry is being seriously jeopardized because of high capital entry requirements³.

To assist in understanding the history and complexities of the agricultural lending market, the Texas Finance Commission is currently preparing a Agricultural Business Lending Study. This comprehensive research project of Texas agricultural business will include a 20-year history of statistical and demographic agricultural lending information, a historical review of government sponsored agricultural price, conservation, guaranty, and direct lending support programs, and a current survey of lending experiences by agricultural producers or "first handlers" in Texas. The process will include in-depth interviews with industry experts to obtain relevant information, a survey of about 400 producers meeting the study's population definition, and a comprehensive report with narrative analysis and statistical support. The report is expected to be issued by November 30, 2002.

Texas Department of Agriculture Programs

The Texas Department of Agriculture (TDA) has several current programs available to the Texas agricultural industry. These programs are designed to assist and promote the use of Texas agricultural products and to create and retain jobs through business development using value-added production, processing and marketing of agricultural products.

The Rural Economic Development Division (the Division) assists rural communities and agribusiness throughout the state. Among the many services provided are assisting start-up agricultural businesses with identifying resources for business plans, contacts, feasibility studies and grant searches. The Division also administers the Texas Capital Fund to provide financial assistance to eligible cities and counties, conducts regional economic development workshops and identifies opportunities for diversifying traditional agriculture-based economies. Furthermore, the Division promotes awareness among the agricultural community of state, federal and private economic development and finance programs.

One state level finance program available since its creation in 1987 is the Texas Agricultural Finance Authority, a public authority within TDA providing financial assistance through eligible lending institutions to credit-worthy individuals, business and to rural communities. The finance programs administered by TFAA may provide guarantees to a lending institution in support of a borrower's loan request, reduce the interest on certain types of loans, purchase an interest in a loan, and provide financing for infrastructure and other purposes what will enhance or maintain economic development in a rural community. TFAA programs assist rural communities and businesses, producers, processors, marketers and entrepreneurs to diversify agricultural production and to create value-added agricultural businesses that will capture a greater share of state, national and international markets.

Texas Risk Management Education Program

The Texas Risk Management Education Program (the "TRME Program") is administered through the Texas Cooperative Extension, part of The Texas A&M University System. The TRME Program is funded by the Texas Legislature and is intended to provide a comprehensive basis for risk management education covering such aspects as sources of risk, strategies for reducing risk and

economic and financial analysis of alternative strategies for reducing risk. The TRME Program has two main components: risk management education and financial and risk management ("FARM") assistance. The risk management education component includes both educational materials and the Master Marketer Program. The FARM Assistance involves a strategic decision support system and assistance from risk management specialists.

The Master Marketer Program was started in 1996, combining three successful educational concepts (intensive education, master volunteers and marketing clubs) into a program to help farmers and ranchers understand how to use various risk management strategies. Participants attend a 64-hour intensive marketing education training session to increase their marketing/risk management awareness, knowledge and skills. Once trained, the participants then serve as volunteers to start and lead marketing clubs in their home counties. To date, over 70 marketing clubs statewide have been established.

Overall, over thirteen workshops have been conducted with over 600 graduates. Reported individual increase averaged \$23,900 per producer. Furthermore, the program has been expanded to include a national Marketing Club Teleconference Network and a quarterly Master Marketer newsletter. Since 1998, various curriculum tools have been developed for the public, including a *Risk Management Education Curriculum Guide*⁴ and a *Marketing Club Cookbook*.⁵ Furthermore, the importance and impact of the program was recognized in the 2002 Farm Bill, encouraging the U. S. Secretary of Agriculture to "expand such programs to provide quality risk management training for farmers across the country."

FARM Assistance is a strategic planning tool designed to provide farmers and ranchers the flexibility to pro forma analyze their operation under risk for the purpose of choosing among risk management tools and business strategies. Basically, it allows producers to do "what ifs." Key advantages of the FARM Assistance program include working one-to-one with clientele, analyzing and reporting on base operation and alternatives, a database of alternatives and producer data, and the long term benefit to expanded numbers of producers.

FARM Assistance provides valuable services to the program's participants. It allows producers to analyze where their business currently stands, including organizing their financial records. The program then projects where the producers business will be without changes, then compares this to how certain business alternatives will impact their production. This tool allows producers to approach potential lenders with a solid business plan in place. Furthermore, the program allows producers to compare their production to other producers in the area within a certain biogeographic area. Participants in the program represent a diverse base of production areas, including crops, cattle, dairy, poultry, sheep/goats, aqua-culture (catfish and crawfish), pine trees, and miscellaneous products like emus, eco-tourism and hunting.

