

**SENATE COMMITTEE ON
AGRICULTURE AND
RURAL AFFAIRS**

**INTERIM REPORT TO THE
82ND LEGISLATURE**

NOVEMBER 2010

Members:
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Senator Glenn Hegar
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Senate Committee on Agriculture and Rural Affairs

November 1, 2010

The Honorable David Dewhurst
Lieutenant Governor of Texas
Members of the Texas Senate
Texas State Capitol
Austin, Texas 78701

Dear Governor Dewhurst and Fellow Members:

The Senate Committee on Agriculture and Rural Affairs of the Eighty-first Interim Legislature hereby submits its interim report including recommendations for consideration by the Eighty-second Legislature.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Craig Estes", written over a horizontal line.

Senator Craig Estes, Chair

A handwritten signature in black ink, appearing to read "J. Hinojosa", written over a horizontal line.

Senator Juan "Chuy" Hinojosa

Senator Mike Jackson

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Senator Carlos Uresti

A handwritten signature in black ink, appearing to read "Glenn Hegar", written over a horizontal line.

Senator Glenn Hegar

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Introductions of Charges and Hearings

Lieutenant Governor Dewhurst directed the Senate Committee on Agriculture and Rural Affairs to review the following issues:

Charge 1: Study and make recommendations on new and innovative ways to increase investment, employment and production in Texas agriculture.

Charge 2: Study current federal, state and local safeguards to protect our food supply. Identify gaps that may exist in Texas statute, agency roles, and authority for ensuring a safe food supply for Texas, including imported fruits and vegetables. Examine the impact of revised federal regulations on the state, and the potential impact of pending federal legislation. Examine the existing capabilities of the public health system on the border to accomplish public health surveillance of food.

Charge 3: Study the impact of windblown herbicides on grape growing and other agricultural production. Make recommendations for improving the safety and quality of Texas agricultural products.

Charge 4: Study and make recommendations on the impact of feral hogs and other predators that hamper development of Texas agriculture.

Charge 5: Monitor the implementation of legislation addressed by the Senate Committee on Agriculture and Rural Affairs, 81st Legislature, Regular Session, and make recommendations for any legislation needed to improve, enhance, and/or complete implementation. Specifically consider the following:

Monitor the establishment of the Texas Bioenergy Policy Council and the Texas Bioenergy Research Committee.

Monitor the Texas Department of Agriculture's efforts to reduce or eliminate trans fatty acids in foods provided by Texas schools.

The Senate Committee on Agriculture and Rural Affairs held two interim hearings on the above charges:

April 19, 2010, Austin, Texas

May 24, 2010, Austin, Texas

Charge 1: Investment, Employment and Production in Texas Agriculture

Background and History

Texas agriculture has always been an important part of Texas' economy and it must be considered as state leaders look for ways to promote economic growth, job creation and new opportunities. Agriculture is the second largest industry in Texas, with three-fourths of state lands being utilized for agriculture purposes. Job creation remains to be a top priority for Texans as the nation continues to rebound from an economic recession and agriculture plays a key role in moving towards that goal. One in seven Texans is employed in the agriculture industry, which contributes more than \$10 billion yearly to the state economy.ⁱ

Texas Agriculture faces many challenges. Farmers and ranchers are confronted with economic uncertainties, tight credit and drought. Additionally, the average age of Texas farmers is rising, with only 6 percent of the state's farm operators under 35 years old.ⁱⁱ Texas possesses several resources aimed at attracting businesses, quality jobs and investment. For example, the Texas Capital Fund (TCF) awards funds for the express purpose of assisting in the creation of new permanent jobs or retention of existing permanent jobs, primarily for low and moderate income persons. Since moving TCF to the Texas Department of Agriculture (TDA) in 2001, \$89.5 million has been given in grants, yielding \$264.4 million in total capital investment and creating 7,700 jobs in rural Texas.

State leaders continue to seek innovative solutions and partnerships to address the need for a skilled workforce in Texas. Parallel Pathways to Success is a program that provides eligible high schools, institutions of higher learning and other similar organizations with funding to give rural Texas students the opportunity to acquire workforce skills and training, and earn college credit prior to graduation. Knox City High School's Yes! You Can! Program received \$152,400 to offer certificate, associate and pre-bachelor degree coursework aligned with employer needs and emerging job opportunities in the region. Similarly, the University of Texas-Pan American START Project offers 60 high-achieving students the opportunity to earn both high school and college credit. As job numbers continue to grow in Texas, it is important that these programs guarantee that an educated and skilled workforce will be ready to take on newly created jobs.

Spotlight on Local Projects:

- Local workshops hosted by Texas Agrilife Research and Extension Centers focus on alternative crops and how to make profitable decisions.
- Workshops hosted by the Texas and Southwestern Cattle Raisers Association are held throughout the state to educate property owners on methods to prevent cattle theft and protect property.
- The Association of Rural Communities in Texas is working with seven state agencies to hold meetings throughout the state that focus on rural programs and available funding.ⁱⁱⁱ
- The Texas Travel Industry Association facilitates four community tourism workshops each year, providing advice on tools and strategies that Texas communities can use to build and sustain local tourism.^{iv}

- Texas Agrilife Extension Services viticulture advisors and the Texas Wine and Grape Growers Association hold regional meetings to educate local farmers about resources available to assist with growing wine grapes in various Texas localities.^v

Texas Agricultural Finance Authority

The Texas Agriculture Finance Authority (TAFE) was created by the legislature in 1987 and provides financial assistance to creditworthy individuals and businesses for the expansion, development and diversification of Texas agricultural businesses.

Summary of TAFE Programs

Agricultural Loan Guarantee

The program provides guarantees based on a tiered structure, not to exceed \$750,000 or 70% of the loan amount, whichever is less. The program also provides an interest rebate as part of the guarantee process to eligible borrowers.

Interest Rate Reduction

TAFE can facilitate commercial lending that may result in lower interest rates compared to current market rates. Any person who proposes to use the proceeds to further accomplish the state's goal of fostering the creation and expansion of an agricultural business in Texas is eligible.

Young Farmer Interest Rate Reduction

The Young Farmer Interest Rate Reduction program is similar to the above Interest Rate Reduction program, but is specially tailored to young farmers between the ages of 18 and 46.

Young Farmer Grant

Applicant (18 to 46 years old) must be able to make dollar-for-dollar matching expenditures to sustain, create or expand the proposed project. Individual grants may range from \$5,000 to \$10,000.

The above four TAFE programs are designed to assist hard-working Texans who want to enhance their farm or ranch operations and establish an ag-related business. With more than 80 percent of the state's farm operators over 45 years old, special focus is on young farmers, including interest rate reductions and competitive grants for up to \$10,000.

The Senate Committee on Agriculture and Rural Affairs worked with Commissioner Todd Staples and the Texas Sunset Advisory Commission to make significant improvements to the TAFE program during the 81st Legislative Session. Senate Bill 1016 required the Commissioner of Agriculture, rather than the Governor, to appoint the TAFE Board of Directors and added two members representing young farmers to the Board. The legislature clarified TAFE's Interest Rate Reduction Program and expanded its eligibility. The bill also retooled TAFE's agricultural loan guarantee and young farmer programs to improve their marketability with farmers and private lenders and to reduce their financial risk to the state. For the first time, TAFE now offers a grant program two times per year to young farmers who are engaged in creating or expanding agriculture in Texas.

As a result of program changes enacted during the 81st Legislative Session, TAFE is positioned to be more effective. Marketing efforts have been initiated to reach rural bankers, Farm Credit institutions, producer groups and individual agricultural producers. Below is a summary of TAFE program activity for 2010.^{vi}

- Two rounds of grants for the Young Farmer Grant Program are authorized by the TAFE Board for 2010. First round results were awarded in February 2010 and second round results were awarded on July 23, 2010. TAFE received a total of 217 applications and \$1.8 million in grant requests. As of June, TAFE awarded \$100,000 grants to 13 applicants.
- The Interest Rate Reduction and Young Farmer Interest Rate Reduction Programs have been fully implemented, removing previous category-eligibility barriers and enabling greater access to the programs. These programs, tied to U.S. Treasuries, are interest rate sensitive, and interest rates have been historically low since the last quarter of 2008. The TAFE Board anticipates program activity to increase when rates rise to more normal levels and credit markets expand lending activity overall.
- As of June, two loan guarantees totaling \$394,000 have been approved for the Agricultural Loan Guarantee Program. Each borrower may receive up to \$5,000 in interest rebates as a feature of the program.

Comprehensive Broadband Coverage in Rural Texas

Without sufficient high-speed internet, communities are limited in their ability to attract new economic development. Agriculture is increasingly becoming technology focused and it is important that homes, schools and businesses have every advantage possible to expand economic opportunities and reach consumers. Expanded access to broadband increases access to the world marketplace, provides businesses the tools to expand and create jobs and ensures that communities and families have the tools necessary to provide the high quality of life that Texans enjoy and expect. Comprehensive broadband coverage in rural Texas has the potential to create and retain thousands of jobs.

Broadband access not only improves business, but also enhances educational and healthcare opportunities. Students realize benefits from increased access to research and distance learning tools, while employees and employers benefit from workforce training. Rural communities have increased access to healthcare through telemedicine and greater connectivity improves public safety and assists first responders. For entrepreneurs, educators and healthcare professionals, a broadband connection can be an economic lifeline.

Governor Rick Perry designated the TDA, in partnership with the Public Utility Commission of Texas (PUC) and Texas Public Safety Commission (PSC) to lead the state's broadband service expansion initiatives and represent the interests of Texas to the National Telecommunications and Information Administration (NTIA). The TDA, PUC and the PSC are supporting 32 applications seeking approximately \$370 million in funds from the federal Broadband Technology Opportunities Program (BTOP).

Projects requesting federal funding cover three broad categories: infrastructure, which includes construction of broadband delivery equipment; public computer centers, which increase public access to education and workforce development opportunities; and sustainable adoption, which is designed to educate Texans about the importance of broadband, and develop broadband markets in unserved and underserved areas.^{vii} See Appendix A to review the Texas projects recommended by the TDA, PUC and PSC.

The TDA and the PUC are also collaborating with *Connected Texas* to design an interactive map on the connectivity of Texas. This map will allow users to check what kinds of service exist in different areas in the state and provides individual households with the opportunity to track what service providers are available at specific addresses. The project is federally funded by the NTIA.

For a basic map depicting broadband availability and expansion opportunities, please see Appendix B. This map highlights both unserved and underserved counties in Texas with a special noting of counties with no broadband at critical community infrastructures. The projects recommended for the BTOP funding will push Texas one step closer to providing rural communities with sufficient high-speed internet. While no legislative recommendations for broadband deployment have been made, the 82nd Texas Legislature may consider prioritizing any actions that may further the progress of the state's broadband service expansion initiatives.

Texas Branding and Consumer Education- GO TEXAN

The TDA administers several branding and consumer education programs to market Texas products and assist Texas businesses. These programs increase consumer confidence and encourage economic development in rural areas. For example, Agriculture is Your Culture is a comprehensive educational campaign to enhance the perception of agriculture, dispel myths and garner support for the agriculture industry. The TDA is partnering with producers, agriculture associations and a variety of additional stakeholders to develop and promote the campaign. Another program at the TDA, the Winery Passport Program, provides rewards to consumers visiting multiple Texas wineries. Since inception in October 2008, more than 11,000 passport redemptions have been issued. This number represents more than 45,000 visits to wineries all over the State of Texas.^{viii}

Similarly, the GO TEXAN programs promote Texas-specific agriculture products. Surveys show GO TEXAN membership can have a direct and measurable positive impact on sales. In 2009, members attributed an estimated \$115 million increase in sales directly to GO TEXAN membership. On average, members attributed approximately 15 percent of their sales increases directly to their membership in GO TEXAN. Participating in GO TEXAN events and usage of the GO TEXAN logo are statistically correlated to increased sales.^{ix}

- The TDA developed a GO TEXAN Food Service Buyers' Guide to assist and encourage chefs in sourcing Texas products for their restaurants. Additionally, GO TEXAN chef farm tours assist chefs in meeting one-on-one with producers to become better acquainted with the fresh quality products available to them.

