

2015 Texas A&M University and Prairie View A&M University Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

Texas is the second largest state in the nation with approximately 26 million citizens. The size and scope of Texas poses unique challenges with a wide range of diversity including both the agricultural and human sectors. The issues and needs of Texans vary by numerous factors and, in many cases, are complex. Texas is one of the most rural and most urban states in the nation with a majority of its citizens living in 20 of the 254 counties in the state.

AgriLife Extension and AgriLife Research

Texas A&M AgriLife Research (AgriLife Research) and the Texas A&M AgriLife Extension Service (AgriLife Extension) are the land grant research and Extension components of the Texas A&M System and are headquartered in College Station, Texas. Since its beginning in 1876 as a land grant institution, Texas A&M University has been a recognized leader in agriculture, food, and natural resources. Today, AgriLife Research, and AgriLife Extension continue this legacy through outstanding academic programs, important contributions to science through research and discovery, and lifelong learning and youth development through Extension programs. The work of both AgriLife Research and AgriLife Extension is guided by strategic plans. The major topical areas in the AgriLife Research strategic plan are identified as imperatives. These imperatives are vital and equally important to ensuring a positive future for Texas and its citizens. The imperatives are as follows: 1) Sustain healthy ecosystems and conserve our natural resources. 2) Enhance competitiveness, prosperity, and sustainability of urban and rural agricultural industries. 3) Improve public health and well-being. 4) Mitigate negative effects of global climate change. 5) Create and utilize fundamental information (genomic, proteomic and metabolomic) to optimize plant and animal production, and human health. The Extension Strategic Plan, developed by AgriLife Extension, is designed to enable the dissemination of research based information to the citizens of Texas on issues of importance as identified through grassroots and other stakeholder input processes. This information is intended to allow the citizens of Texas to make sound decisions that will improve the overall quality of life for themselves and all Texans. The goals of Extension are: 1) Ensure a sustainable, profitable, and competitive food and fiber system in Texas. 2) Enhance natural resource conservation and management. 3) Build local capacity for economic development in Texas communities. 4) Improve the health, nutrition, safety, and economic security of Texas families. 5) Prepare Texas youth to be productive, positive, and equipped with life skills for the future. 6) Expand access to Extension education and knowledge resources. Work on issues of importance in the state is a joint endeavor by both AgriLife Research and AgriLife Extension. Research based information is translated to practical best management practices and disseminated via multiple channels including the network of agents in all 254 counties in the state. Identification of issues and needs is conducted at multiple levels by both AgriLife Research and AgriLife Extension. Grassroots involvement by citizens, advisory groups, and commodity and industry groups are just a few of the ways this information is generated. Work with other states on areas of shared interest is also of high priority. Efforts by AgriLife Research and the AgriLife Extension in 2015 were very successful. Data in this report highlight the activities and success of major program areas supported by AgriLife Research and AgriLife Extension.

Cooperative Extension Program and Cooperative Agricultural Research Center

The College of Agriculture and Human Sciences demonstrates an integrated approach to science that directly addresses the priority needs of our clientele. The Cooperative Extension Program (CEP) and the Cooperative Agricultural Research Center (CARC) at Prairie View A&M University are two arms of the agriculture tripartite (Academics, Research and Extension) within the College of Agriculture and Human Sciences. The Cooperative Extension Program delivers practical research-based programs to Texas citizens in 36 rural and urban counties. The Cooperative Agricultural Research Center expands the knowledge base of extension programming and incorporates research into outreach programs.

The Cooperative Agricultural Research Center (CARC) through its five major research systems Animal systems, Social and Allied Research Systems, Plant Systems, Food Systems, and Natural Resources and Environmental Systems provides a knowledge base to the extension for applicable outreach program implementation and incorporates research in students' academic development.

Animal systems conducted research on pasture based production strategies for the Texas Gulf Coast, increasing the efficiency of artificial insemination and embryo transfer and decision support systems for goat dairy enterprises. In Plant Systems, research conducted on the effects of agronomic practices (rotation, nitrogen fertilization, tillage) on the structural units of the lignin of biomass sorghum, technology to grow the high-value medicinal plants, specialty sweetpotato, organic fruits and vegetables, a large group-hybridization involving 50 sweetpotato germplasm lines, including 4 purple-fleshed lines, the plant system team studied the effects of various nutrient combinations on the growth of *Phyla dulcis*, there 30 nutrient combinations applied to the field grown *Phyla dulcis* plots and the total biomasses have been harvested for chemical and genetic studies. Food Systems research focused on increasing omega-3 fatty acids in goat meat by changing the feed and testing the quality of the meat produced, developed protocols to get the approval to carry out work on microbial pathogens in the laboratory, developing new methodologies to learn how to analyze milk and dairy products to measure levels of microorganisms to determine levels of contamination that could occur during food handling, developing new methodologies to analyze the level of antibiotics in goat's milk as an analytical quality assurance tool. Natural resources and environmental systems provided research expertise in the areas of irrigation scheduling to optimize water and nutrient management of different crops in Texas; estimating reference crop evapotranspiration and predicting potential future climate change impacts on water resources across the state of Texas; predicting potential hydrological processes, and soil Carbon and Nitrogen dynamics of a two distinct watersheds under different weather and land management practices.

In addition, over 20 presentations were given in 2015 as part of the CAHS' Research Seminar Series which was introduced in Fall of 2013. The research seminar presentations are intended to stimulate intellectual discussion among academic faculty, research scientists, research specialists, extension program leaders and extension specialists about the innovative research activities conducted in CARC and carried out by our CEP outreach programs. All seminars were broadcasted LIVE and archived for future views and knowledge base.

The mission of the Cooperative Extension Program is to respond to the needs of underserved Texans through life changing opportunities that empower families, promote agriculture, strengthen communities and foster leadership development in youth. The Cooperative Extension Program uses various methods to engage stakeholder groups to identify and address emerging issues and meet state and federal priorities. The Texas population includes over 6.5 million individuals and families at or below the poverty level. The federal priorities classified by the National Institute of Food and Agriculture (NIFA) are addressed through both formal and informal educational programs and activities. Currently we have staff in 36 of the 254 Texas counties. Given the targeted audience that encompasses various ethnic groups, religions, cultural and socioeconomic backgrounds, the outreach methods used to address the needs of the clientele are focused and in alignment with the audience in that the institution has served purposefully since its inception. The present and emerging needs such as Global Food Security and Hunger, Childhood Obesity, Climate Change, Food Safety, Human Development and Family-Well Being, Youth Development, Individual and Family Resource Management provided the direction for development and implementation of educational outreach methods in the counties. These methods are delivered through cooperation between Extension program areas and Research system groups.