Once a participant has analyzed their operation, business alternatives are then considered. Various investment decisions are considered, taking a conservative approach to decision making. Options that are considered include purchasing or leasing additional land, renting versus buying additional equipment, analyzing alternative crops or increasing herd size, and projecting the impact of future government payments. Financially, the participants analyze the impact of paying off existing debt, off-farm investments, and refinancing existing debt.

The impact of the FARM Assistance program extends beyond its participants. For those farmers and ranchers who do participate the value of strategic decisions made have resulted in a benefit of \$114 million, or \$306,000 per producer. This number per producer encompasses all benefits, both positive economic decisions made and negative economic decisions avoided over a 10 year

projection. In the near future, the program will utilize its extensive producer information database to monitor the health of Texas production. FARM Assistance can then effectively assess the impact of proposed policy changes for the Legislature as well as help target future educational programs.⁶

2002 Farm Bill

The Farm Security and Rural Investment Act of 2002 (the "2002 Farm Bill") was signed into law on May 13, 2002. Key provisions support the production of a reliable, safe and affordable food supply, promote stewardship of land and water, facilitate access to American farm products, encourage continued infrastructure development, and ensures continued agricultural research. The bill includes provisions to alter the farm payment program to include counter-cyclical farm income support, expand conservation land retirement programs and emphasize on-farm environmental practices, and restructure rules to create more eligible borrowers for Federal farm credit assistance, among others⁷.

Title V of the 2002 Farm Bill represents the changes made to Federal credit policies. While relatively minor changes were made, significant impact could be seen in beginning farmer and rancher programs. Farm Service Agency ("FSA") lending resources were changed to modify program benefits, target more resources toward beginning farmers and ranchers and increase the opportunity to buy land held by the FSA. Annual funding for FSA loan programs was set at \$3.8 billion. Additionally, FSA farm loan eligibility rules were relaxed to make more borrowers eligible for Farm credit assistance, including increases in the percentage that may be lent for down payment loans and extensions in the duration of these loans.⁸

ANALYSIS

Credit Availability for Agricultural Borrowers

Credit availability to agricultural borrowers was outlined in testimony before the committees, highlighted by results from a survey conducted by the Independent Bankers Association of Texas ("IBAT") to its Agriculture and Rural Affairs Committee. According to respondents, issues that have caused concern or reduced credit availability for agricultural loan applicants were ranked as follows:

1. Lack of equity
2. Bad credit/over leveraged
3. Concern regarding federal farm program
4. Adverse weather conditions
5. Poor marketing plan
6. Poor experience with the applicant
7. Applicant's lack of experience

General concerns presented to the committees included those of weather and water, and the impact that various factors may have on crop prices. IBAT recommended to the committees that to provide reasonable credit to stable agricultural producers, assurances regarding stability of prices and inputs was needed.⁹

Home Equity Lending Restriction on Agricultural Property

The current Constitutional restriction on home equity lending for agricultural property was raised in testimony before the two committees as a barrier to credit for Texas farmers and ranchers. As a result, agricultural lenders are currently unable to offer home equity loans to the agricultural sector, regardless of the fact that there are potential borrowers in this market that do have a basis for credit and are able to service their loans. Proponents of allowing agricultural borrowers access to their equity suggest this restriction on the assets of the agricultural citizen puts them on unequal footing compared to their urban counterparts.

In 1997, Texas passed legislation to allow its citizens to access the equity in their homestead for the purposes of a home equity loan. Considerable consumer protections were built into the provisions. One of the limitations included in the bill that passed both the Legislature and a public referendum was a restriction against using agricultural property. This provision was intended to ensure that an individual, in this case a farmer or rancher, would not lose their ability to make a living as a result of foreclosure. According to testimony, many of today's agricultural borrowers are not full-time farmers as they cannot make a living on the 200 acres allowed for an agricultural homestead. Instead, they must rely on off-farm income to service their debt.¹⁰

Additional Considerations

Additional testimony provided on behalf of the Texas Bankers Association focused on several other factors to consider in the agricultural lending market. These included:

1. Consideration of "Aggie bonds"- Tax-free bonds that have been successful in other states, could possibly provide access to capital for the agricultural industry in Texas.
2. Possible establishment of special category of TAFA loans that could be approved by staff for funding - Due to TAFA Board meeting only once a month, some agricultural borrowers experience a 60 to 90 day delay from the time eligible loan application was made at their bank. This delay can potentially lead to loss of business or missed business opportunity, especially to small producers.
3. TDA to promote new products - Urging TDA to seek out data on what Texans consume and how to foster production of these products. The "Go Texan" program was cited as a good example of promoting the purchase of Texas products.
4. Creation of TDA ombudsman - To help lenders and borrowers negotiate and navigate available federal lending programs.
5. Revisions to Uniform Commercial Code in Texas - Potential problem arises when borrowers can release a UCC-1 inappropriately without signature.