- The GO TEXAN Partnership Program (GOTEPP) is a dollar-for-dollar matching fund program to assist GO TEXAN members to promote Texas products. GO TEXAN members report participation in GOTEPP increased customer awareness of their products by 70 percent.

The GO TEXAN program initiatives are continuing to expand. One new initiative, GO TEXAN Wildlife, targets businesses and organizations based around wildlife activities. This category of the GO TEXAN promotional campaign includes: hunting and fishing operations, exotic animal farms, fisheries, wildlife accessories and the organizations and associations devoted to these activities. Members of the initiative benefit from the use of the GO TEXAN certification mark, may advertise on the GO TEXAN website, have opportunities to participate in GO TEXAN promotions and receive negotiated rates on other advertising opportunities.

An additional new initiative is the GO TEXAN Restaurant Program. Branded with the signature GO TEXAN mark, the program helps consumers choose Texas restaurant establishments at first glance. Members of the program have the opportunity to connect with the freshest products Texas has to offer and use the mark for restaurant promotional items such as menus and table tents.

Texas Rural Internship Program

To maintain our state's unique heritage, it is important that citizens tell the story of agriculture and tell the story of rural Texas. The Texas Rural Internship Program has proven to be a welcomed success in many communities. The Texas Rural Internship Program pairs urban college students with small rural communities to work for five to six weeks. The program provides students with leadership opportunities, promotes rural Texas heritage and provides much-needed interaction between urban and rural Texas.

While Texas has seen substantial population growth as a state, many rural communities are suffering from population migration, particularly in West Texas. Thinking out-of-the box and expanding successful programs such as this will be critical to maintaining the rural way of life and thwarting the decline of rural Texas populations. Starting as a pilot program in 2009, the program's success inspired the TDA to increase the number of interns and community participants in 2010. The Senate Committee on Agriculture and Rural Affairs is hopeful that the TDA will continue to work with rural communities in expanding the program.

Texas Wine and Grape Industry

The Texas wine and grape industry is one of agriculture's fastest growing industries and contributes greatly to investment, employment and production in Texas agriculture. Due in large part to the leadership of the legislature, the Texas wine and grape industry continues to grow leaps and bounds. Texas is now the fifth-largest wine producing state in the nation and has 210 commercial vineyards planted on more than 3,200 acres around the state. With just over 200 Texas wineries, the Texas wine industry supports approximately 8,900 jobs.^x

The primary issues discovered through years of research include sales and distribution barriers and insufficient funding and budget reductions for new and existing education, training, and research.

Wine Industry Bills Passed By the 81st Legislature

S.B. 711 (Senator Jane Nelson) created a winery festival permit and authorized the holder of a winery festival permit to sell wine at a civic or wine festival, farmers market, celebration, or similar event under certain conditions.

S.B. 529 (Senator Jane Nelson) amended the law to allow Texas wineries to sell brandy to other Texas wineries, thereby providing two additional avenues for brandy procurement and encouraging Texas wineries to do business with other Texas businesses as opposed to businesses outside the state.

H.B. 1084 (Representative Vicki Truitt) amended the law to allow a holder of a winery permit to ship 36 gallons of wine per year by adjusting restrictions on how much wine could be shipped at one time.

In the last six years, Texas has dedicated more than \$4.5 million in funding to supporting and growing the Texas wine industry, including \$1.2 million for research and development to Texas AgriLife Extension Service, Texas AgriLife Research, Texas Tech University, Texas A&M and Grayson County College.^{xi} In return, the wine and wine grape industry generates significant tax dollars, benefiting federal, state and local governments. A large portion of Texas wine funds are used to promote and market Texas wine through a variety of activities and materials, including viticulture research and education at Texas university systems. Top enologist and viticulture experts are now positioned across the state to support all Texas wineries and vineyards.

The legislature will likely continue investing in the wine and grape industry as an economic tool and monitor implementation of past bills. Continued funding at current levels is expected to sustain economic growth rates and revenue opportunities to the state through increased tax revenue.

Currently, wineries are permitted to sell wine for off-premise consumption in an amount not to exceed 35,000 gallons annually. However, the 35,000 gallon allotment will soon be met by several of the state's wineries. The Texas wine industry increased from 1.26 million gallons of wine production in 2003 to approximately 3 million gallons produced and bottled in 2009.^{xii} The legislature may consider legislation to increase the cap on the number of gallons a winery may sell directly to consumers for off-premise consumption.

Wine Grape Investment Grant Program

2009 - The TDA awarded \$250,000 in grants that yielded 134 new acres in wine production, resulting in a \$1.4 million total capital investment.

2010 - The TDA awarded \$250,000 in grants that yielded 132 new acres in wine production, resulting in a \$1.3 million total capital investment.

Recommendations

- The legislature may continue to monitor success of the recently retooled Texas Agricultural Finance Authority.
- The legislature may want to consider prioritizing any actions that further the progress of the state's broadband service expansion initiatives.
- The Texas Department of Agriculture is likely to continue work with rural communities in expanding the Texas Rural Internship Program state-wide. The Department may team with the Texas Department of Rural Affairs and community economic development corporations to creatively locate funds to expand the program.
- The legislature may continue investing in the wine and wine grape industry as an economic tool and monitor implementation of past bills.
- The legislature may consider legislation to increase the cap on the number of gallons a winery may sell directly to consumers for off-premise consumption.

Charge 2: Federal, State and Local Safeguards to Protect Food Supply

Background and History

The public's trust in food safety directly impacts agriculture production. Increasing investment and productivity while also focusing on food safety will help protect and promote our agricultural industries and benefit our economy. Our nation has witnessed the negative impacts of consumer confidence following spinach and tomato scares, and most recently, with the recall of many peanut products. Producers, industry, and those regulating food safety must work together to ensure the public that Texas products are safe for consumption.

Food safety is a critical issue with deadly consequences. In late summer 2006, bagged spinach was found to be contaminated with a particularly dangerous strain of E. coli. The outbreak caused illness in approximately 26 states and caused the death of at least three people.^{xiii} As a result, restaurants and universities stopped serving spinach, the industry laid off hundreds of workers, and the spinach industry lost an estimated \$100 million.^{xiv}

The U.S. Center for Disease Control (CDC) is responsible for reporting and investigating the number of food safety infections from Salmonella, E. coli and other biological contaminants. The CDC estimates that for every one reported case of Salmonella there are 38 unreported cases and that for every one reported case of E. coli there are 20 unreported cases. In FY 2008, the Department of State Health Services (DSHS) reported there were 332 confirmed cases of Salmonella and 5,585 confirmed cases of E. coli in Texas, for an estimated 218,870 unreported cases of food related illness in Texas.^{xv}

Since before the enactment of the first Pure Food and Drug laws at the federal level in 1906, Texas has regulated the production and sale of safe foods. The safety and effectiveness of drugs and medical devices were added to both federal and state statutes in the 1930s.^{xvi} Currently, the responsibility for the quality and safety of the food supply in Texas is tiered between federal, state and local agencies.

Federal Oversight

It is estimated that the U.S. Food and Drug Administration (FDA) regulates 80 percent of the food in the United States.^{xvii} Specifically, the FDA regulates shell eggs, food manufacturers, food warehouses, food shippers, food additives, food labeling, dairy and shellfish. However, in a recent report, nearly half of the food manufacturers who are required to register with the FDA do not provide accurate contact information, creating serious gaps in the government's ability to ensure safety by tracing food as it moves through the supply chain.^{xviii} A December 2009 report from the inspector general's office of the DSHS found that more than half of the managers at a sample of 130 companies didn't even know their companies had to register. This lack of information at the federal level hampers the state and local department's ability to contact food facilitates in an emergency and work the multitude of issues connected with food-borne outbreaks.

On April 27, 2010, the Texas Department of Agriculture (TDA) assisted the FDA and the DSHS to coordinate a food safety listening session in San Antonio, TX. At the listening session, the

FDA requested comments on the development of safety standards for fresh produce at the farm and packing house, and strategies and cooperative efforts to ensure compliance. The FDA is studying safety standards and will propose changes in the latter part of 2010 unless legislation is enacted. In addition to safety standards, the FDA is seeking strategies and cooperative efforts to ensure compliance with the new safety standards. The listening session served as a networking opportunity for those efforts. The FDA conducted several listening sessions across the country.

Pending Federal Legislation

Senate Bill 510 – Senator Richard Durbin (D-IL) The bipartisan bill focuses on four key areas where the FDA’s authorities and resources need to be improved: food-borne illness prevention; food-borne illness detection and response; food defense capabilities; and overall resources.

House Resolution 2749 (Food Safety Enhancement Act of 2009)- Representative John Dingell (D-MI) Passed by the House on July 30, 2009 and referred to the Senate Committee on Health, Education, Labor, and Pensions.

The United States Department of Agriculture (USDA) regulates the areas in which the FDA does not have jurisdiction. This includes regulating the slaughter of livestock for human consumption, the grading of eggs, liquid eggs and dehydrated eggs, organic produce and meat along with manufactured products made from organic ingredients. The USDA also tests animals for excessive antibiotics or other chemicals and diseases.^{xix}

The USDA Food Safety and Inspection Service (FSIS) pays 50 percent of the costs of the state meat and poultry inspection program, which only inspects products to be sold in intrastate commerce. This is the only program that requires on-site inspections on a daily basis. All animals going to slaughter are examined, as are their carcasses before they are approved for processing. Texas is recognized by USDA/FSIS as an "equal to" state, meaning that the inspections and oversight of meat and poultry slaughtering, processing, and distribution follow federal requirements.^{xx}

State Oversight

Texas is only one of two states that have all food and drug safety programs in the same agency, the Department of State Health Services (DSHS).^{xxi} This has dramatically enhanced the ability of these programs to work together across commodity lines to protect public health. The DSHS regulates food warehousing, food transportation, food distribution, meat slaughter/distribution, milk and dairy, seafood and bottled water. The department also regulates grocery stores in areas that do not have a local health department.^{xxii} Under the Texas Food, Drug and Cosmetic Act (Chapter 431, Health and Safety Code), the DSHS has the responsibility to enforce the inspection of establishments including factories or warehouses where food is manufactured, processed, packed or held for introduction into commerce.

The DSHS must coordinate efforts with several state agencies such as the Texas Department of Agriculture (TDA). The TDA regulates the grading of eggs, organics and pesticides. In 2009,

H.B. 1908 by Representative Tracy King and Senator Juan ("Chuy") Hinojosa designated the TDA as the lead agency for education and training regarding food safety. The bill required the TDA to coordinate, plan and approve training and awareness programs for producers and packers of fresh fruits and vegetables. The bill also specifies informational and educational requirements for the program.

As a result, the TDA and Texas AgriLife Extension have coordinated to promote Good Agricultural Practices (GAP) training and certification. The TDA designated federal specialty crop funding to develop the training and materials and offset producers' costs for participating. GAP training and education is important because educating growers will improve implementation of food safety practices that reduce hazards in fields and packing houses. Education reduces risks at the retail level and home through improved handling, but it will also generate confidence that the vegetable industry is concerned about food safety and adopting food safety practices to protect consumers.

Overview of 2008-2009 Specialty Crop Food Safety Projects

Texas AgriLife Extension Completed Projects (\$92,000) Texas Agrilife provided technical assistance to producers in completing GAPs and worked with producers to create and complete 87 site-specific Food Safety Standard Operating Procedure (SOP) manuals. Texas Agrilife also developed brochures to explain GAPs to producers and consumers.

Texas AgriLife Extension Projects in Progress (\$256,500) Texas Agrilife is developing the GAPs training curriculum manual with plans to produce 500 manuals by July 2010. Workshops are to be held in August (McAllen and Uvalde) and September (Lubbock and Tyler).