The Agriculture and Natural Resources (AgNR) unit focused its efforts on developing sustainable farming

and ranching operations by improving their ability to manage risks related to their operations. Our extension specialists and agents conducted a series of educational programs focusing on business management, recordkeeping, and various programs made available through the farm bill for land loan assistance. Programs provided producers with information about sources of funding including both grant and loan opportunities. Much of the focus on loans related to obtaining funding through the USDA - Farm Service Agency (FSA). In addition to the workshops, extension staff members assisted small scale agricultural producers with hands-on, one-on-one assistance in completing loan applications which consisted of farm ownership and farm operating loans. A special focus was placed on assisting individuals to complete microloan and youth applications. Extension personal conducted educational programs that provided small producers with the knowledge needed to maintain their livestock in a sufficient and sustainable way. A number of topics were covered, including (but not limited to) herd health, vaccination protocols, and parasite management. Specialists and other university resource personnel assisted in conducting the programs. Cooperative Extension staff, both specialist and agents, focused on assisting landowners with soil health related issues emphasizing soil testing to determine proper fertilization, proper pH adjustment rates, weed control and the use of cover crops to reduce soil exposure and add organic matter to the soil. CEP partner with the Cooperative Agricultural Research Center (CARC), Natural Resource Conservation Service (NRCS) and the 100 Ranchers, a local community based organization, conducted a series of six workshops over Southeast Texas to train producers on the important of this issues. Producers were shown how to take and submit soil samples for testing and how to interpret the results. Each producer in attendance was given an opportunity to submit one free soil sample for testing. Cooperative Extension Program conducted a series of educational programs, workshops, field days and farm tours focused on bringing on small parcels of land (10 ac and less) back into production. Two major programs launched this year were the 43,560 Initiative (number of sq. ft. in one acre) and Seasonal High Tunnel program. Both programs were designed to provide scale appropriate instructional/experiential training to producers and encourage them to grow high value crops for sale to the local market. The Cooperative Extension conducted educational programs, field days, farm tours and in Farm demos were conducted on campus and in selected counties with farmers and ranchers in areas related to improving crop production for small farmers. Over 35 programs were conducted engaging over 1,500 farmers and ranchers.

The Community and Economic Development program serves as a resource and assistance center for limited resource families and individuals in pursuit of increasing their standard of living through entrepreneurship, community program participation, home ownership, and government assistance programs. Our housing clientele has seen an increase in home ownership, foreclosure prevention, and affordable mortgage refinancing. Twenty six home finance and rehab applications were filled out for USDA 504 and 502 applications. Twelve families applied for home renovations and 14 families applied for \$1,440,000 in mortgage financing. We project that \$576,000 was saved in interest payments by choosing the USDA 504 1% rehabilitation loan. As a result of CED staff direct intervention, 4 families avoided foreclosure and reduced their monthly mortgage cost. Community & Economic Development (CED) specialists and agents have provided trainings, workshops, and one-on-one technical assistance to aspiring entrepreneurs, small farmers, small businesses, and youth. CED staff also provided one-on-one counseling to individuals in an effort to assist them in starting a business, maintaining their business, developing business plans, and applying for small business loans. In 2015 the CED staff provided one-on-one consulting to 1,345 individuals. Over \$8,945,400 in new loan applications (approximately 110) were assisted with by CED staff across the State with \$1,680,000 of that focusing on home ownership and repair. Entrepreneurs and community members attended 115 CED programs across the State.

The 4-H and Youth Development unit engaged youth and adult volunteers in outdoor exploration and environmental education and hands-on STEM activities for exposure to career pathways in agriculture and other related sciences. One-hundred eighty participants were involved in a residential preparatory program on campus. Youth ages 5 to 19 and adult leaders in limited-resource communities benefited from receiving 44,794 hours of research-based information and non-formal education. Extension agents organized and managed 4-H clubs, provided in-school curriculum enrichment, and coached youth for a

variety of multi-level contests. The Heroes 4-Health banner program developed youth advocacy around nutrition and physical health with the goal to mobilize underserved youth in a community healthy living campaign. More than 17,000 diverse youth benefitted from the peer-led outreach program. The Robotics STEM initiative has significantly increased 4-H enrollment.

Conflict within families is one of the most difficult situations to deal with. Much of the conflict resides around lack of communication. However, families are an intricate part of society, and they are the dominating fabric of society. The Active Parenting series conducted in Harris and McLennan Counties enrolled 1914 parents in a six series of interactive sessions. The need to provide information to grandparents was met through the Grandparent Caregiver program with 646 participants. Unfortunately, many families do not discuss money management until there is a problem. Good family relationships and economic security begin when families are able to discuss their finances. Within today's economy, money management is a key factor in family stability. County agents used Real Work simulation activities and the Money Matters curriculum to reach rural and urban youth. Adults learned ways to change behaviors to improve health and nutrition status through MyPlate series and Eating Smart Being Active informal classroom settings reaching 10,709. FCS agents and headquarters staff members are working with their Ag & Natural Resource and 4-H agents to demonstrate healthy meals with produce from community garden projects and the University farm result demonstration plots.

Each of the aforementioned accomplishments have addressed and provided assistance for the limited resource clientele served by the Cooperative Extension Program and the Cooperative Agricultural Research Center in critical areas of importance to the State of Texas. In addition, the programs have persistently addressed federal initiatives for agriculture and natural resources, individuals, families and communities as well as youth and adult leadership development in accordance with the land-grant mission championed by the College of Agriculture and Human Sciences at Prairie View A&M University.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	381.0	70.5	148.9	28.5
Actual	410.5	56.0	182.0	24.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel

2. Brief Explanation

AgriLife Extension and AgriLife Research

AgriLife Research and AgriLife Extension Administrative Leaders serve as merit reviewers for the Federal Plan of Work, the Federal Report of Accomplishments and Results, and associated grants and contracts. This team is comprised of senior administrative staff, as well as department heads, associate department heads for Extension, and resident directors at research centers. This leadership team is responsible for the oversight and management of all programs conducted by research and Extension faculty.