RECOMMENDATIONS

The Legislature should provide local individuals interested in agricultural value-added processing with assistance in feasibility analysis of potential value-added enterprises via Texas Cooperative Extension resources. A program very similar to the FARM Assistance program could advise value-added entrepreneurs in regard to business and marketing plans for a potential project.

REFERENCES

- ¹ *Briefing Packet for House Committee on Financial Institutions and House Committee on Agriculture, 77th Tex. Legis., Interim (June 4, 2002) (testimony of Randall S. James, Banking Commissioner of Texas).*
- ² *Ibid.*
- ³ *Ibid.*
- ⁴ Available online at http://mastermarketer.tamu.edu/cur_lum.htm
- ⁵ Available online at <http://mastermarketer.tamu.edu/otherinfo.htm>
- ⁶ *Update on the Financial and Risk Management (FARM) Assistance Program and Master Marketer Program: Joint Hearing before the House Comm. on Ag. and Livestock and the House Comm. on Fin. Inst., 77th Tex. Legis., Interim (June 4, 2002) (testimony of Edward Smith, Mark Waller, Joe Outlaw and Danny Klinefelter, Texas A&M Univ.).*
- ⁷ Economic Research Service, U. S. Dept. of Agriculture, The 2002 Farm Bill: Provisions and Economic Implications. Further information available online at <http://www.ers.usda.gov/Features/farbill/>
- ⁸ Economic Research Center, U. S. Dept. of Agriculture, Farm Service Agency Farm Loan Programs. Further information available online at <http://www.ers.usda.gov/Features/farbill/analysis/creditprovisions.htm>
- ⁹ *Testimony from Independent Bankers Association of Texas: Joint Hearing before the House Comm. on Ag. and Livestock and the House Comm. on Fin. Inst., 77th Tex. Legis., Interim (June 4, 2002) (testimony of James Kennon, V.P., City National Bank, Sulphur, Texas).*
- ¹⁰ *Testimony: Joint Hearing before the House Comm. on Ag. and Livestock and the House Comm. on Fin. Inst., 77th Tex. Legis., Interim (June 4, 2002) (testimony of Ted Conover, CEO, Heritage Land Bank, ACA, Tyler, Texas).*

CONSERVATION TILLAGE AND CARBON SEQUESTRATION

BACKGROUND

Conservation Tillage

Conservation tillage can be broadly defined as a practice where an agricultural producer tills or plows the land fewer times during a season and as a result leaves a substantial amount of crop residue on the surface of the field. In most scenarios of a conservation tillage system, the number of tillages would be at least half that of conventional tillage. Conservation tillage can encompass no-till, technically to mean no tillage passes over the field, and strip tillage, where a single berm is created by a single pass by a coulter or shank for a more conducive seed bed. More specifically, according to the Conservation Technology Information Center and the National Association of Conservation Districts, “no-till” is achieved when at least 30 percent residue is left after planting and two-thirds of the row is left undisturbed from harvest through seeding. Weed control is accomplished by herbicides. Also, soil disturbance is limited to planters or drills that are able to cut through residue by devices such as row cleaners, injection knives, coulters etc.

There are many important benefits associated with conservation tillage, some for farmers and some for the general public, which also includes farmers.

For the farmers, conservation tillage takes less fuel, labor and time due to fewer required passes over the field with lower horsepower equipment. With no deep plowing, horsepower requirements would be lowered and with fewer passes, it has been estimated that as much as 3.5 gallons of fuel can be conserved per acre.

The residue, or stubble, acts as a mulch to retain moisture. The mulch reduces the impact of raindrops, buffers the soil from temperature extremes, and reduces evaporation. Due to slowed runoff water infiltration increases. Especially in hot conditions, conservation tillage can lead to greater moisture maintenance versus conventional tillage and can help accumulate moisture in the winter which can lead to more acceptable yields in dry times. According to a Texas Agricultural Experiment Station publication, conservation tillage has been shown to save one entire irrigation per growing season for certain crops.

Conservation tillage promotes the build up of organic matter in the soil over time, allows for increased soil permeability and water holding capacity. An organic matter increase of 1 percent to 2 or 3 percent over 7-8 years is attainable. The stubble on field can also serve to increase the quality of certain wildlife habitat.

The same factors mentioned above help reduce soil erosion which benefit farmers by keeping soil in place and the general public by keeping sediment out of rivers and streams. In addition to soils, fertilizers, pesticides, and herbicides stay in place at an increased rate to be utilized by the crop and not washing into water bodies used by the public. The crop residue holds these agents in the field and prevent them from running off.