Texas Department of Agriculture The TDA is developing procedures and applications for cost-share third party audit reimbursements. TDA is to work with the communications division on promoting the third party audit reimbursement.

Texas AgriLife Research (\$78,439) - Texas Agrilife Research is establishing methods to enhance killing effectiveness of e-beam treatment in order to address the effectiveness of irradiation protocols in reducing contamination risk and improving consumer food safety of fresh leafy vegetables.

Texas Produce Association (\$24,175) The Texas Produce Association is hosting a seminar to educate Texas growers and shippers of fresh produce about food safety, plant health, and marketing strategies.

The TDA also conducts sampling and laboratory analysis of pesticide residues in food in coordination with the USDA. Data from the Pesticide Data Program is used primarily by the Environmental Protection Agency to assess dietary exposure during the review of the safety of existing pesticide tolerance. The TDA's pesticide residue laboratory conducts analyses on various commodities submitted not only by Texas inspectors but samples that are collected in other states that participate in the programs. The results are submitted to the USDA.

Under the Microbiological Data Program, the USDA manages the collection, analysis, data entry and reporting of food-borne pathogens on selected agricultural commodities. The TDA assists in the collection of selected commodities and submits samples to laboratories in other states for analysis. The data assists federal and state agencies and industry in food safety issues and can be used to establish benchmarks by which to evaluate the efficacy of good agricultural and manufacturing practices.

Food Safety Gaps in Licensing and Regulation

Each year, the DSHS receives approximately 500 complaints against regulated industries.^{xxiii} Complaints are entered into a complaint database, given unique identification numbers and assigned and investigated according to a risk matrix based upon the risk to public health. The DSHS requires complaints involving illness or injury to be investigated within 24 hours.

Similar to the federal agencies, registration of businesses with the appropriate entities is a major hurdle for the Department of Health Services. Texas law requires food manufacturing and processing companies to notify the department when they start a business. The DSHS searches for unlicensed companies when the department receives complaints, usually from competitors. However, the department occasionally finds unlicensed firms through contacts with distributors and raw ingredient providers or when inspections are conducted for the FDA.^{xxiv} This was the case in 2009 when it was discovered that an unlicensed peanut processing plant in Plainview, Texas was run by the same company linked to a national Salmonella outbreak. The plant had been operating for approximately four years without a single inspection from the DSHS or local health officials.

Some manufacturers/distributors of food are unlicensed through deliberate avoidance, while others are ignorant of licensing requirements with DSHS, but are licensed with other agencies such as the Texas Department of Agriculture. Following the identification of the peanut facility in 2009, the DSHS worked with other state agencies to locate data and identify businesses that should be licensed.

The results of this project are meaningful. The DSHS staff received data from the Texas Alcoholic Beverage Commission, The Texas Department of Agriculture, the Office of the State Chemist and the Texas Comptroller of Public Accounts. After careful review of the data, the DSHS staff attempted contact with approximately 340 businesses that proved to be suspicious. The department sent letters requiring licensing to over 80 businesses and found that 4.6 percent of the TDA Certified Organic businesses are required to license with the Department of State Health Services, but had no license. Similarly, 6 percent of the businesses licensed with the Texas Alcoholic Beverage Commission are required to license with the department, but had no license. As of June 2010, the DSHS is in possession of over 55,000 records of businesses registered with the Comptroller of Public Accounts, but the agency does not have the staff or resources to evaluate the data to find unlicensed food manufacturers and distributors.

Statewide, the DSHS has 42 field inspector positions to inspect 21,061 food manufactures, food wholesaler/distributors and food salvage operations. As of June 2010, eight of those positions are vacant, leaving a 1-to-619 ratio.^{xxv} Currently, there are no resources specifically dedicated to locating unlicensed facilities and bringing them into compliance.

It is important to note that the Texas Food, Drug, and Cosmetic Act exempts fresh produce wholesalers and businesses that repackage but don't process food, from DSHS authority. Food distributors, except those distributing raw, uncut produce are licensed by DSHS and are expected to keep records of purchases and sales. Those records are necessary when there is a recall on a particular product.

In the past, health officials assumed that fresh produce from the field posed little risk to human health so long as consumers carefully washed the skin of the produce. However, science is now demonstrating increased risk of Salmonella being taken in through the roots of plants. Studies indicate that some strains of Salmonella can also invade and multiply inside plant cells.

Illness linked to produce is a growing concern among food safety experts as Americans consume more fresh fruits and vegetables. Consumers are now more likely to get sick from a produce-related outbreak than from any other food source.^{xxvi} The ability to swiftly track the origin of food-borne illness is critical during an outbreak. When authorities traced the 2009 Salmonella outbreak back to Peanut Corporation of America, it took time to investigate whether the Salmonella was a result of something happening at the plant, or if the Salmonella came from the field.

As Americans continue to place an emphasis on fresh unprocessed food, it becomes increasingly important that state health officials are able to access records to trace food-borne illness back to the farms where the food may have been contaminated. The legislature may consider amending the law to provide DSHS regulator and licensing authority over these operations.

Local Oversight

There are 64 local health departments in Texas, comprised of 50 county departments and five city departments. Local health jurisdictions (county and public health districts) are authorized to enforce state law and rules concerning food service establishments, retail food stores, mobile food units and roadside vendors. Local health jurisdictions are not permitted to establish standards for the operation of those entities; however, they may require those entities to obtain a permit from the local authority. In those areas where there is no county or public health district, entities must obtain a permit from the DSHS.^{xxvii}

A county, public health district and the DSHS may require certification of food handlers and other food service employees who are employed by a food service establishment in which food is prepared on-site for sale to the public. These entities may also require each retail establishment to employ a Texas certified food manager. Additionally, counties with a population of at least 2.8 million may require a trained food manager to be on duty during the operating hours of a food establishment.^{xxviii}

According to the Texas Association of Local Health Officials (TALHO), public health is responsible for conducting three core functions of assessment, policy development and assurance. The TALHO identifies ten essential services necessary for a comprehensive food safety system. The essential services provide a working definition of public health and a guiding framework for local public health activities.

1. Monitor health status
2. Diagnose and investigate
3. Inform and educate
4. Mobilize community partnerships
5. Develop policies and plans
6. Enforce laws and regulations
7. Link people to services
8. Assure a competent workforce
9. Evaluate for effectiveness
10. Research for new insights and solutions

As it relates to the assurance of a safe food supply, local health departments must have adequate resources in personnel, equipment, and supplies necessary to conduct all ten essential services and not just specifically focus on the enforcement of the laws and regulations.

Imported Foods

With a growing population, expanding economy and a more market-oriented agriculture sector, Mexico has become the third-largest agricultural trading partner of the United States (following Canada, and the 27 countries of the European Union) in terms of exports and imports combined.^{xxix} In the broad category of agri-food products (agriculture, livestock, hunting, fishing, food, beverages and tobacco) Mexico's total exports to all countries approached \$16.9 billion in 2009.^{xxx} Of those exports, the U.S. is Mexico's largest agri-food trading partner, buying 78 percent of Mexican exports and supplying 76 percent of the country's imports in this category.

Industry experts anticipate that the demand for Mexican-grown fruits and vegetables will continue to increase, because off-season demand is not being met by domestic production. The large volume of fresh produce imports introduces food safety and food defense risks all along the supply chain. Recent food borne illness outbreaks from international sources are consequences of market failure. Examples include:^{xxxi}

- 2008 *Salmonella enteric* outbreak from fresh jalapeno and Serrano peppers from Mexico which caused at least 1,329 cases of *Salmonellosis* food poisoning in 43 states, 257 hospitalizations and two deaths;
- 2003 green onion Hepatitis A outbreak with over 650 cases in four states and four deaths;
- The loss of the cantaloupe market in the U.S. for most growers in Mexico following repeated outbreaks of Salmonella in 1997 and 2000.

More than 12 federal agencies regulate food safety in the U.S.; however, four agencies play a major role in monitoring imports: the Food Safety and Inspection Service (FSIS), the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA) and the Department of Commerce's National Marine Fisheries Service (NMFS). The Mexico-United States Border is 1,969 miles long with 42 border crossings and is the most frequently crossed international border in the world, with approximately 250 million people crossing every year.^{xxxii} The U.S. Customs

and Border Protection and the US Food and Drug Administration have the exclusive right to inspect and clear foods for entry into the United States.^{xxxiii}

Once a food has been lawfully imported, it is regulated by the state in the same way as other foods. If the food is adulterated or misbranded, the state has authority to take action. The state can, and does, inform the FDA and U.S. Customs of issues found with imported foods. Additionally, the FDA can list the products in “import alerts” for U.S. Customs, and can ban the importation of the products.

Many shipments of food coming from Mexico are stored in warehouses along the Texas border awaiting approval for import. Warehouses containing food, not including fresh fruits and vegetables, must be licensed with the DSHS irrespective of customs status since the food is being held for commerce.^{xxxiv}

Due to resource limitations and facility constraints, it is highly unlikely that the United States would build border facilities enabling the inspection of all produce shipments.^{xxxv} Furthermore, the Texas Association of Local Health Officials argues that policies leaning toward increasing sample sizes and the number of microbial tests will not optimally improve the safety of imported produce. Inspecting every container arriving at U.S.- Mexico ports of entry would be neither physically possible nor cost-effective. However, there are other measures that the state may consider for improving food safety.

Recommendations

- The committee concludes that there is a need for a more frequent and coordinated communication mechanism between local, state and federal entities in order to improve fast and safe identification and response to improper food handling from the manufacturer to the retail outlet to the consumer.
- The legislature may consider working with the Department of State Health Services and the Texas Comptroller to create safeguards that guarantee businesses are registering themselves with the appropriate state and federal entities in the U.S. Food Tracing System.
- The legislature may continue to monitor the progress of the Texas Department of Agriculture GAP training and certification. The committee requests that the Texas Department of Agriculture analyze whether federal specialty crop funding combined with private industry training and certification is sufficient to reach all Texas growers and producers.
- The legislature may consider removing the exemption from licensing for fresh, uncut produce distributors.

Charge 3: Windblown Herbicides and Grape Growing

Background and History

Unlike many industries, once vineyards and wineries have been established they are rooted in a local community. A Texas vineyard cannot simply be relocated to another region or outsourced to another country. Wine grapes, their products and allied industries diversify local economies, create employment and generate new market opportunities in rural communities.

Texas is the fifth largest wine producer in the country and the seventh largest grape producer. More importantly, the industry is continuing to grow:

- An additional 750,000 gallons of wine were bottled and produced by Texas wineries in 2009 over 2007.^{xxxvi}
- The Texas Alcoholic Beverage Commission reports an additional 55 wineries between 2007 and 2009.^{xxxvii}
- In 2010, an additional 14 winery permits have been extended by the Texas Alcoholic Beverage Commission. Texas is currently home to over 200 wineries.^{xxxviii}
- There were an additional 400 acres of grapevines planted by the end of 2009 over the end of 2007.^{xxxix}

Aerial application of pesticides, herbicides and fertilizers is a key component of production agriculture in the State of Texas. These products help make it possible for Texas farmers and ranchers to operate economically and to provide the world with a safe and reliable food supply. Pesticides and herbicides are the primary tool used to control weeds, and the Texas Department of Agriculture (TDA) is the lead agency responsible for the sale, use, storage and disposal of restricted-use and state-limited-use pesticides and herbicides.