Cooperative Extension Program and Cooperative Agricultural Research Center

Extension programs initiated in the state of Texas are funded in whole or part from Smith Lever or Section 1444 and 14445 funds requiring a merit review process. The review panel is comprised of Cooperative Extension Program administrative leaders, Dean of the College of Agriculture, Cooperative Agricultural

Research Center director, scientists, faculty, and Texas AgriLife middle managers. Particular focus to the plan is to determine if appropriate strategies are designated to reach the limited resource clientele mandated by the United States Department of Agriculture. The plans are reviewed based on needs assessment, planned programs, outcomes and evaluation. This combined leadership team is responsible for the oversight and management of all programs planned and implemented by Extension staff members.

All proposed research projects that are funded under either Evans-Allen, Experiment Station (Hatch), or otherwise, undergo a merit review process. Each proposal submitted for support is routed through an internal review committee for review and if deemed necessary, each proposal is routed through the University Committee on Research. The Research Director selects a set of individuals to serve as members of an internal review panel in consultation with the University's Vice President for Research. At minimum, three individuals review and evaluate each proposed project prior to approval for external submittal and/or internal fund allocation. Scientific peer review is incorporated in that all project reports including Current Research Information System must show evidence of external review. Written comments should be included with final proposals for campus routing. Routing proposals through quality control check points (Research Director, Dean of the College and Vice President for Research) are designed to ensure that proposals meet RFP guidelines as well as meet scientific merit qualifications. All proposals are quality checked by our on campus Office of Sponsored Programs.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions

- Targeted invitation to traditional stakeholder groups

- Targeted invitation to non-traditional stakeholder groups

- Targeted invitation to traditional stakeholder individuals

- Targeted invitation to non-traditional stakeholder individuals

- Targeted invitation to selected individuals from general public

- Survey of traditional stakeholder groups

- Survey of traditional stakeholder individuals

- Survey specifically with non-traditional groups

Brief explanation.

AgriLife Extension and AgriLife Research

Both AgriLife Extension and AgriLife Research utilize various methods to reach stakeholder groups within the State of Texas. AgriLife Extension uses multiple sources of input from stakeholders. These include local clientele, commodity/special interest groups, trend data monitored by specialists, various county committees, elected officials, and emerging issues. Teams of Extension and research faculty meet based on need to analyze these issues, which leads to priority setting and development of programs to address the needs and issues raised by the various stakeholder groups and methods. Local Leadership Advisory Boards (LABs) lead efforts to raise new and validate current issues being addressed in local communities. The process allows for flexibility in approaches based on community resources. Face-to-face meetings and an online data collection effort are part of the options offered. Approximately 2,500 individuals serve on Leadership Advisory Boards across the state. To date, over 4,000 individuals have been involved in this process. In addition, another 10,000 citizens serve on program area committees, task forces, coalitions, and youth boards. These volunteers represent specific areas of the local program and are involved in issues identification, program development and delivery, evaluation and interpretation of programs, and management of other volunteers. These volunteers represent all 254 counties in the state. AgriLife Research Administration, Department Heads, and Resident Directors regularly met with the major agricultural industries and commodity groups in Texas. AgriLife Research has encouraged the public to participate in helping set priorities, assess current program and process effectiveness, and determine future directions. These processes were open, fair, and accessible to encourage individuals, groups, and organizations to have a voice, and treated all with dignity and respect. Stakeholders were initially identified by membership in listed organizations, though all events were public and were announced in the press and other written notice. Input from these events was captured by AgriLife Research participants, and in some cases, was published for further public use. Stakeholder input has always been critical to AgriLife Research processes and programs, and listed events and organizations continue as essential partners in setting the AgriLife Research agenda, and recognizing and addressing emerging issues. A concentrated effort was done for small grains, corn, sorghum, cotton, peanuts, cow-calf and beef cattle feedlots, resulting in a jointly developed strategic plan.

Cooperative Extension Program and Cooperative Agricultural Research Center

The Cooperative Extension Program (CEP) used various methods to reach stakeholder groups within the State of Texas. Multiple sources of input were gathered from stakeholders including local clientele commodity/special interest groups, emerging issues, various county committees and elected officials. CEP also used media outlets such as public service announcements and online communications. Focused programs were conducted and analyzed, which led to priority setting and development of educational programs addressing the needs and issues raised by various stakeholder groups in stakeholder input process. Extension used Leadership Advisory Boards (LABs) to validate issues raised in local stakeholder input process. LABs serve as a conduit to local citizens and their needs. These boards are comprised of community opinion leaders charged with providing visioning and advocacy for the local Extension program. Additional citizens serve on program area committees, task forces, coalitions, and youth boards. These volunteers represent specific areas of the local program and are involved in issues identification, program development and delivery, evaluation and interpretation of programs, and management of other volunteers. These volunteers represent the counties in the state serviced by the Cooperative Extension and Research Programs.

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Cooperative Extension Program and Cooperative Agricultural Research Center

The Cooperative Extension Program (CEP) used various methods to reach stakeholder groups

within the State of Texas. Multiple sources of input from stakeholders including local clientele commodity/special interest groups, emerging issues, various county committees and elected officials. CEP also used media outlets such as public service announcements and online communications. Focused programs were conducted and analyzed, which led to priority setting and development of educational programs addressing the needs and issues raised by various stakeholder groups in stakeholder input process. Extension used Leadership Advisory Boards (LABs) to validate issues raised in local stakeholder input process. LABs serve as a conduit to local citizens and their needs. These boards are comprised of community opinion leaders charged with providing visioning and advocacy for the local Extension program. Additional citizens serve on program area committees, task forces, coalitions, and youth boards. These volunteers represent specific areas of the local program and are involved in issues identification, program development and delivery, evaluation and interpretation of programs, and management of other volunteers. These volunteers represent the counties in the state serviced by the Cooperative Extension and Research Programs.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys
- Other (Meetings with various stakeholder groups)

Brief explanation.