Another dual benefit is the reduction in wind erosion. Soil stays in place for the farmers and the general public enjoys better air quality. Not only is air quality relating to particulate matter enhanced but conservation practices also reduce the amount of carbon exposed to oxidation lowering the amount of carbon dioxide in the atmosphere.

Carbon Sequestration

This particular benefit is attracting attention from the agricultural community, the environmental community and carbon dioxide emitting industries and deserves special attention. Many in the environmental community are interested in reduction of greenhouse gases while agricultural producers would seem to be interested in management practices that would provide all the benefits mentioned above along with possible economic incentives to sequester carbon through conservation tillage. Carbon sequestration is an issue that can provide benefits to many interests at the same time.

According to many different scholarly works, there is significant potential to decrease carbon in the atmosphere through sequestration in soils. Dr. Bruce McCarl, of Texas A&M, states in his paper “Soil Carbon: Policy and Economics” that, “Agricultural soils provide a prospective way of mitigating the increasing atmospheric concentration of CO₂. A number of agricultural practices are known to stimulate the accumulation of additional soil carbon and early indications are that some might sequester carbon at relatively modest costs with generally positive environmental effects”.

Carbon is absorbed through photosynthesis and stored in the soil by the plant. As mentioned earlier, when soils are plowed many times in a season, organic carbon is exposed to oxidization. With minimum disturbance of the carbon in the soil, conservation tillage creates a carbon sink instead of carbon emission. Also, in relation to the carbon cycle, production and use of biofuels as an alternative to combustion of fossil fuels can mitigate carbon emissions.

Not only can conservation tillage cancel emission from tillage but there is credible evidence that the practice is able to sequester carbon from other sources producing a significant reduction. The amount of carbon sequestered depends on management practice, soil type, and crop. Rate of sequestration is dependent on moisture and temperature among other factors.

Sequestration has been demonstrated by scientists at research facilities across the nation including the Texas Agricultural Experiment Station and the USDA- Agricultural Research Service Grassland, Soil and Water Research Laboratory in Temple. In addition to organic matter dynamics, a 30 year computer simulation comparison of continuous corn grown under high, medium, and low tillage was conducted. Low tillage sequestered over 10 more tons of carbon per acre than high tillage over a 30 year period. Other research performed by TAES and USDA-ARS revealed that residue management plots at Bushland, Temple, and Corpus Christi under no-till management yielded increases in soil organic carbon as compared to conventional tillage. Studies were also completed showing similar results on the semiarid Southern Great Plains.

There seems to be an opportunity for agricultural producers to offset carbon emissions from fossil fuel sources in a voluntary, incentive based approach. A market could be developed that would reward farmers who employ conservation practices to store carbon. An emission trading system within the private sector could provide the financial incentive. Emitters with high emissions could pay agricultural producers to store carbon instead of retrofitting their own plants to reduce emissions at extensive cost. Sinks of carbon can offset domestic emissions as well as international emissions.

An example of a domestic arrangement can be found in an agreement recently made between Entergy and a group of farmers organized as an alliance in the Pacific Northwest. Under the agreement, Entergy will support the farmers in conservation activities and receive credit for carbon dioxide reductions to offset emissions by their power plants. For a feasible market to develop,

carbon credits (evidence of sequestration) must be commodities that can be identified and verified. Dr. McCarl, mentioned previously, states that in order for a trading system to advance, brokers may be necessary to aggregate and market individual carbon reductions and public or private entities need to certify the carbon sequestered. Many experts agree that these types of arrangements to sequester carbon can reduce carbon dioxide levels for the near future until new technologies reduce emissions significantly at reasonable costs. More information on the possibility of trading may be found in Appendix A.

Some potential problems exist with conservation tillage that could stunt the development of carbon sequestration as a income producer. Cooler soil temperatures and moisture produced by residue could interrupt normal planting schedules. Older farmers may not be willing to change systems and others may not want to incur initial equipment costs (for no-till drills, hooded sprayers, etc.) still others fear that landlords may not appreciate “trashy” fields. Also, conservation tillage, in order to appropriately sequester carbon, must be maintained for long periods of time.

Some assert that reductions in greenhouse gases through a cap and trade system and the resulting prices of carbon to the emitting industries could lead to higher energy prices. Regulation of carbon dioxide is another issue. It is important to remember Texas farmers could take advantage of the demand for sequestered carbon no matter where that demand is generated, domestically if the US decides to regulate carbon dioxide or overseas where many countries are already demanding evidence of sequestered carbon. If the United States decides to regulate carbon dioxide, Texas farmers should be in a position to benefit from the policy. If not, farmers should be in a position to help supply the demand no matter where it originates.

WRITTEN TESTIMONY

In lieu of a public hearing, the Chairman requested that certain individuals and groups submit written testimony on the charge. The following were gracious to comply.