Grapes are especially sensitive to growth regulator herbicides, such as 2,4-D and some Texas grape growers have concern regarding the potential for the use of 2,4-D in areas where vineyards are located. 2,4-D is a herbicide used for control of broadleaf weeds on a large number of food and non-food crops. While recognized as a useful tool for agricultural producers, the chemical 2,4-D is also well known as a product that can present a significant threat to non-targeted vegetation because of drift or uncontrolled use.^{xl} For this reason 2,4-D, and other such products, are subject to a number of restrictions imposed through statutes and regulations which follow the standard regulatory model.^{xli}

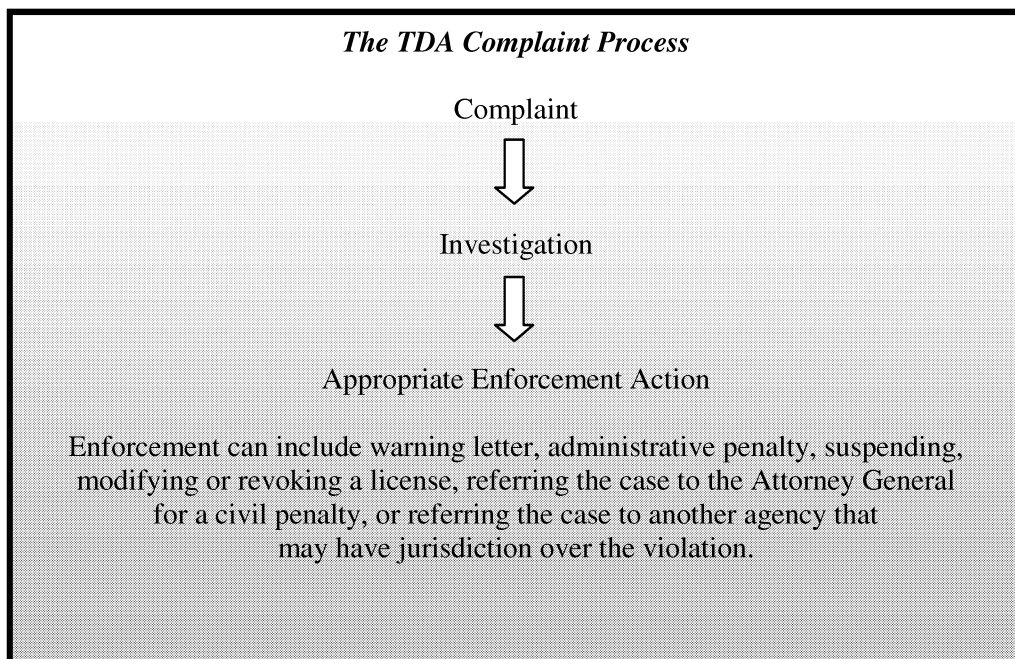
The majority of 2,4-D is used to control weeds in pasture and rangeland, residential lawns, wheat, field corn, soybeans, roadways and as a growth regulator in citrus farms.^{xlii} The risk of injury to non-target plants varies widely among herbicides; many can be used adjacent to sensitive plants with little risk of injury, whereas others pose a risk to adjacent areas whenever they are applied.

Currently, one must obtain a license from the TDA in order to distribute, sell or use 2,4-D in more than small quantities.^{xliii} Moreover, license holders must pass examinations to qualify for licensure, attend continuing education classes, and maintain records of use of 2,4-D and other regulated herbicides.^{xliv} Licenses are subject to suspension or revocation and license holders are subject to financial penalties for violations of laws or regulations or for operating in a “faulty, careless or negligent manner.”^{xlv}

With the number of grape acres in Texas growing, it is reasonable to be concerned of the potential for the use of such herbicides in areas where vineyards are located. Incidents of 2,4-D exposure are rare and far between, but the potential for grapes to be exposed and negatively impacted continues to exist and potentially poses a continuing threat as Texas grape production increases over time.

It is important to note that counties have flexibility in creating additional regulations. Following a hearing, County Commissioners Courts may determine that extra levels of regulatory control should apply in their counties.^{xlvi} There are 54 such regulated counties that require users of 2,4-D to obtain spray permits in addition to normal state licensing during designated periods.^{xlvii} These local limitations reflect the common sense notion that responsible use of 2,4-D requires consideration of a number of factors including the proximity of vulnerable crops, the phase of the growing cycle for those crops and atmospheric and weather conditions. However, according to the Texas Wine and Grape Grower Association, such localized decisions are not made for those areas of Texas that are the source of our growing viticulture industry.^{xlviii}

The TDA is the responsible authority for receiving and investigating complaints from growers. The TDA reports receiving a total of four complaints in FY 2008, four complaints in FY 2009 and one complaint for FY 2010 (as of May, 2010). While all of the complaints alleged that 2,4-D drift had affected grapes, only one of the cases resulted in assessment of a penalty.^{xlix}



In January 2009, growers met with the TDA to discuss herbicide drift. As a result of the 2009 meeting, the TDA took the following actions:¹

- A document was developed to explain the sensitivity of certain crops to 2,4-D exposure, sensitive dates for certain crops and to encourage applicator/landowner cooperation during those periods.
- TDA inspectors incorporate awareness on the use of 2,4-D in continuing education presentations, particularly in areas where grape production and vineyards exist.
- TDA inspectors educate applicators about 2,4-D use in areas where grape production and vineyards exist during their inspection activities.

The TDA reports that these efforts have been largely successful to date, as evidenced by the minimal number of complaints involving herbicide exposure on grapes since that time.

Recommendations

- The Texas Department of Agriculture may consider following the example of several other states and establish and maintain a database providing the location of every commercial vineyard in Texas. This information should be readily available to both herbicide users and regulators. Such a database would be sensible in light of the inescapable conclusion that the beginning of responsible use of a volatile herbicide is for users and regulators to know the crops put at risk by a particular use of that herbicide.

Charge 4: Impact of Feral Hogs and Other Predators

Background and History

Hogs were first introduced to the United States in Florida in 1539 and later into Texas by the mid-1500's. This, along with free-ranging hog production practices and purposeful introductions of hogs, has contributed to the present status of feral hogs in the state.^{li} Today, the Texas AgriLife Extension Service estimates that statewide annual economic damage caused by feral hogs totals approximately \$51.7 million. Landowners have reported extensive damage to crops, fences, roads, ponds, fields and feed loss. Feral hogs can be found in approximately 230 of the state's 254 counties, and they are causing an increasing amount of damage in suburban/urban areas through vehicle collisions and landscape damage.^{liii}

Feral swine also pose a threat to the state's water supply. The Texas Soil and Water Conservation Service contracts with Texas A&M Agrilife Soil and Crop Science to develop watershed plans. A review of the watershed protection plans across the state reveals that feral hogs are found to be contributing to the problem in at least five plans.^{liii} As feral swine congregate around water sources, they pose a threat to water quality and extensive rooting activities cause extreme erosion.^{liv}

Feral swine are highly mobile disease reservoirs and experts in the management of diseases report that penetration of commercial swine herds is a new concern. Dr. Tammy Beckham serves as the Director of the Texas Veterinary Medical Diagnostic Laboratory (TVMDL), an agency of the State of Texas and The Texas A&M University System. As an international expert in the diagnosis of foreign animal diseases, Dr. Beckham reports that common diseases found in feral swine include Brucellosis, Salmonella, Foot and Mouth Disease, and Pseudo Rabies.

The TVMDL, one of the highest volume animal diagnostic labs in the country, partners with the Texas Animal Health Commission (TAHC) in active surveillance and early protection. Dee Ellis, State Director for the TAHC reports that swine brucellosis and pseudo rabies pose the biggest threat to commercial herds. Most surveillance efforts focus on small operations where feral swine are most likely to interface with commercial animals. Additionally, the commission contacts every swine producer in the state to conduct a survey on feral hog contact. When a feral hog is discovered, the TAHC will facilitate delivery of the hog to a slaughter pen, a licensed hunting facility or a holding facility. The commission also stations inspectors at every sale barn to guarantee that feral swine are not present.^{lv}

Feral hogs are a threat to both urban and rural communities and businesses. They contaminate the state's water resources and threaten the state's safe food supply. It is important that experts continue to examine the potential for contact with domestic livestock and that state leaders continue to fund state feral hog abatement programs. This is a state-wide problem that needs long-term solutions.

Feral Hog Abatement Programs

Methods used in feral hog abatement include direct control, such as trapping and shooting, and indirect control methods such as education and cooperative relationships with landowners. The Texas Department of Agriculture (TDA) has administered feral hog abatement programs since 2005. While the programs provided measurable levels of progress in feral hog abatement, additional program funding is needed.

State-involved feral hog abatement began in 2005 with \$500,000 in state funding toward a pilot program to identify the most cost effective forms of abatement. The two year Texas Agrilife Feral Hog Abatement Project started with the goal of estimating the economic impact of technical assistance and educational programs to the agricultural community. On-site technical assistance (direct control) was provided to landowners at three pilot sites (Post Oak Savannah/Pineywoods, Blacklands Prairie and Coastal Prairie) while group educational events (indirect control) were conducted statewide. Both groups of clientele participating in the project were surveyed to measure the overall economic impact of this TDA-funded initiative.

The Feral Hog Abatement Project resulted in the removal of 3,799 feral hogs from 48 cooperator properties totaling 230,017 acres and resulting in a savings of \$1,480,491. Education/outreach efforts reached 5,197 clientele via 67 educational events and were valued at \$2,978,821. Survey respondents increased their knowledge of feral hogs by an average of 68 percent and planned to adopt at least three new management practices. In total, the abatement study provided \$4,459,312 in direct economic benefit resulting in a benefit to cost ratio of \$11.42 for every \$1.00 invested in the project.^{lvi}

In the following 2008/2009 biennium, the legislature appropriated \$1 million in state funding to implement abatement technologies. The TDA awarded the grant to the Texas Wildlife Services and formed a task force to guide the program. Texas Wildlife Services protects the state from damage caused by wildlife through a cooperation with federal, state and private entities, servicing both rural and urban areas. Mike Bodenchuk, State Director for the program, oversees predator and feral hog management, bird damage management and beaver control.

Texas Wildlife Services proceeded to work with the TDA on direct control methods and targeted nineteen site-specific abatement strategies. Funding yielded 3,700 hogs on 223,000 acres through direct measures. Analysis of the program indicates that indirect control and education contributed to a \$4.4 million positive economic impact for the abatement areas.

The TDA came back to the legislature requesting \$3.8 million in feral hog abatement funding for the 2010/2011 biennium. The state appropriated \$1 million, the same appropriation as the previous session, and the agency divided the funds into two separate grants. The first grant was awarded to Texas A&M Wildlife Services and the Texas Parks and Wildlife Department to study sodium nitrate on feral swine and other species. The second grant has been released in a request for proposal for FY 2011.

Toxicants and Chemicals As Abatement Strategies

Landowners in Texas can kill depredating feral hogs at any time, but hunting cannot solve the problem for a species that reproduces so rapidly. Today, the Texas A&M College of Vet Medicine and Texas A&M Agrilife Research are working on a collaborative project researching use of oral contraceptives to inhibit maturation of the egg in female swine. This project is considered in its early stages and would eventually require several federal approvals.

Data indicates that broadcast eradication applications show the greatest potential for cost-effective control of feral swine, especially the use of toxicants.^{lvii} In 2005, the Invasive Animals Cooperative Research Centre embarked on a five-year research project to discover pharmacological weaknesses of pigs that could be used to develop a chemically based eradication program. The researchers searched for a chemical that met the following factors: "safe for human operators, highly toxic to pigs, bait deliverable, target specific, humane, residueless, reversible, inexpensive, already registered for other purposes, patentable, acceptable to trading partners, and documented toxicological profile". Sodium nitrite proved to be a possible candidate and research has resumed on its potential use.

Since the early 1990s, researchers have studied the use of toxicants for feral hog abatement; however, no toxicants are currently registered with the Environmental Protection Agency (EPA). Risk for harm to non-target species appears to be the largest concern, but continued research on target-specific delivery systems and alternative toxicants may lead to the registry of a safe and economical means of feral hog abatement.^{lviii} The registry of a toxicant with the EPA for feral swine would provide landowners and natural resource managers with an additional lethal tool for controlling feral swine populations. An effective abatement program may one day have global impacts.^{lix}

Recommendations

- The committee finds that both direct and indirect abatement practices have measurable results and positive economic impacts. The committee finds that without state programs to reduce feral hog populations and educate landowners, the feral swine problem in Texas will continue to grow.
- The Texas Department of Agriculture plans to submit a legislative appropriations request for feral hog abatement funds. In evaluating this request, the legislature may consider statewide annual economic damage caused by feral hogs, the threat to water quality and the risk of infectious disease spreading to commercial herds.
- The committee finds that use of toxicants and chemicals as abatement strategies offer promising cost-effective means of eradicating the feral hog problem. Continued research on target-specific delivery systems and alternative toxicants may lead to the registry of a safe and economical means of feral hog abatement and the legislature may support continued funding of this research.