AgriLife Extension and AgriLife Research

The basis for AgriLife Research and AgriLife Extension's relevance in the State of Texas is grassroots involvement. AgriLife Extension has utilized local community listening sessions and advisory board validation as part of the grassroots issue identification process. These sessions provide local clientele the opportunity to voice their opinion on issues of importance to their lives and the lives of others in their community. Local Leadership Advisory Boards (LABs) lead efforts to raise new and validate current issues being addressed in local communities. The process allows for flexibility in approaches based on community resources. Face-to-face meetings and an online data collection effort are part of the options offered. Approximately 2,500 individuals serve on Leadership Advisory Boards across the state. In addition, another 10,000 citizens serve on program area committees, task forces, coalitions, and youth boards. These volunteers represent specific areas of the local program and are involved in issues identification, program development and delivery, evaluation and interpretation of programs, and management of other volunteers. These volunteers represent all 254 counties in the state. Information from other stakeholders is obtained in various ways. Regular meetings are held with various commodity and interest groups. These groups provide input into programmatic decisions including development of new efforts, modification of existing efforts, and termination of programs that are no longer relevant. Finally, various subject matter groups employ the use of surveys and other needs assessment processes to gain information about their subject area. Data from these processes are used to develop programs to address issues.

AgriLife Research has incorporated data from the AgriLife Extension's process, as well as other stakeholder input methods, for development of initiatives and programs.

Cooperative Extension Program and Cooperative Agricultural Research Center

Cooperative Extension used open listening sessions in 36 counties as a means of getting grassroots involvement in its program planning and data collection process. These sessions allow local clientele to give their opinion on issues of importance to their communities. Additionally, Leadership Advisory Boards and other program advisory committees and/or groups were used to provide input on program direction and implementation. Cooperative Extension staffs also meet with various commodity and interest groups that provided insight into issues facing the targeted audience.

2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Other (Modified Nominal Group Process)

Brief explanation.

AgriLife Extension and AgriLife Research

Both AgriLife Extension and AgriLife Research use multiple methods to reach stakeholder groups within the State of Texas. AgriLife Extension uses multiple sources of input from various stakeholders. These include local clientele, commodity/special interest groups, trend data monitored by specialists, various county committees, elected officials, and emerging issues. Teams of Extension and Research faculty meet to analyze these issues, which promote priority setting and development of programs to address the needs and issues raised by the various stakeholder groups and methods. Methods of data collection include surveys, focus group sessions, data collected as a result of program evaluations, expert panels, meetings with stakeholders, and open forum type meetings to solicit input. All data from all sources is considered when decisions are made regarding the future directions of Research and Extension efforts.

Cooperative Extension Program and Cooperative Agricultural Research Center

Data was collected via numerous methods from the stakeholders mentioned in the previous section including meeting with advisory committees, holding open forums with clientele and other groups and collected need assessment and/or surveys at educational programs across the state. Likewise, Extension staff members identify needs while conducting research and working with clientele.

3. A statement of how the input will be considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs

- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities
- Other (Strategic plans)

Brief explanation.

AgriLife Extension and AgriLife Research

Both AgriLife Research and AgriLife Extension use data from the various stakeholder input processes to direct programming efforts at the local, district, regional, and state level. Regional Teams meet to analyze current and emerging issues raised from various stakeholders. Information from these meetings will lead to the refinement of current programs and the development of new programs to address high priority issues. In addition, strategic plans for AgriLife Research and AgriLife Extension have been developed to guide our efforts. Priority areas of this plan have been used to guide the efforts of this report.

Cooperative Extension Program and Cooperative Agricultural Research Center

The Cooperative Extension Program used various methods to reach stakeholder groups within the State of Texas. Extension used multiple sources of input from stakeholders including local clientele, commodity/special interest groups, emerging issues, various county committees and elected officials. Extension staff analyzed these issues, which led to the priority setting and development of programs to address the needs and issues identified by stakeholders. Extension also used Leadership Advisory Boards (LABs) to validate issues raised in the local stakeholder input process. LABs serve as a conduit to local citizens and their needs. These boards are comprised of community opinion leaders charged with providing long-term visioning and advocacy for the local Extension program. Additional citizens serve on program area committees, task forces, coalitions, and youth boards. These volunteers represent specific areas of the local program and are involved in issues identification, program development and delivery, evaluation and interpretation of programs, and management of other volunteers. These volunteers represent the counties in the state serviced by the Cooperative Extension Program.

Brief Explanation of what you learned from your Stakeholders

AgriLife Extension and AgriLife Research

Information from key stakeholder groups both informs and validates the strategic plans, and research and programming efforts for both AgriLife Research and AgriLife Extension. This information allows both agencies to remain relevant and accountable for the public funds entrusted via partnerships with local, state, and federal governments.

Cooperative Extension Program and Cooperative Agricultural Research Center

Health issues such as chronic diseases and childhood obesity are major concerns within the targeted audience. Family financial stability, community economics, sustainable agriculture, parenting education and youth development are also issues of high importance

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
13255226	4399907	8709138	5110655

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	6668434	3686955	9209879	5315621
Actual Matching	6668434	2285142	14731884	2696087
Actual All Other	47534708	0	34448013	0
Total Actual Expended	60871576	5972097	58389776	8011708

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	8938994	1024280	0	2023789

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Economics and Management for Sustainable Agriculture
2	Livestock Production
3	Crop and Forage Production
4	Water Management
5	Range Management
6	Climate Change
7	Sustainable Energy
8	Community Resource and Economic Development
9	Chronic Disease, Health, and Wellness
10	Childhood Obesity
11	Food Safety
12	Global Food Security, Hunger, and Nutrition Education
13	Fostering Strong Families
14	Life Skills for Youth (includes Character Education and Leadership)
15	Adult Leadership and Volunteer Development

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Economics and Management for Sustainable Agriculture

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	0%	80%	0%	0%
602	Business Management, Finance, and Taxation	25%	10%	25%	0%
604	Marketing and Distribution Practices	25%	10%	25%	0%
605	Natural Resource and Environmental Economics	10%	0%	10%	0%
606	International Trade and Development	10%	0%	10%	0%
608	Community Resource Planning and Development	5%	0%	5%	0%
610	Domestic Policy Analysis	25%	0%	25%	0%
	Total	100%	100%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	3.0	10.0	0.0
Actual Paid	20.0	3.0	7.2	0.0
Actual Volunteer	0.0	15.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
324893	197517	311825	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
324893	122419	508122	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2315942	0	611939	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension and AgriLife Research

Numerous activities, events and experiences will be conducted to address the needs of producers and other clientele in the area of economics and management. These include but are not limited to workshops, one-on-one intervention, marketing clubs, cooperatives, popular press articles, extension publications, and other methods as needed. These educational approaches focus on the identified needs of those who participate in our programs.