Dr. Bruce McCarl, Department of Agricultural Economics, Texas A&M University

Chairman Swinford and Committee members, I am Bruce McCarl, Professor of Agricultural Economics at Texas A&M University. I along with a number of colleagues have been researching the potential contribution that agriculture and forestry could make to greenhouse gas emission reductions by means including the no-till farming practices. Out of that work our basic conclusion is that there are important ways agriculture can contribute to the reduction of net emissions. However, difficult implementation and scientific questions remain to be resolved. Let me elaborate.

There are three primary ways producers in the Agriculture and Forestry sectors can offset greenhouse gas emissions. First, they can increase absorption of atmospheric carbon dioxide by enhancing carbon retention in soils, plants and trees. Second, they can grow biomass crops for energy thereby displacing fossil fuels. Third, they can reduce direct emissions by altering fuel use, managing cattle diets and animal waste processes, and altering fertilization practices.

Of the three possibilities above, the first involves what has come to be known as carbon sequestration and involves no-till practices, and land use change. Namely the carbon in agricultural systems (called sequestered) is increased by reduced soil disturbance and increased long-term

vegetation. No-till agriculture reduces soil disturbance, as does conversion to grasslands or trees. In particular, estimates have shown that carbon increases by about 0.25 tons per acre for 10-15 years at which time carbon gains cease. Afforestation and grassland conversions also increase carbon with carbon also accumulating in long-lived trees and possibly brush.

Based on our analysis we conclude Agriculture and Forestry can produce sequestered carbon as a cheap offset for greenhouse gas emissions. Such offsets, if they could be sold in an emissions market, should be attractive to non-agricultural firms wanting to offset emissions. An emissions market would provide farmer and forester income enhancement, but would also likely raise farm and forest production costs. In addition, actions to offset gasses would likely reduce food and fiber production causing higher food prices and lower levels of exports. However, provision of such a market would promote significant other benefits such as improved water quality and lessened erosion.

Farmer and forester reaction to a market would likely involve a mix of strategies. Forest expansion and agricultural soil strategies seem to have the largest potential at low prices and biofuels for power plants become the most attractive at prices above \$50 per metric ton carbon. Different strategies dominate in different parts of the country. Restriction of market trades to any one strategy (like just biofuels or soil sequestration or forest expansion) can substantially raise the cost of offsetting emissions.

Thus we feel there is real potential for a private industry / agriculture and forestry partnership to emerge with money flowing for emissions reductions that are not governmental dollars. However, we feel that substantial implementation issues exist with respect to these items. Principally we feel the geography of agriculture and forestry introduces significant factors

- Non-point nature of offset possibilities
- Measurement of emissions offsets,
- Monitoring of compliance,
- Saturation and permanence of carbon uptake,
- Emission leakage (or slippage) created by projects and programs;
- Geographically varying results from pursuing strategies;
- Targeting to reach low cost producers;
- Costs of brokers to bring parties together;
- Handling of property rights and
- Unequal generation of co benefits across strategies.

In closing we think the topics of this committee offer significant potential for agriculture and forestry but feel we need to do considerable work on implementation issues.

Jeffrey Williams of Entergy Services Inc.

My name is Jeffrey Williams, Senior Lead Environmental Analyst for Entergy Corporation and I work in Entergy's Woodlands, Texas office. My job responsibilities include helping to implement programs that reduce Greenhouse gas emissions and to reporting progress on emissions reductions.

Entergy is headquartered in New Orleans, Louisiana and is the fifth largest electricity-generating

company in the U.S., with over 30,000 megawatts of generating capacity worldwide. Our electric utility serves approximately 354,000 customers in Texas. Entergy's power plants produce electricity from a variety of fuels and energy sources, including gas, oil, coal, hydro power, nuclear power and wind. Combustion of fossil fuels to generate electricity is the company's major source of greenhouse gas emissions and CO₂ (carbon dioxide) is the major type of greenhouse gas from our operations.

As part of its corporate environmental program, Entergy is undertaking a number of actions to limit or offset its CO₂ emissions. For example, we have initiated over two dozens projects at company power plants throughout our system to improve plant performance and reduce air emissions. We also have undertaken a variety of projects to reduce greenhouse gas emissions outside of Entergy's own facilities and operations. Such "external" projects, as we call them, effectively offset company CO₂ emissions by reducing emissions elsewhere. The project I am here to speak to you about is one of these offset projects.