Charge 5: Implementation of Past Legislation

Overview of Legislation from the 81st Regular Session

The Chairman and members of the Senate Committee on Agriculture and Rural Affairs appreciate the leadership of the Lieutenant Governor in prioritizing the issues this committee engages by restoring the Senate Agriculture Committee to full committee status. During the 81st Legislative Session, the Senate Committee on Agriculture and Rural Affairs worked on bills ranging from rural economic development initiatives and the safety of fresh fruits and vegetables to renewable diesel fuel and bioenergy.

The Texas Department of Agriculture sunset bill (SB 1016) did not pass through the Senate Agriculture and Rural Affairs Committee. However several members, including the bill authors, Senator Craig Estes and Glenn Hegar, worked tirelessly to continue the functions of the agency and make improvements to the agency's programs. SB 1016 restructured the Texas Agricultural Finance Authority's programs to better meet the needs of Texas agriculture and created grant programs to encourage rural economic development. The bill also continued the Prescribed Burning Board as a semi-independent board and strengthened its enforcement authority over noncompliant licensees and unlicensed activity.

Texas Bioenergy Policy Council and the Texas Bioenergy Research Committee

Senate Bill 1016 of the 81st Legislative Session also established the Texas Bioenergy Policy Council and the Texas Bioenergy Research Committee. Texas is the second largest agricultural state in the nation and intersecting agriculture with the state's multi-sectored energy industry may result in significant returns. One objective of the Policy Council and Research Committee is to foster development of cellulosic-based and bio-based fuels. This growing field must work with agriculture industry experts to be successful.

The Texas Bioenergy Policy Council provides an opportunity for farmers to talk with energy retailers, researchers to collaborate with legislators and biofuel producers to consult with experts in chemical manufacturing. Together, these individuals hope to open new doors for rural economic development and energy independence.

Per Section 50D.013 of the Texas Agriculture Code, the Texas Bioenergy Policy Council shall provide a

Members of the Texas Bioenergy Policy Council

Commissioner Todd Staples, Texas Department of Agriculture
Chairman Victor Carrillo, Railroad Commission of Texas
Senator Craig Estes, Texas State Senate
Representative Rick Hardcastle, Texas House of Representatives
Commissioner Donna Nelson, Public Utility Commission of Texas
Chairman Bryan Shaw, Ph.D., Texas Commission on Environmental Quality
Edward Vaughan, J.D., Texas Water Development Board
Bob Avant, P.E., Texas AgriLife Research
Taylor Eighmy, Ph.D., Texas Tech University System
Keith McDowell, Ph.D., The University of Texas System
Bruce Bagelman, J.D., Green Spot Market & Fuels
James Brody, Temple-Inland
Paul Dickerson, J.D., Haynes and Boone, LLP
Michael Doguet, Doguet Rice Milling Company
Kevin Land, Dow Chemical
Kevin Murphy, J.D., ExxonMobil Corporation
Jeffrey Trucksess, Green Earth Fuels

vision for unifying the state's agricultural, energy, and research strengths in a successful launch of a cellulosic biofuel and bioenergy industry and foster development of cellulosic-based and bio-based fuels. The Policy Council is also charged with building on the Texas Emerging Technology Fund's investments in leading-edge energy research and efforts to commercialize the production of bioenergy. Other goals include studying blending requirements for biodiesel or cellulosic fuels and studying the feasibility and economic development of requirements for pipeline-quality, renewable natural gas.

The Research Committee was developed to provide recommendations to the Policy Council. Specifically, the Research Committee is charged with identifying appropriate and desirable biomass feedstock for each geographic region of the state and investigating logistical challenges to the planting, harvesting, and transporting of large volumes of biomass. The Research Committee shall pay special attention to the use of groundwater resources in creating bioenergy and studying the potential for producing oil from algae.^{lx}

Members of the Texas Bioenergy Research Committee

Commissioner Todd Staples, Texas Department of Agriculture
Minor Hibbs, P.E., Texas Commission on Environmental Quality
Dan Kelly, Ph.D., Railroad Commission of Texas
Robert Mace, Ph.D., Texas Water Development Board
Voitech Yaroshevich, Public Utility Commission of Texas
Dick Auld, Ph.D., Texas Tech University System
Theresa Maldonado, Ph.D., P.E., The Texas A&M University System
Raymond Orbach, Ph.D., The University of Texas System
Joe Outlaw, Ph.D., The Texas A&M University System
Steve Gluck, Ph.D., Dow Chemical
Matthew Lowe, Ph.D., Temple-Inland
Jeff Plowman, Sustainable Biodiesel Alliance
David Stern, Ph.D., ExxonMobil Refining & Supply Co.
Alan Weber, MARC-IV
Chris Wolfe, J.D., Haynes and Boone, LLP

Since its inception, the members and staff of the Bioenergy Policy Council and Research Committee have made great progress. As of June 2010, the Texas Bioenergy Policy Council has met twice to hear testimony from academic and private sector experts. These hearings were held on December 10, 2009 and April 14, 2010. The Texas Bioenergy Research Committee met on February 16, 2010 to discuss agricultural feedstock, engineering and logistical challenges, non-agricultural feedstock and federal and state promotion of bioenergy.

The Texas Department of Agriculture (TDA) staff developed a public website to track bioenergy progress, research and funding opportunities. Additionally, the TDA and the Texas State Energy Conservation Office have entered into an interagency contract to provide support services to the Texas Bioenergy Policy Council. The TDA has also issued an RFP for the crafting of a bioenergy status report with intentions to publish the report by the 82nd Legislative Session. The report will be presented to the Policy Council and serve as a resource and policy guide for the Texas Legislature.

Elimination of Trans Fatty Acids in Foods Provided by Texas Schools

Throughout the nation, several community and state initiatives are underway to reduce the amount of trans fats consumed and served to children in public schools. While the recommendations from several authoritative United States organizations over the past two decades have emphasized decreasing the total amount of fat in the diet, most research indicates that type of fat is more important than total fat.^{lxi} According to the American Heart Association, the major categories of fats in the foods we eat are saturated, polyunsaturated, monounsaturated and trans fatty acids.^{lxii} The chief concern about dietary fats is their role in promoting coronary heart disease.

Dr. Kimberly Avila-Edwards, Assistant Professor of Pediatrics at UT Southwestern Austin, is a practitioner at the Texas Center for the Prevention and Treatment of Childhood Obesity. According to Dr. Avila-Edwards, the chemical configuration of trans fatty acids confers harmful effects, including adverse influences on blood LDL (bad cholesterol) and HDL (good cholesterol) concentrations. Trans fatty acids also interfere with the desaturation and elongation of n-3 (omega-3) fatty acids. These are important for the prevention of heart disease and complications of pregnancy.^{lxiii}

Trans fats, indicated on food packaging as "partially hydrogenated" oils, do not occur naturally in foods, especially those of animal origins. Most trans fatty acid consumption is a result of the industrial hydrogenation of polyunsaturated fatty acids. Partial hydrogenation results in fats that are easier to cook with and spoil less easily than naturally occurring oils. Trans fatty acids are still a major component of many commercial baked goods such as cookies and cakes and most deep-fried foods.

Most Americans likely think of heart disease as manifesting in adulthood, but Dr. Avila-Edwards explains that "the process of atherosclerosis (or the progressive thickening and hardening of the walls of medium sized and large arteries as a result of fat deposits) can begin in early childhood." "For most children, this can be minimized or even prevented with adherence to a healthy lifestyle, which includes minimal consumption of trans fats."^{lxiv}

National School Lunch & Breakfast Programs

The TDA Food & Nutrition Division administers one of the largest public school lunch and breakfast programs in the nation. Each day, 2.9 million lunches and 1.4 million breakfasts are served in public school cafeterias. The Texas Public School Nutrition Policy (TPSNP) developed by the TDA ensures healthy meals are served to students.

TPSNP became effective August 1, 2004 for schools participating in the National School Lunch Program, School Breakfast Program and the After School Snack Program. The TPSNP establishes the number of grams of fat and sugar Texas schoolchildren may have each week, establishes portion sizes for food items such as chips, cookies, bakery items and frozen desserts and limits the sale of foods that compete with a school's operation of the breakfast, lunch or after school snack programs.

School Year 2009-2010 TPSNP amendments will be effective August 1, 2009. Highlights of the amendments include:

- Nutrition Standards: Schools must eliminate deep-fat frying as a method of on-site preparation for foods served as part of reimbursable school meals, a la carte, snack lines and competitive foods.
- Foods of Minimal Nutritional Value (FMNV): High Schools may not serve or provide access for students to FMNV and all other forms of candy on school premises until the end of the last scheduled class.
- Foods and beverages that have been exempt from the FMNV regulation are not equally exempt from the TPSNP. This means that all exempted foods must meet TPSNP standards if they are to be served or made available to students of school campuses.

Enforcement and Administration of TDA Programs

HB 4062 from the 80th Legislative Session mandated that the TDA report on efforts made by TDA and the United States Department of Agriculture (USDA) to reduce trans-fatty acids from all school meals and nutrition programs. That report determined that school food authorities (SFAs) made efforts to reduce the amount of trans fats in their school meals, including purchasing products with less trans fats, providing education and training to school food service staff on how to prepare menu items with fewer trans fats, and eliminating deep fat frying as a method of on-site preparation.^{lxv}

With the full implementation of the TPSNP now in effect, SFAs are required to include a request for trans fat information in all product specifications and reduce the purchase of any products containing trans fats. As manufacturers have developed more products, there are many choices available to SFAs with minimal or no trans fats. Furthermore, all SFAs must eliminate deep fat frying.

SFAs are also required to undergo a school meals initiative (SMI) every five years to ensure that healthy school meals are being planned and served. A nutrient analysis of the menus for the review week determines if the meals meet nutrient standards for the appropriate age and grade levels. SMI reviews indicate that SFAs are reducing or eliminating trans fats in their menus.

Statewide Projects, Organizations and Resources

Partnership for a Healthy Texas

In 2006, advocate groups who had been separately working on obesity and nutrition-related issues decided to join together and create the Partnership for a Healthy Texas. Today, over 40 groups comprise the partnership and include organizations from the American Heart Association and American Cancer Society to Texas PTA and Texans Care for Children. Partnership members work closely with the TDA on developing the TSNP. Most recently, the partnership worked with the TDA to ensure that programs reach children with nutrition education during their daycare and preschool years before they enter elementary school.^{lxvi}

The TDA is developing and implementing several projects to promote healthy living and an active lifestyle:

Mayors Challenge 2010

The Mayors Challenge was created to challenge mayors across Texas to increase the number of children in their areas who participate in the TDA's Summer Nutrition Program. Phase I of the program started in February, 2010. Phase III (student recruitment) is targeted to start in June, 2010.

Texans Bring It!

This unique campaign is a call to action and promotes individual value, talent, responsibility and collaboration toward a healthier Texas. The goal is to reach the tween and teen age groups with health messages that will resonate and help them adopt positive behaviors. The campaign includes an interactive website, video and tours of schools across Texas.^{lxvii}

Nutrition Outreach Program

This program provides funds to schools, community and faith-based organizations to help pay for childhood obesity prevention programs and nutritious meals. The program consists of two grants - the Best Practices in Nutrition Education Grant Program and the Nutrition Education Grant Program.

Fruit and Vegetable Month

During the month of April, the TDA will conduct the third annual fruit and vegetable coloring contest to educate children on the benefits of eating fresh fruits and vegetables. In 2009, more than 15,000 children across Texas participated in the April Fruit and Vegetable Month Coloring Contest, and 15 winners received certificates and prizes.