Work of AgriLife Research and AgriLife Extension is conducted jointly where research-based information is generated and then transferred to clientele. This work is conducted primarily on campus with dissemination efforts both on campus and at various research and extension centers across the state.

Collaborative efforts are also an important part of this area. Work with various commodity groups and other agencies are routinely conducted by both AgriLife Research and AgriLife Extension faculty. Examples of this work include cooperating with Grain and Livestock organizations on risk management and Biofuels programming and the Texas FSA office on price forecasts for lending purposes for the coming year.

Cooperative Extension Program

Extension staff members helped approximately 145 one-on-one consultations with clients where they worked on business plans and loan applications. Additionally, several educational programs were held including:

The Dairy Goat Workshop with 98 in attendance

Urban Gardening Series with 10 urban producers present

Agriculture Field Day with 40 producers attending the workshop session

Small Farm Workshop with 45 farmers participating

Organic Growers Session with 18 farmers present

Texas Organic Farmers Conference with 52 participants in the session

Waller County Microloan Program with 30 farmers and ranchers present

Smith County Business Planning and Loan Application Program with 30 participants

2. Brief description of the target audience

AgriLife Extension and AgriLife Research

The target audience for the economics and management program includes all Texas producers.

Specifically, commercially viable agricultural producers are targeted, but additional efforts are targeted to small scale operators, part-time producers, new/young landowners/producers, and commodity groups.

The target audiences are very diverse in knowledge, skills, attitudes, and aspirations to learn and adopt important strategies to be successful. Therefore, the methods used in this area vary depending on which audience is being addressed.

Cooperative Extension Program

Limited resource farmers, ranchers, and agribusiness owners needing to increase profitability through efficient business practices.

3. How was eXtension used?

The Cooperatives Community of Practice for eXtension is supported by Texas AgriLife Extension personnel. It provides a resource to individuals and groups interested in cooperative agricultural business practices. A focus for the community of practice is youth leadership, with the intent of drawing talented youth to careers in cooperatives. Such careers are typically located in rural communities and help to strengthen rural economies. In addition, several faculty members answer the ask an expert questions that come in through eXtension.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	34769	209873	540	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	20	338	358

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	1463

Output #2

Output Measure

- # of research-related projects.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- # of one-on-one technical assistance/consultations.

Year	Actual
2015	145

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percent of producers that report a savings in money or increased profit by best management practices adopted.
2	% of target audience that reports an increased knowledge of economics and management strategies.
3	Number of producers who conduct whole farm or ranch risk assessment evaluations.

Outcome #1

1. Outcome Measures

Percent of producers that report a savings in money or increased profit by best management practices adopted.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Producers attending in-depth workshops are learning the information needed to improve their risk management skills, and increase their economic returns. This improvement in risk management skills, and increased economic returns should improve the long-run viability of the agricultural sector, and result in improved economic returns to related businesses and employment in the region as well.

What has been done

A 2.5 year post survey was mailed during summer 2015, to participants of the 2013 Master Marketer program held in EICampo, Texas, to determine knowledge gain, adoption of new practices, and economic impact. The survey was an in-depth 14-page survey that was followed up with reminder postcards and phone calls. The survey was done 2.5 years after the initial program to allow time for adoption of new practices and to identify economic impacts.

Results

Results from survey questions indicated; an increase in the use of a marketing plan from 43% pre-Master Marketer to 79% post-Master Marketer, an increase in determining production costs and incorporating those into the marketing plan from 36% pre-Master Marketer to 79% post-Master Marketer, an increase in using market fundamentals in developing their personal market outlook from 31% pre-Master Marketer to 62% post-Master Marketer, and knowing when to use forward cash contracting from 36% pre-Master Marketer to 73% post-Master Marketer. Master Marketer education had an average individual economic impact of \$25,780 or 5.2% of gross farm income for the EICampo class. At the QuickBooks Pro for Farmers and Ranchers Workshop, pre-

and post-test results indicated a 59% increase in knowledge due to the workshop, and 69% of participants said the information learned in the workshop would be worth over \$1000 to their operation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

Outcome #2

1. Outcome Measures

% of target audience that reports an increased knowledge of economics and management strategies.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	85

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and AgriLife Research

Producers attending in-depth workshops are learning the information needed to improve their risk management skills. This improvement in risk management skills, and increased economic returns should improve the long-run viability of the agricultural sector, and result in improved economic returns to related businesses and employment in the region as well.

Cooperative Extension Program

For farmers in general and more specifically for small scale agricultural producers, obtaining adequate financing is a major concern in their operations. While a majority of these producers have access to land, there is a great need for farm equipment upgrades and for farm operating

funds. In order to obtain the needed funds, the farmers need to obtain knowledge to keep basic farm records and the skills to apply for funds to operate their businesses.

What has been done

AgriLife Extension and AgriLife Research

Pre-test and post-test instruments and retrospective post-tests were used to determine knowledge gained at in-depth workshops that spanned from 8 to 70 hours in length such as Master Marketer, Advanced Topics Series, Crops and Cattle Trails Conferences, Ranch Management University, and similar workshops.

Cooperative Extension Program

The Cooperative Extension Program conducted a series of educational programs focusing on business management, recordkeeping, and various programs made available through the farm bill for land loan assistance. Programs provided producers with information about sources of funding including both grant and loan opportunities. Much of the focus was on loans related to obtaining funding through the USDA - Farm Service Agency (FSA). In addition to the workshops, Extension staff members assisted small scale agricultural producers with hands-on, one-on-one assistance in completing loan applications which consisted of farm ownership and farm operating loans. A special focus was placed on assisting individuals to complete microloan and youth applications.