On April 15 of this year, Entergy entered into a first-of-its-kind agreement to acquire 30,000 tons of CO₂ offset credits from the Pacific Northwest Direct Seed Association (PNDSA). The offset credits are being generated by PNDSA growers who have agreed to use direct seed methods for the next 10 years. According to research conducted by Pacific Northwest STEEP (Solutions To Environmental and Economic Problems), direct seed cultivation avoids releasing CO₂ from the soil as a result of tilling, which exposes carbon-containing organic material to the air where it oxidizes and is released as CO₂. Therefore, the carbon from the atmosphere that is sequestered or "fixed" in the soil when agricultural crops are grown remains in the soil and is not released back into the air when subsequent crops are planted. STEEP research shows that direct seed methods also reduce the amount of CO₂ emissions resulting from soil erosion and from the fact that less fuel needs to be burned in farm equipment compared to traditional farming methods.

The emissions thus avoided by direct seed practices created the CO₂ offset credits we obtained in the agreement with the PNDSA. As I said before, our interest is in using the credits to offset CO₂ emissions from Entergy's power plants, while the PNDSA and its growers are interested in perfecting sustainable farming practices that reduce their costs and help preserve the soil productive capacity for future generations. It was our mutual interests that made this project possible.

What is unique about this agreement is that growers now have a mechanism to profit from using farm methods that retain and add carbon content to the soil. More carbon in soil means less CO₂ buildup in the atmosphere. This environmental benefit from direct seed farming had previously gone unrewarded. From Entergy's perspective, we are identifying and beginning to work through the technical difficulties involved in bringing a new option to the market for improving agricultural practices and dealing with the risk of climate change.

Charles A. Wade, Blackland Conservation Technology Coordinator
Soil Conservationist, Natural Resource Conservation Service

I am sending to you a copy of the Blackland Conservation Technology Alliance Business Plan (available in Appendix A). This material will let you know who we are and what we are about, and the area we are trying to serve.

The Blackland Conservation Technology Alliance is made up of individual producers (farmers), private industry, and governmental agencies, and we are producer driven. We are using field size research and demonstration plots using conventional equipment. The cornerstone of the alliance's philosophy is conservation tillage practices, including strip-till, no-till techniques compared to conventional tillage. Our goal is better soil, cleaner water, greater profits, and a brighter future for everyone.

We are in our first year and we have used the Stiles Farm Foundation Farm at Thrall, Texas in Williamson County as our main center, and we had three off site farm demonstrations on the John Perryman farm in Bell County, the Lucas Farm operated by Bobby Henson in Falls County, and the Leslie Marek Farm in Milam County. This spring we had a tour to look at the work on Strip-Till and No-Till on these farms. This summer the Alliance had their main field day at the Stiles Farm and approximately 700 people attended. On October 7 we will have our fall conference on Conservation Tillage at Flagg Hall in Cyclone, Texas in Bell County.

We are very optimistic about our work and hope that the alliance continues to grow.

I hope this information will be useful to you and the committees. We would like to have you and the entire committee attend one of our conferences or field days. We appreciate Joe Cox attending and his help. If we can be of assistance to you or your staff's please let us know.

Bruno Alesii, Monsanto Technology Development Manager

Thank you very much for the opportunity to provide testimony to the House Committee on Agriculture and Livestock regarding conservation tillage adoption and current practices in Texas. I am the Technology Development Manager for Monsanto, and currently serve as well as Chairman of the U.S. Conservation Technology Information Center, a non-profit, public/private partnership established in 1982 under the charter of the National Association of Conservation Districts. I am here today in my capacity as a career-spanning advocate of conservation tillage technology for Monsanto and also as a citizen of the great state of Texas.

Most of the focus over the last few years to find technologies to reduce greenhouse gases in the atmosphere has been in the areas of energy use, renewable energy sources, manufacturing efficiencies and motor vehicle efficiency. Recently however, farmers are learning that the way they farm can have a significant impact on climate change. By using a simple but powerful farming technology, farmers can significantly reduce atmospheric carbon dioxide.

The technology I speak of is called "conservation tillage." It's a farming practice that utilizes little if any tillage, leaving the soil relatively undisturbed. It's not a new concept and some farmers have used it for years as a way of reducing erosion, protecting the water quality of streams and lakes and providing habitat and food for birds and other wildlife. Now however, farmers are learning that conservation tillage can significantly mitigate global climate change.

Agriculture can be part of the solution to reducing greenhouse gas levels by contributing to soil carbon sinks. These sinks can play a significant role in mitigating global climate change by acting as a giant sponge to sequester carbon dioxide out of the atmosphere and store it in the soil. Soil carbon sinks are natural systems such as farmland or forests. When farmers prepare their fields for

planting using conventional methods, they till the soil, exposing the soil organic matter to air and releasing through the oxidation process much of the trapped carbon as carbon dioxide to the atmosphere. In conservation tillage, farmers plant seeds through the stubble of the previous crop into the soil without disturbing or tilling the soil. The ground cover from the stubble and the root systems from the previous crop keep topsoil in place and add to the soil organic content as they decay. New crops then emerge through the stubble, processing carbon dioxide from the environment -- and the cycle continues.