From Market to Menu

From Market to Menu events allow GO TEXAN restaurants to prepare fresh products during live cooking demonstrations at select Texas farmers markets around the state. These events help certified Texas farmers markets promote local producers and Texas restaurants committed to serving local products. The program is funded by USDA Specialty Crop Block Grant dollars and markets receive up to \$1,000 to conduct the demonstrations.

Seniors Farmers Market Nutrition Program

This initiative was created to improve the health of low-income senior citizens by providing them with vouchers to purchase fresh fruits and vegetables from local farmers markets. The TDA and the USDA provided funds for a pilot program in 2009 and 2010. Currently in its second year, the program has two ongoing pilot projects in San Antonio and Wichita Falls.

Farm to School Program

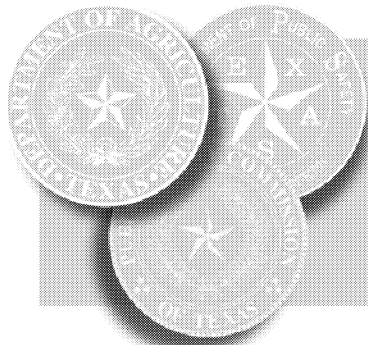
In this program, TDA marketing staff works with vendors and contractors in sourcing local produce for use in Texas schools.

Recommendations

- The State of Texas and partnering entities have made great strides in reducing or eliminating trans fatty acids in Texas schools. The Texas Department of Agriculture trans-fatty acid study provision of HB 4062 expired in 2008; however, the agency plans to continue monitoring to reduce the number of schools exempt from the requirement to eliminate deep frying as a method of food preparation. As of June, 2010, six schools are exempt from the requirement.
- The Committee has followed the progress of the Texas Bioenergy Council and the Texas Bioenergy Research Committee since its inception and looks forward to learning more from the resulting studies to be produced later this year.

Appendices

Appendix A: Comments On Grant Projects Under the Broadband Technology Opportunities Program, Submitted to the US Department of Commerce



PUBLIC UTILITY COMMISSION OF TEXAS
COMMISSIONER DONNA NELSON

TEXAS DEPARTMENT OF AGRICULTURE
COMMISSIONER TODD STAPLES

TEXAS DEPARTMENT OF PUBLIC SAFETY
ASSISTANT DIRECTOR MIKE SIMPSON

May 3, 2010

Mr. Lawrence Strickling
Assistant Secretary
National Telecommunications and Information Administration
United States Department of Commerce
1400 Constitution Avenue, NW
Washington, D.C. 20230

Dear Assistant Secretary Strickling:

Thank you for the opportunity to offer comments regarding grant applications submitted to your agency under the Broadband Technology Opportunities Program (BTOP). Increasing access to broadband services is a priority for the State of Texas, and as you know, Governor Rick Perry has designated the Texas Department of Agriculture (TDA), in consultation with the Texas Public Safety Commission (PSC) and the Public Utility Commission of Texas (PUC), to lead the state's broadband deployment initiatives and specifically represent the interest of all Texans to the National Telecommunications and Information Administration (NTIA).

Enclosed with this letter, you will find BTOP application recommendations based upon an extensive review process utilizing a diverse group of broadband and community experts, as well as a Texas broadband inventory map. Given our extensive review process, we are confident in the projects we have recommended, and we hope to see increased BTOP funding for Texas in this second application cycle. Due to the short timeframe allowed for this review, we ask NTIA to thoroughly consider all applications proposing Texas service for funding, in addition to those referenced in the enclosed document.

Texas is a vast state with an expansive geography and a diverse and dispersed population. These factors present significant challenges to our state's broadband deployment efforts, and they demand significant levels of investment to extend broadband service to unserved and underserved areas. The grants NTIA approves for Texas projects should be commensurate with the state's size and the broadband needs of its unserved and underserved residents.

In the second BTOP funding cycle, just as in the first, TDA, PSC and PUC have taken seriously the responsibility of providing recommendations to NTIA, developing a rigorous process for reviewing each grant application in an effort to make the most informed comments to NTIA. Our agencies collected copies of applications from grant applicants, established review teams and relied on NTIA-established criteria, as well as state priorities, in developing the enclosed recommendations. We recruited approximately 30 experts, who were screened for qualifications and conflicts of interest, to serve on the review teams.

States have faced a monumental task in reviewing the large number of complex BTOP applications. Texas solicited approximately 80 applications, and we reviewed 49 applications during this second round of funding. Proposed projects were considered for the ability to extend broadband service to unserved or underserved areas; increase economic development; expand educational and public safety services; and meet the policy goals of BTOP and the American Recovery and Reinvestment Act.

Additionally, Texas utilized a preliminary map developed through the State Broadband Data and Development Grant Program. The map, which is substantially but not wholly complete, demonstrates a significant need for service in certain regions of the state. We would prefer a large number of projects be funded in these areas of the state, even if it means some proposals would need to be scaled down. Enclosed is a copy of the broadband inventory map, and we urge you to consider this preference for geographic diversity in evaluating projects that would provide broadband access across our state.

Given the short timeframe allowed for the application review process, Texas was unable to conduct an in-depth analysis of some critical components of the proposals, including a review of applicant financial stability; the technical and financial feasibility and sustainability of the project; and the administrative eligibility of the applications. We recognize that these reviews will be conducted by NTIA, and we share your interest in ensuring the projects receiving grants are technically feasible and will be carried out and sustained.

In the following recommendations, you will find a list of applications proposing service solely in Texas or in Texas and bordering states. While we include multi-state proposals in our list of recommended projects, our greatest concern is for projects that benefit unserved and underserved Texans. TDA, PSC and PUC would like to note that there are likely many projects not included within the attached lists which would provide great benefit to our state, so please feel free to contact us as you move forward with reviews and begin identifying fundable projects if you would like to have our views on projects that we have not listed.

Again, we appreciate the opportunity to provide input on Texas-related BTOP applications. Given the significant resources invested in this review process, including the NTIA sponsored broadband service inventory map, Texas believes many projects demonstrate a benefit to our residents; therefore, we know BTOP funding levels for our state should far exceed the awards received in the first application cycle. We are available to answer any questions and provide all possible feedback to ensure the Broadband Technology Opportunities Program brings opportunity to all Texans.

Sincerely,



Todd Staples
Commissioner of Agriculture
Texas Department of Agriculture



Donna L. Nelson
Commissioner
Public Utility Commission of Texas



Mike Simpson
Assistant Director – Law Enforcement Support
Texas Department of Public Safety

Enclosures (4)

cc: The Honorable Rick Perry, Governor of Texas

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Austin, Texas 78711
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Public Utility Commission of Texas
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Texas Department of Public Safety
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(512) 424-7427

BTOP APPLICATION COMMENTS

Submitted By

TEXAS DEPARTMENT OF AGRICULTURE • PUBLIC UTILITY COMMISSION OF TEXAS
DEPARTMENT OF PUBLIC SAFETY

The following Comprehensive Community Infrastructure projects were determined to potentially have a positive impact on the people of the Texas:

- Coalition of Health Services, Inc., Grant Number 7235
- City of El Paso, Grant Number 5998
- City of Houston, Grant Number 7085
- Peoples Telephone Cooperative, Inc., Grant Number 6261
- Region 18 Education Service Center, Grant Number 5637
- Texas A&M University, Grant Number 7487
- University of Texas at Austin, Grant Number 7545
- Valley Telephone Cooperative, Inc., Grant Number 5732

Multistate

- County Executives Telecommunications Network, Grant Number 7108
- Skyport International, Inc. Grant Number 5012
- University Corporation for Advanced Internet Development, Grant Number 4589

The following Public Computer Center projects were determined to potentially have a positive impact on the people of the Texas:

- Boat People SOS, Inc., Grant Number 7118
- City of Brownsville, Grant Number 6526
- Del Mar College District, Grant Number 4644
- City of El Paso, Grant Number 6545
- Lower Rio Grande Valley Workforce Development Board, Grant Number 7082
- Middle Rio Grande Development, Grant Number 5787
- San Marcos Housing Authority, Grant Number 6642
- Technology for All, Inc., Grant Number 4923
- Texas State Library and Archives Commission, Grant Number 6260

The following Sustainable Broadband Adoption projects were determined to potentially have a positive impact on the people of the Texas:

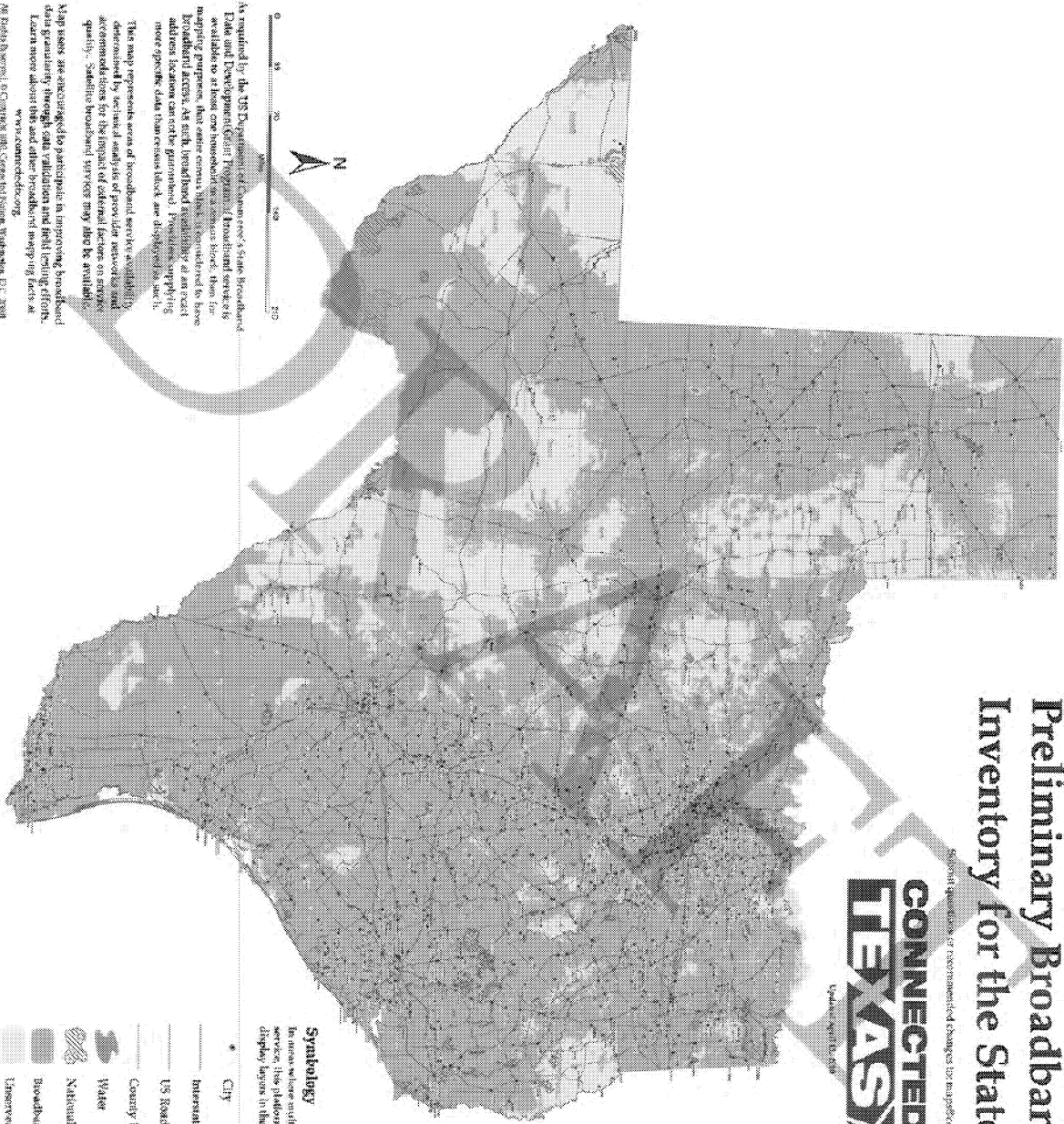
- City of Houston, Grant Number 7083
- Connected Nation, Inc., Grant Number 6694
- Greater Harris County 911 Emergency Network, Grant Number 4961
- Memorial Herman Hospital System, Grant Number 6806
- Mexican Institute of Greater Houston, Grant Number 6842
- Neighborhood Centers, Inc., Grant Number 5703
- North Central Texas Council of Governments, Grant Number 5900
- Technology for All, Inc., Grant Number 4924

Multistate:

- County Executives Telecommunications Network, Grant Number 7027
- Network Foundation Technologies, Grant Number 4458
- Portland State University, Grant Number 6651
- XW, LLC, Grant Number 6677

Preliminary Broadband Service Inventory for the State of Texas

Significant updates or recommended changes for mapinfo.commerceinformation.org



Symbology
 In areas where multiple broadband providers offer service, they will appear as separate map areas or unique display layers in the order presented below.