Results

AgriLife Extension and AgriLife Research

The 27th Master Marketer program (approximately 70 hours of classroom training over a six-week period of time) was conducted in Amarillo, Texas during January-March 2015. Pre-test and post-test scores of subject matter knowledge level indicated a 28.64% improvement in participant's scores from the beginning of the Master Marketer program (average pretest score 62.65%) to the end of the Master Marketer program (average posttest score 80.59%). In an exit evaluation, participants suggested that they were much more confident in how and when to use various risk management/marketing tools. If this increase in knowledge levels and confidence translates to improved marketing performance similar to preceding Master Marketer graduates, then an increase in annual income of approximately \$35,000 per year, on average, can be expected for each of the 56 graduates of this year's Spring program. If so, these returns would work out to over \$1.5 million per year for the graduates of the 2015 Master Marketer program in Amarillo. At a Ranch Management University workshop, participants showed that there was a 97% increase in knowledge as a direct result of the workshop. In addition, 100% of respondents anticipate a positive economic benefit as a direct result of the information presented at the workshop.

Cooperative Extension Program

Educational programs and workshops focusing on sources of funding were held. The Cooperative Extension Program agents and specialists assisted local producers to complete applications for Farm Service Agency (FSA) loans. As a result, 65 small farmers and ranchers were assisted to apply for loans through USDA. Applicants applied for \$1,164,470 in microloans, \$3,979,645 in farm operating loans, \$22,000 in youth loans and \$510,000 in farm ownership loans. The total amount of loans requested by these applicants was \$5,676,115.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices

Outcome #3

1. Outcome Measures

Number of producers who conduct whole farm or ranch risk assessment evaluations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	137

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The FARM Assistance model (financial simulation strategic planning tool) was used to complete 137 analyses for producers, for demonstrations or agent planning purposes. Survey respondents showed that as a result of participating in FARM Assistance, 92% claim a better understanding of the financial aspects of their own operations, and 93% claim an improved ability to assess the financial risks and potential impacts of strategic decisions they make. A comparison of various scenarios analyzed showed that strategic planning tools can have economic benefits.

What has been done

Participants are able to analyze their own economic situation over a 10-year planning horizon using the FARM Assistance model. Producers were able to utilize their own financial, yield, and production information to analyze alternative strategic opportunities such as adding or reducing acreage, changing the crop/livestock mix, changing the machinery complement or purchase/lease arrangements, financing options, irrigation investments etc., to determine long run impacts on the operations financial situation for planning purposes.

Results

The outcome of client participation is measured through participant evaluations. Client assessments of the FARM Assistance program over the last year indicate a very positive impact on management ability. As a result of participating in the FARM Assistance program, 92% claim a better understanding of the financial aspects of their operation and 93% claim an improved ability to assess the financial risks and potential impacts of strategic decisions they make. One of the objectives of the program is to help managers become more comfortable with formal financial

analysis, and 92% improved their management ability to the benefit of their bottom-line, 83% are better able to communicate business plans to partners, family, lenders, landlords, etc., and 92% of respondents indicated they would recommend FARM Assistance to another producer. Finally, in responding to anticipated economic value, respondents estimated an average \$27,642 annual benefit to their operation as a result of their FARM Assistance participation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices
610	Domestic Policy Analysis

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges

Brief Explanation

Budget reductions as a result of reduced state appropriations in 2011 resulted in a reduction in FTEs available to carry out educational activities from 2012-2015 and into the future. While remaining faculty picked up additional responsibilities, some educational opportunities were missed due to reduced faculty numbers. In addition, the signing of a new Farm Bill put responsibility for education on Extensions shoulders and resulted in substantial redirection of educational program emphasis. Traditional risk management educational programs were still popular, but significant faculty time and effort was redirected toward immediate clientele needs associated with Farm Bill education and training.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

AgriLife Extension and AgriLife Research

Clientele/participants involved in Master Marketer, Advanced Topic Series, Crops and Cattle Trails Conferences, and FARM Assistance are evaluated in several ways, depending on the length of the training activity, whether we are trying to identify short-term knowledge gains, or adoption/change of practices and economic impacts over time. Pre-tests and post-tests are used at the beginning and end of programs to better identify knowledge gains. Retrospective post evaluation surveys are used to identify adoption/change of practices and economic impacts over time. Results indicate that producers are learning, and adopting/changing practices, and these changes are producing economic benefits.

Cooperative Extension Program

The Cooperative Extension Program focused on assisting small, beginning and non-traditional farmers to be better business owners. As a result, one-on-one and small group educational programs focusing on business management, farm record keeping, product marketing and loan assistance were conducted. As a result, approximately 25 individuals completed business plans. These plans focused on a variety of enterprises including livestock production (cattle and goats), vegetable production and valued-added items (goat mild soap, creams and lotions).

Key Items of Evaluation

Continued follow-up with small, beginning and non-traditional farmers related to agricultural production, business planning and marketing.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Livestock Production

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	10%	20%	10%	20%
302	Nutrient Utilization in Animals	25%	10%	25%	10%
303	Genetic Improvement of Animals	5%	10%	5%	10%
304	Animal Genome	0%	10%	0%	10%
305	Animal Physiological Processes	0%	20%	0%	20%
306	Environmental Stress in Animals	5%	0%	5%	0%
307	Animal Management Systems	20%	20%	20%	20%
308	Improved Animal Products (Before Harvest)	20%	0%	20%	0%
313	Internal Parasites in Animals	5%	10%	5%	10%
315	Animal Welfare/Well-Being and Protection	10%	0%	10%	0%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	35.0	7.0	20.0	8.5
Actual Paid	30.0	3.0	20.6	8.5
Actual Volunteer	0.0	20.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
487340	197515	1488763	1882616
1862 Matching	1890 Matching	1862 Matching	1890 Matching
487340	122418	2176201	954864
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3473913	0	3901693	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension and AgriLife Research

Research as well as group and individual education will be ongoing across the 7 key subject matter/commodity areas. Methods of education include public meetings, individual support, printed and video/DVD materials and web-based materials. Collaboration with breed associations, commodity groups and corporations will target research and educational needs of a diverse livestock industry across the state, involving both youth and adults.