Studies conducted on farms in the Midwestern U.S. have shown that conservation tillage practices can sequester on average 0.2 - 0.4 tons of carbon per acre per year (or 1.4 tons of carbon dioxide/acre/yr.), the equivalent amount of carbon released from burning 20 - 50 gallons of gasoline. The Conservation Tillage Information Center reported that, in 2000 there were about 109 million acres, or 37 percent of U.S. cropland using conservation tillage methods. This equates to about 22 million tons of carbon or 80 million tons of CO₂ that were sequestered in one year in just one country from using this farming method. Worldwide potential is enormous. Only 10 percent of the 2.5 billion cropland acres suitable for conservation tillage worldwide are currently using this method.

In the United States alone, widespread adoption of conservation tillage and other management practices, such as buffers and crop intensification, could potentially fulfill 20-30 percent of the U.S. carbon dioxide reductions targeted at the Kyoto meetings. Additionally, since heavy tillage with large tractors is not necessary, no-tillage farming saves 3.5 gallons of fuel per acre, resulting in less carbon dioxide emitted.

Texas is uniquely suited to adoption of conservation tillage practices, with its low average rainfall, windy conditions much of the year and large agriculture base in cotton and other crops that are well-researched in terms of positive economic impact from using CT practices. However, according to the U.S. Natural Resources Conservation Service (NRCS) Natural Resources Inventory ranking, Texas ranks Number 1 in the nation for overall gross soil erosion (reported in tons per acre), Number 1 for gross water erosion and Number 2 for gross wind erosion. This means a large number of acres are unprotected in Texas from the forces of wind and water, as well as having one of the lowest adoption rates in the country for soil and water saving conservation tillage practices.

What is our interest, you may ask? Monsanto's agricultural products are well suited to support and encourage conservation tillage. *Roundup* herbicide is an environmentally-friendly herbicide tool that farmers can use to control weeds without resorting to the plow or cultivator. *Roundup* has been instrumental in facilitating conservation tillage around the world. The more recent addition of *Roundup Ready* crops has further encouraged and facilitated the adoption of conservation tillage. These crops are resistant to *Roundup* herbicide, which means that even after the crops are up and growing, *Roundup* herbicide can still be used to control weeds without tillage. As a company, Monsanto is committed to support and help the agricultural community as a whole adopt practices which sequester carbon and develop technologies that are climate friendly.

The government can play an important role through actions which encourage stewardship and development of new technologies such as incentives for best practices, raising awareness and funding innovative research and by supporting market driven mechanisms such as carbon trading mechanisms that reward farmers for storage of carbon.

There are a number of state model programs at work today in the nation: These include incorporating no-till as part of the state's Best Management Practice cost-share program at \$100 per acre for a 5- year commitment in Virginia; a natural resources district incentive program in Nebraska that pays \$10/acre up to 160 acres for five years; low interest loans used for purchase of drills and other equipment that aid conservation tillage practices, or loans to retrofit existing equipment – available in many states today; and innovative state research programs examining the potential for carbon trading in-state.

Texas is a state with a number of energy companies and farmers with the opportunity to adapt conservation tillage practices. Therefore, it stands to reason that the state could act as a facilitator in enabling energy companies to offset the CO2 emissions from their plants by paying no-till farmers for reducing carbon dioxide emissions and storing carbon in the soil. Sound far out? A leasing agreement in the Pacific Northwest with Entergy and the Pacific Northwest Direct Seed Association does exactly that and is the first in the nation to demonstrate the potential for reducing greenhouse gasses, while enabling carbon sequestration and good farming practices.

In conclusion, conservation tillage has many benefits:

- Topsoil preservation: 25 billion tons of topsoil are lost each year to runoff. No-Till farming decreases soil erosion rates by 90 percent by holding soil particles on the field.
- Groundwater quality: nutrient, pesticide and water runoff is decreased by at least 70 percent over conventional tillage.
- Reduced air pollution: Crop residues reduce wind erosion and the amount of dust in the air. Lower horsepower requirements and fewer trips also reduce fossil fuel emissions.
- Long term farm productivity: The less you till, the more carbon you keep in the soil to build organic matter and promote future productivity. Increased organic matter in the soil improves the texture, moisture, porosity and fertility of the soil. Earthworm populations increase 2-3 fold over conventionally tilled farms.
- Wildlife habitats are improved for species ranging from microorganisms to invertebrates to birds and mammals. *Roundup* herbicide facilitates no- till practices, since it has no harmful effect on microorganisms, and shows minimal toxicity to mammals, fish and invertebrates. Leaving crop residue encourages the development of a greater diversity of beneficial insects, which draw birds and mammals. Reduced erosion and runoff improves the water quality of nearby streams, resulting in greater aquatic diversity.
- In addition, conservation tillage saves farmers money and time: No-Till requires as little as one trip for planting compared to two or more tillage operations plus planting for conventional tillage.