- ★ CITY
- Interstate
- US Road
- County Boundary
- Water
- National Lands
- Broadband Service Available
- Unserviced Areas

As required by the US Department of Commerce's State Broadband Data and Development Grant Program, Broadband service is available to at least one household in a census block, then for mapping purposes, that entire census block is considered to have broadband access. As such, Broadband availability at an exact address location can not be guaranteed. Providers supplying more specific data than census block are displayed as such.

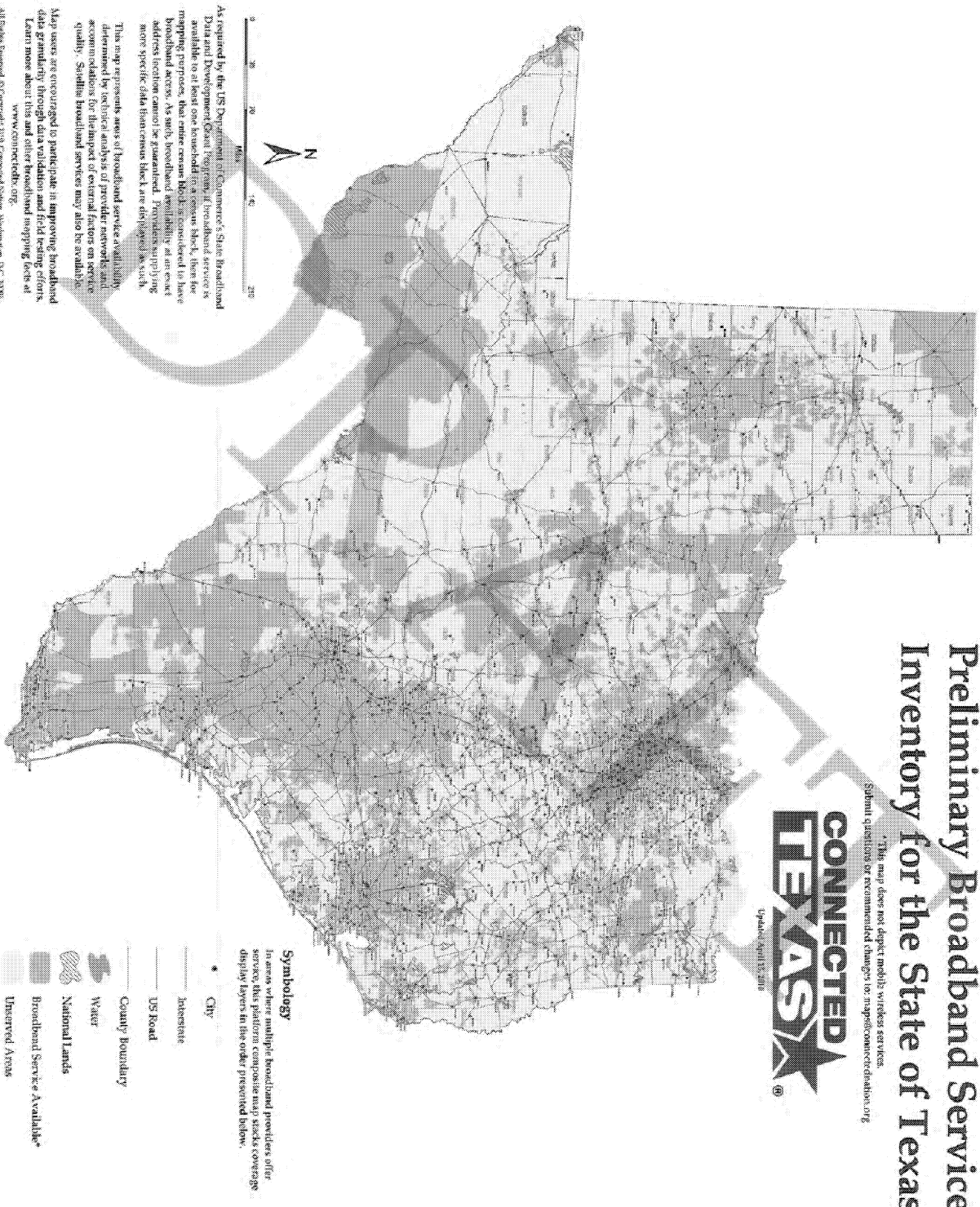
This map represents areas of broadband service availability determined by technical analysis of provider networks and accommodations for the form of address used on street quality. Satellite broadband services may also be available.

Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping efforts at www.connecttexas.org.

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Preliminary Broadband Service Inventory for the State of Texas*

*This map does not depict mobile wireless services. Submit questions or recommended changes to: maps.connectedtx.org



As required by the US Department of Commerce's State Broadband Data and Development Grant Program, all broadband service is available to at least one household in a census block. For the mapping purposes, that entire census block is considered to have broadband access. As such, broadband availability at an exact address location cannot be guaranteed. Providers supplying more specific data than census block are displayed in such.

This map represents areas of broadband service availability determined by technical analysis of provider networks and recommendations for the impact of external factors on service quality. Shaded broadband services may also be available.

Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping tools at www.connectedtx.org.

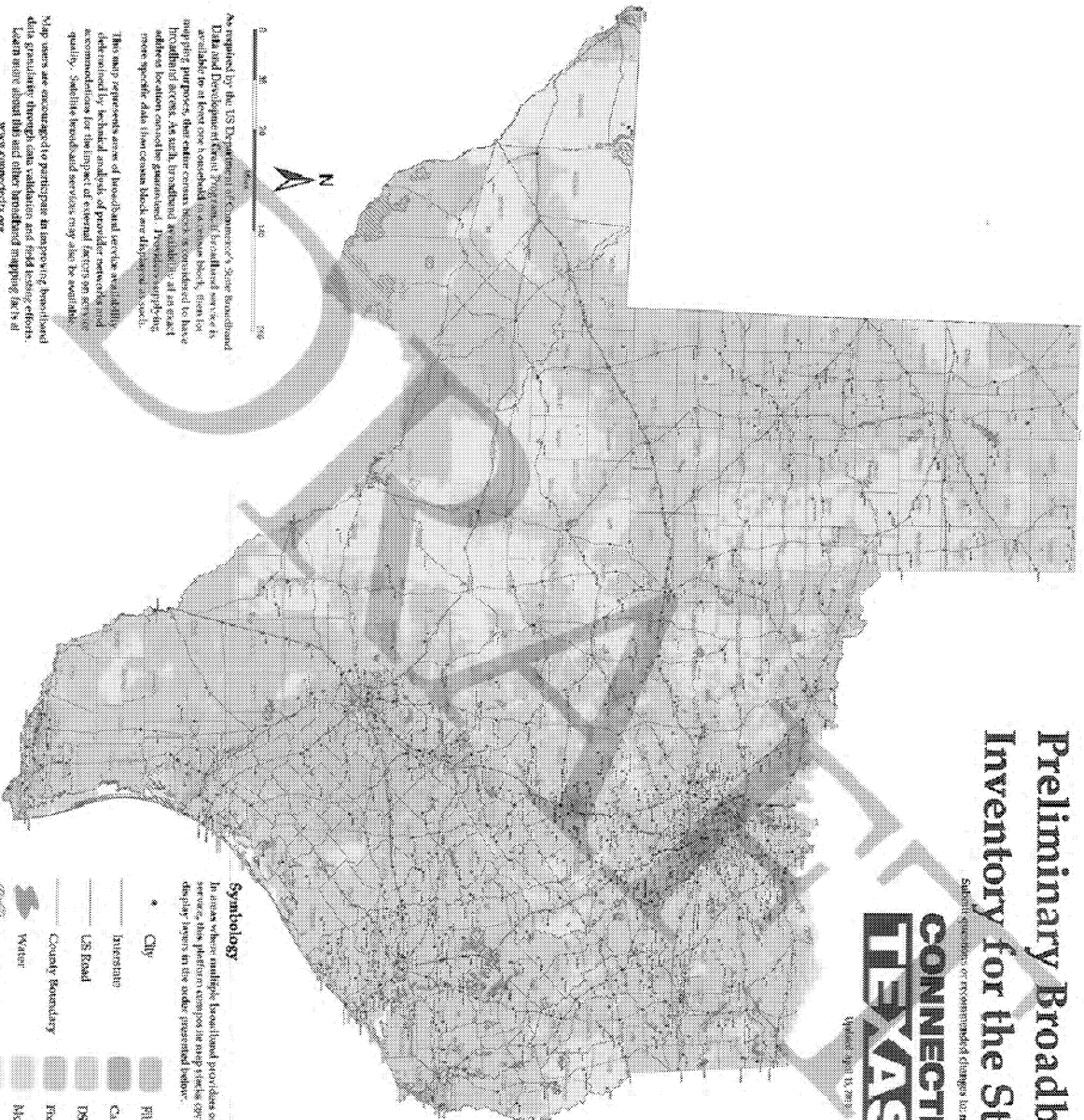
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Preliminary Broadband Service Inventory for the State of Texas

Submit questions or recommended changes to map@connecttexas.org



Updated April 15, 2013



As required by the US Department of Commerce's State Broadband Data and Development Grant Program, all broadband services is available for at least one 1.5 second, 1.5-megabit block, from the mapping purposes, the entire census block is considered to have broadband access. As such, broadband availability at an exact address location cannot be guaranteed. Providers supplying more specific data than census block are displayed above.

This map's requirements of broadband service availability determined by technical analysis of provider networks and accommodations for the impact of external factors on service quality. Satellite broadband services may also be available.

Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping efforts at www.connecttexas.org.