Livestock production research was focused on combating and preventing anti-microbial resistance, increasing feed efficiency, improving air quality in confined animal facilities and integrated strategies to improve animal health and well-being. Examples include identification of a gene variant that could result in as much as 30% improvement in feed efficiency in growing and finishing beef cattle and reduction of ground-level particulate matter concentration by greater than 50% through maintaining optimal animal density in feedlots.

Cooperative Extension Program and the Cooperative Agricultural Research Center

The Cooperative Extension Program along with the Cooperative Agricultural Research Center at Prairie View A&M University work in collaboration with Community Based Partners, and other USDA Agencies will assist our targeted audience in increasing their profitability by increasing their knowledge and the adoption of best management practices for producing livestock by conducting workshops, tours and field days, providing one-on-one technical assistance and conducting field and on-campus demonstrations on areas of livestock production.

The collaborative efforts with research staff are contained within three main research focus areas:

Pasture based production strategies for the Texas Gulf Coast: The growth characteristics of *Serecea lespedeza* (SL) was evaluated in raised beds to determine the impact of cutting frequencies on overall forage yield and compositional change. Cutting intervals (30, 45 and 60 days) did not affect overall yields but had a significant effect on crude protein.

Increasing the efficiency of artificial insemination and embryo transfer: We are focusing our efforts in the areas of breeding and reproductive management. We are studying the process of spermatogenesis by correlating parameters of semen quality to expression of key genes in the testes of male goats. The cause of short estrous cycles, which decreases the effectiveness of embryo transfer after synchronization in goats, was also investigated. The stage of the previous estrous cycle when synchronization was initiated affects the percentage of animals with short estrous cycles, indicating better recipient management methods are needed. We used advanced sequencing technology to determine how the presence of an early embryo influences the uterine environment. Several genes were identified that may

contribute to maintaining pregnancy. Knowledge of factors that control expression of these genes may extend the time when an embryo can successfully implant, effectively increasing the efficiency of AI and ET.

Decision support systems for goat dairy enterprises: We are working on developing a body condition scoring system to predict body composition in dairy and meat goats so producers can have a better understanding of the actual condition of the animals. A GrowSafe feed intake and behavior monitoring system is being installed to identify animals that more efficiently digest nutrients and produce milk and meat. These studies will allow us to select animals that eat less and produce more which will benefit producers and the environment.

2. Brief description of the target audience

AgriLife Extension and AgriLife Research

The target audience is composed of beef cattle, horse, dairy, sheep, goat and swine producers/owners/users, commodity group leadership, associations and registries, and youth enrolled in 4-H and FFA livestock projects.

Cooperative Extension Program and the Cooperative Agricultural Research Center

Beginning Farmers/Ranchers; Limited Resource Farmers/Ranchers; Socially Disadvantaged Farmers/Ranchers, and Military Veterans. 4-H and Youth associated with this audience.

3. How was eXtension used?

The Texas AgriLife EDEN disaster management website is linked to the National EDEN website and the eXtension network. Animal Science faculty continues to update and develop educational materials dealing with management of livestock during and following catastrophic events such as wildfires, drought and floods. Additional programs were added covering topics of equine management and selection.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	152441	496817	22060	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015

Actual: 3

Patents listed

- * MAREK'S DISEASE VIRUS VACCINE COMPOSITIONS AND METHODS OF USING THEREOF
- * HIGH DENSITY SHRIMP PRODUCTION METHODS
- * SYSTEM AND METHOD FOR SUPER-INTENSIVE SHRIMP PRODUCTION

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	10	573	583

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	3556

Output #2

Output Measure

- # of research-related projects.

Year	Actual
2015	133

Output #3

Output Measure

- # of one-on-one technical assistance/consultations.

Year	Actual
2015	300

Output #4

Output Measure

- # of graduate/undergraduate students involved in research projects.

Year	Actual
2015	18

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of livestock owners/producers that adopt or plan to adopt best management practices to improve quality and profitability.
2	% of livestock owners/producers/commodity group representatives that report increased knowledge of best management practices to improve quality and profitability.
3	% of livestock owners/producers that report a savings in money or increased profit by best management practices adopted.

Outcome #1

1. Outcome Measures

% of livestock owners/producers that adopt or plan to adopt best management practices to improve quality and profitability.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	83

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and AgriLife Research

Best management practices to ensure quality, profitability, productivity and optimal utility help clientele make changes to improve livestock, management, resources and time to increase income and improve profit opportunities.

Cooperative Extension and Research Program

Limited resource livestock producers have historically demonstrated a lack of understanding of how to properly develop and implement a herd health management program. This lack of understanding is reflected, not just in the overall health of their animals, but also in how it impacts them economically. Many do not utilize a health management program to proactively prevent issues cause by poor nutrition, diseases, and parasites.

What has been done

AgriLife Extension and AgriLife Research

Programs conducted include TAMU Beef Cattle Short Course, Texas Beef Quality Producer, Beef and Pork 101, Beef 706, Grassfed Beef Conference, Retail Beef Boot Camps, Retail Beef Boot Camps, Pasture Management Workshops, Bull Selection Workshops, Low-Stress Livestock Handling, Stockmanship schools, Southwest Dairy Conference, Restocking Alternatives for Livestock, Mare/Foal Workshop, Farriers Conference. Youth programs included the 43rd Annual Summer Horsemanship Schools, Commercial Steer Camp, Lamb/Goat Camps and Judging camps for Beef Cattle, Horses, Sheep and Goats. In addition to specialist driven programs listed above Animal Science Extension faculty support producer education through

delivery of educational programs at 201 county programs.

Cooperative Extension and Research Program

Extension personal conducted educational programs that provided small producers with the knowledge needed to maintain their livestock in a sufficient and sustainable way. A number of topics were covered, including (but not limited to) herd health, vaccination protocols, and parasite management. Specialists and other university resource personnel assisted in conducting the programs

Some program examples include:

Hands-on livestock castration workshop,

Five part series on Goat Management

Two results demonstrations on Horn fly control

Prairie View A&M University Cooperative Extension and Cooperative Agricultural Research Center Agricultural Field Day

Off Campus workshops relating to Goat health in Gainesville Rio Grande Valley, and Tyler Texas.