Texas farmers need all the encouragement from government they can get to move forward adoption of these practices, which have a direct benefit to all society. Thank you for the opportunity to provide testimony before this committee.

RECOMMENDATIONS

The Legislature should continue to support state entities that offer technical expertise to producers regarding conservation tillage via local agency personnel (Texas Cooperative Extension, Soil and Water Conservation Board, etc.). The Legislature, in conjunction with the appropriate agencies, should explore the possibility of providing agricultural producers who choose to implement conservation tillage the opportunity to participate in carbon trading should a viable market develop in the private sector for such credits.

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AGRICULTURAL CHEMICAL SECURITY AND AERIAL APPLICATORS

BACKGROUND

The events of September 11, 2001 have motivated industries that produce, distribute, and use potentially harmful chemicals to be more conscience of security in an attempt to decrease the likelihood of these substances being used to inflict damage. Some agricultural chemicals, such as some fertilizers, and some application methods, like crop dusters, could potentially be used for terroristic purposes. There is growing evidence that aerial application airplanes may not be a useful terroristic tool. However, vigilance in regard to security for both chemicals and airplanes remains a priority for industry.

At the current time, warnings from the FBI still result in encouragements from the National Agricultural Aviation Association for agricultural aircraft operators to maintain a heightened state of operational security. Following September 11th, many groundings of agricultural aviators took place costing both the operators and agriculture in general. The aviators and their association took the responsibility of increasing security systems for aircraft and chemicals upon themselves in order to prevent terroristic attacks and to avoid unnecessary groundings. The NAAA recommended that aircraft and chemicals should be stored in locked hangers with electronic security if at all possible. Also, they recommended hidden security switches on aircraft to prevent unauthorized starting and maintained lines of communication with federal and local law enforcement.

The most recent evidence and study have indicated that the use of crop dusters for terrorist purposes is not very probable. A study was conducted by the Henry L. Stimson Center Chemical and Biological Weapons Nonproliferation Project that stated this contention. The authors of the study made the assertion due to such factors as the difficulty of flying crop dusters (unevenly distributed extra weight) and lack of ability of most crop dusters to apply fine aerosol sprays that would stay suspended and affect the maximum amount of people. Most sprayers are configured for 100 micron droplets so material will settle effectively on the crop. Most biological agents that would be used for terroristic attacks need to be applied in droplets from 1 to 10 microns.

Recently, when the Attorney General increased the threat level for terrorist attack to “high”, the EPA issued a pesticide security advisory and suggested that those who manufacture, distribute, transport, or store pesticides should be especially vigilant on matters of physical security of chemicals. Any threats or suspicious activity are to be reported to the FBI. They also encourage each facility to develop a “chemical facility vulnerability assessment”. This assessment is a tool which chemical facilities can use to assess their potential security shortcomings and how to address them. This material may be accessed at the National Institute of Justice website at: <http://www.ncjrs.org/pdffiles/nij/195171.pdf>

The Commissioner of Agriculture, Susan Combs, took steps after September 11th to improve communication with and among aerial applicators, grain warehouse operators, and pesticide dealers. Texas Department of Agriculture maintains a system to notify licensed commercial applicators within one hour of any groundings ordered by the FAA. More information about the efforts of the Texas Department of Agriculture are available in Appendix B.

Also, available in Appendix B is an excellent report compiled by the Office of House Bill Analysis with source material from Texas Cooperative Extension entitled “Agroterrorism Fact Sheet”. The report explores issues relating to the potential for use of fertilizers, pesticides, herbicides, or crop dusters for terroristic purposes.

Texas Ag Industries Association also submitted material relating to the security of agricultural chemicals to be included in the appendix.

RECOMMENDATIONS

The Legislature should support current efforts by the Texas Department of Agriculture to coordinate notification with aerial applicators of any impending threat where agricultural aviation is deemed to be the intended instrument to inflict damage by the FAA.

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2002 FARM BILL

On June 3, 2002, the House Committee on Agriculture and Livestock met with the Agriculture Policy Board to receive an update on federal farm legislation. Appendix C contains the report prepared for the Committee by Dr. Ed Smith, Associate Director for Agricultural and Natural Resource Sciences and Dr. Joe Outlaw, Associate Professor and Extension Economist, both from Texas A&M.

APPENDIX