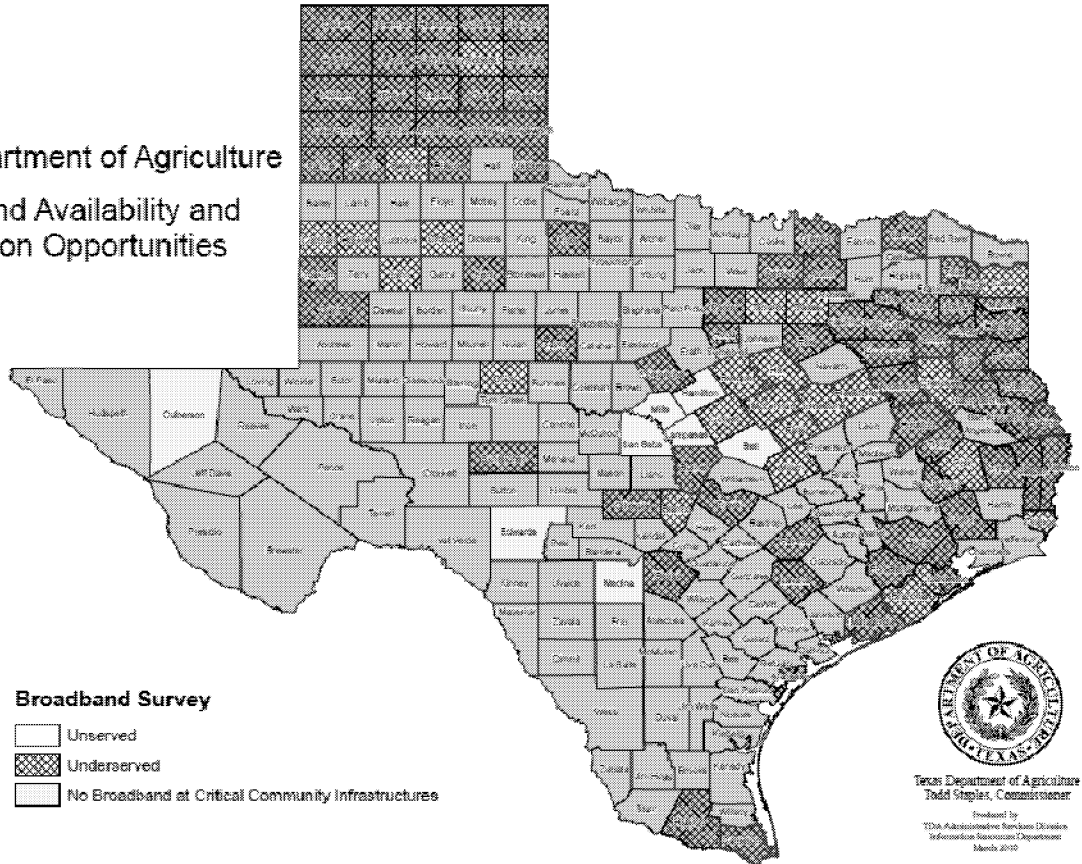
Map created by Esri. © Copyright 2013, Esri, Redlands, CA, USA

Symbology
In areas where multiple broadband providers offer service, this platform composites the map fields to create display layers in the order presented below.

- City
- Interstate
- US Road
- County Boundary
- Water
- National Lands
- Fiber Broadband Service Available
- Cable Broadband Service Available
- DSL Broadband Service Available
- Fixed Wireless Broadband Service Available
- Mobile Wireless Broadband Service Available
- Unserviced Areas

Appendix B: Map of Texas Department of Agriculture Broadband Availability and Expansion Opportunities

Texas Department of Agriculture Broadband Availability and Expansion Opportunities



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- ⁱ 2007 Census of Agriculture
- ⁱⁱ 2007 Census of Agriculture
- ⁱⁱⁱ Email from Donna Chatham, Association of Rural Communities to Raenetta Nance, June 2, 2010.
- ^{iv} Email from Harold Stone, Texas Parks and Wildlife Department to Raenetta Nance, June 9, 2010.
- ^v Email from Dacota Hazelwood, Texas Wine and Grape Growers Association to Raenetta Nance, June 3, 2010.
- ^{vi} Information provided to the Senate Committee on Agriculture and Rural Affairs by Brian Murray, Texas Department of Agriculture, May 27, 2010.
- ^{vii} "Commissioner Staples Announces Support of Projects to Bring High-Speed Internet to Unserved Texas Communities", Texas Department of Agriculture, May 13, 2010 (press release).
- ^{viii} Information provided to the Senate Committee on Agriculture and Rural Affairs by Catherine Wright-Steele, Texas Department of Agriculture, June 22, 2010 (memorandum titled "IR Memo 2").
- ^{ix} Information provided to the Senate Committee on Agriculture and Rural Affairs by Catherine Wright-Steele, Texas Department of Agriculture, June 22, 2010 (memorandum titled "IR Memo 2").
- ^x "The Economic Impact of Wine and Grapes on the State of Texas 2007," MKF Research LLC, August 2008.
- ^{xi} Information provided to the Senate Committee on Agriculture and Rural Affairs by Catherine Wright-Steele, Texas Department of Agriculture, June 29, 2010.
- ^{xii} Texas Wine and Grape Growers Association, *Economic Growth Indicators Texas Wine and Grape Industry 2007 – Present Day*, Grapevine, Texas (pamphlet).
- ^{xiii} DeLind, Laura B. and Philip H. Howard, "Safe at Any Scale? Food Scares, Food Regulation, and Scaled Alternatives". Springer Science + Business Media B.V. 2008. Published online January 16, 2008.
- ^{xiv} DeLind, Laura B. and Philip H. Howard, "Safe at Any Scale? Food Scares, Food Regulation, and Scaled Alternatives". Springer Science + Business Media B.V. 2008. Published online January 16, 2008.
- ^{xv} Texas Senate Committee on Agriculture and Rural Affairs. Testimony of Ben McCullough, Legislative Budget Board: Hearing on Interim Charge #2. 81st Legislature Interim, May 24, 2010.
- ^{xvi} Information provided to the Senate Committee on Agriculture and Rural Affairs by Susan Tennyson, JD, Section Director, Environmental and Consumer Safety Section, Texas Department of State Health Services, May 13, 2010 (agency document titled "Food Regulation in Texas").
- ^{xvii} Texas Senate Committee on Agriculture and Rural Affairs. Testimony of Ben McCullough, Legislative Budget Board: Hearing on Interim Charge #2. 81st Legislature Interim, May 24, 2010.
- ^{xviii} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Tommy Camden, Texas Association of Local Health Officials: Hearing on Interim Charge #2, submitted May 24, 2010.
- ^{xix} Texas Senate Committee on Agriculture and Rural Affairs. Testimony of Ben McCullough, Legislative Budget Board: Hearing on Interim Charge #2. 81st Legislature Interim, May 24, 2010.
- ^{xx} Information provided to the Senate Committee on Agriculture and Rural Affairs by Susan Tennyson, JD, Section Director, Environmental and Consumer Safety Section, Texas Department of State Health Services, May 13, 2010 (agency document titled "Food Regulation in Texas").
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- ^{xxv} Information provided to the Senate Committee on Agriculture and Rural Affairs by Susan Tennyson, JD, Section Director, Environmental and Consumer Safety Section, Texas Department of State Health Services, May 13, 2010 (agency document titled "Food Regulation in Texas").
- ^{xxvi} Anny Shin, "CDC Investigating Salmonella Outbreak-Lettuce, Tomatoes Are Suspected as Carriers," *Washington Post* (November 1, 2006).

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- ^{xxvii} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Tommy Camden, Texas Association of Local Health Officials: Hearing on Interim Charge #2, submitted May 24, 2010.
- ^{xxviii} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Tommy Camden, Texas Association of Local Health Officials: Hearing on Interim Charge #2, submitted May 24, 2010.
- ^{xxix} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Tommy Camden, Texas Association of Local Health Officials: Hearing on Interim Charge #2, submitted May 24, 2010.
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- ^{xxxv} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Tommy Camden, Texas Association of Local Health Officials: Hearing on Interim Charge #2, submitted May 24, 2010.
- ^{xxxvi} Texas Wine and Grape Growers Association, *Economic Growth Indicators Texas Wine and Grape Industry 2007 – Present Day*, Grapevine, Texas (pamphlet).
- ^{xxxvii} Texas Wine and Grape Growers Association, *Economic Growth Indicators Texas Wine and Grape Industry 2007 – Present Day*, Grapevine, Texas (pamphlet).
- ^{xxxviii} Texas Wine and Grape Growers Association, *Economic Growth Indicators Texas Wine and Grape Industry 2007 – Present Day*, Grapevine, Texas (pamphlet).
- ^{xxxix} Texas Wine and Grape Growers Association, *Economic Growth Indicators Texas Wine and Grape Industry 2007 – Present Day*, Grapevine, Texas (pamphlet).
- ^{xl} Tex. Ag. Code §76.141; 4 Tex. Admin. Code §7.30.
- ^{xli} Texas Senate Committee on Agriculture and Rural Affairs. Testimony of Lou Bright, General Counsel, Texas Wine and Grape Growers Association: Hearing on Interim Charge #3. 81st Legislature Interim, May 24, 2010.
- ^{xlii} Texas Senate Committee on Agriculture and Rural Affairs. Testimony of Drew DeBerry, Deputy Commissioner, Texas Department of Agriculture: Hearing on Interim Charge #3. 81st Legislature Interim, May 24, 2010.
- ^{xliii} Tex. Ag. Code §76.105.
- ^{xliv} Tex. Admin. Code §§7.22, 7.24; Tex. Ag. Code §§76.075; 76.114; 76.101.
- ^{xlv} Tex. Ag Code §12.021, 76.076
- ^{xlvi} Tex. Ag. Code §76.144
- ^{xlvii} Tex. Admin. Code §7.50
- ^{xlviii} Texas Senate Committee on Agriculture and Rural Affairs. Testimony of Lou Bright, General Counsel, Texas Wine and Grape Growers Association: Hearing on Interim Charge #3. 81st Legislature Interim, May 24, 2010.
- ^{xlix} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Drew DeBerry, Deputy Commissioner, Texas Department of Agriculture: Hearing on Interim Charge #3, submitted May 24, 2010.
- ^l Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Drew DeBerry, Deputy Commissioner, Texas Department of Agriculture: Hearing on Interim Charge #3, submitted May 24, 2010.
- ^{li} Higginbotham, Billy, Greg Clary, Larry Hysmith, and Michael Bodenchuk. 2008. Statewide Feral Hog Abatement Pilot Project. Texas AgriLife Extension Service. 45 pp.
- ^{lii} Higginbotham, Billy, Kenneth Cearly, Dale Rollins and R. Neal Wilkins, "Appreciating Feral Hogs: Extension Education for Diverse Stakeholders in Texas". Wildlife Damage Management Internet Center for Human-Wildlife Interactions, University of Nebraska-Lincoln. 2007.
- ^{liii} Texas House Committee on Agriculture. Testimony of John Foster, Texas Soil and Water Conservation Service: Hearing on Interim Charge #2, March 24, 2010.
- ^{liv} Texas House Committee on Agriculture. Testimony of John Foster, Texas Soil and Water Conservation Service: Hearing on Interim Charge #2, March 24, 2010.
- ^{lv} Texas House Committee on Agriculture. Testimony of Dee Ellis, Texas Animal Health Commission: Hearing on Interim Charge #2, March 24, 2010.

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- ^{lvi} Higginbotham, Billy, Greg Clary, Larry Hysmith, and Michael Bodenchuk. 2008. Statewide Feral Hog Abatement Pilot Project. Texas AgriLife Extension Service. 45 pp.
- ^{lvii} Foster, J.A. 2010. Effects of Sodium Nitrite on Feral Swine Non – targets: Research Grant Proposal Submitted to Texas Department of Agriculture.
- ^{lviii} Foster, J.A. 2010. Effects of Sodium Nitrite on Feral Swine Non – targets: Research Grant Proposal Submitted to Texas Department of Agriculture.
- ^{lix} Foster, J.A. 2010. Effects of Sodium Nitrite on Feral Swine Non – targets: Research Grant Proposal Submitted to Texas Department of Agriculture.
- ^{lx} Tex. Ag. Code §50D.023.
- ^{lxi} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Dr. Kimberly Avila-Edwards: Hearing on Interim Charge #5, submitted May 24, 2010.
- ^{lxii} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Dr. Kimberly Avila-Edwards: Hearing on Interim Charge #5, submitted May 24, 2010.
- ^{lxiii} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Dr. Kimberly Avila-Edwards: Hearing on Interim Charge #5, submitted May 24, 2010.
- ^{lxiv} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Dr. Kimberly Avila-Edwards: Hearing on Interim Charge #5, submitted May 24, 2010.
- ^{lxv} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Drew DeBerry, Deputy Commissioner, Texas Department of Agriculture: Hearing on Interim Charge #3, submitted May 24, 2010.
- ^{lxvi} Texas Senate Committee on Agriculture and Rural Affairs. Written testimony of Partnership for a Healthy Texas: Hearing on Interim Charge #5, submitted May 24, 2010.
- ^{lxvii} Texas Department of Agriculture, *3E's of Healthy Living, An Initiative of the Texas Department of Agriculture*, Austin, Texas (pamphlet).