Results

AgriLife Extension and AgriLife Research

From measures including beef/dairy cattle, sheep/goats, horses and meats, 62% to 100% reported intent to adopt at least one best management practice. 54% to 92% expected to increase income or profitability by adoption of best management practices. 78% to 89% of respondents indicated they would implement changes to their selection criteria as they purchase breeding stock. 60% to 93% reported elimination of non-productive practices, 71% hay analysis, 83% reported use of cost/lb of nutrient strategies for alternative feedstuffs and 91% use body condition scoring as a management tool. 96% indicated they intended to adopt one or more of the practices associated with low-stress livestock handling and effective stockman ship practices.

Cooperative Extension and Research Program

The following results were gathered from educational programs that were presented:

Reproductive Health and Selection

100% of respondents anticipate benefiting economically as a direct result of what they learned from the Reproductive Health and Selection Program.

87% of those interviewed increased their understanding of goat reproductive health and the importance of breed selection.

80% of surveyed participants surveyed increased their understanding of difference between meat goat and dairy goat requirements.

66% of surveyed participants said the definitely would adopt the practices of implementing proper deworming and vaccination management. (20% had already adopted the practice)

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
306	Environmental Stress in Animals

307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection

Outcome #2

1. Outcome Measures

% of livestock owners/producers/commodity group representatives that report increased knowledge of best management practices to improve quality and profitability.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	84

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and AgriLife Research

Increased knowledge prompts adoption of best management practices to ensure quality, profitability, productivity and utility of livestock, management, resources and time. Knowledge of best management prompts time savings, increased confidence in management decisions and problem solving for producer and youth involved in the livestock industry.

Cooperative Extension and Research Program

The 2011 drought caused many livestock producers to sell off their animals (both cattle and goats). Those that held on to their stock were forced to buy very expensive feed and hay to keep their animals alive. They were faced with staggering loss of income that resulted in families of all races and ethnic backgrounds reaching out for assistance. Prairie View University Cooperative Extension Program aims to help limited resource producers of all walks of life recover, re-strategize and/or renew their farms. Farmers were looking for an alternative enterprise to produce income. Due to acculturation and increased ethnic populations in the state who consume goat as a staple protein, farmers began purchasing goats thinking they could raise them like little cows. Texas has the largest number of goats (nearly 20%) in the United States. Many had never had any dealings with goats and were still unsuccessful because they had no knowledge of how to

correctly raise them. This year, cattle prices have been remarkably high; a plus for those who were able to maintain a herd until the severe drought conditions ceased. For those that were unable to do so, buying back into the market was difficult and expensive. With the number of goats increasing in the East Texas region, there was a need for niche programming to ensure goat producers, meat and dairy, were successful.

Cooperative Extension & Agricultural Research Center

Small producers are seeking to learn and develop skills necessary to create and implement herd health programs. They are seeking programs to help them to improve the overall quality of their livestock, thus allowing them to improve the quality and be more profitable in the future.

What has been done

AgriLife Extension and AgriLife Research

Programs conducted include TAMU Beef Cattle Short Course, Texas Beef Quality Producer, Beef and Pork 101, Beef 706, Grassfed Beef Conference, Retail Beef Boot Camps, Retail Beef Boot Camps, Pasture Management Workshops, Bull Selection Workshops, Low-Stress Livestock Handling, Stockmanship schools, Southwest Dairy Conference, Restocking Alternatives for Livestock, Mare/Foal Workshop, Farriers Conference. Youth programs included the 43rd Annual Summer Horsemanship Schools, Commercial Steer Camp, Lamb/Goat Camps and Judging camps for Beef Cattle, Horses, Sheep and Goats. In addition to specialist driven programs listed above Animal Science Extension faculty support producer education through delivery of educational programs at 201 county programs.

Cooperative Extension and Research Program

Prairie View A&M University Cooperative Extension and Cooperative Agricultural Research Center Conducted Workshops and field days in the following off-campus locations:
Gainesville, TX (internal parasite control, nutrition, pasture and forage management, emergency vet care, economics, alternative enterprise, general herd management including foot care, dehorning and castration
Tyler dehorning, castration, foot care, nutrition, emergency vet care
PV Parasite Management, pharmaceuticals, economics, pasture rotation, FAMACHA
PV Artificial Insemination Clinic

Results demonstrations were conducted in Bowie and Houston Counties to determine the most effective control of horn flies a pest that effect productivity in livestock. Client use of commonly used pesticides for fly control during the summer/fall fly season.

Cooperative Extension & Agricultural Research Center

FAMACHA on campus workshop

Artificial Insemination Clinic in goats on campus

Workshops on both cattle and goat health management were conducted at Ag Field Day.

Results

AgriLife Extension and AgriLife Research

68% to 100% reported improved decision making ability. 65% to 100% reported increased confidence in management ability. 91% indicated knowledge gains of 60% to 89% for sire selection protocols, breeding mares and cows, loss of forage production potential, cattle handling, food safety control, natural resource management, financial management of ranches, livestock evaluation and general livestock and ranch management.

Cooperative Extension and Research Program

The following results were gathered from educational programs that were presented:

Reproductive Health and Selection

100% of respondents anticipate benefiting economically as a direct result of what they learned from the Reproductive Health and Selection Program.

87% of those interviewed increased their understanding of goat reproductive health and the importance of breed selection.

80% of surveyed participants surveyed increased their understanding of the difference between meat goat and dairy goat requirements.

66% of surveyed participants said they definitely would adopt the practices of implementing proper deworming and vaccination management. (20% had already adopted the practice)

Heard Health Management

80% of surveyed participants increased their knowledge on eh concept of integrated parasite management.

93% of those surveyed said they increased knowledge of proper fencing and the practice of rotational grazing.

15 of the 31 participants received their FAMACHA Certification. 10 had already been previously certified.

Marketing 101

4 of the 5 participants anticipated benefiting economically

All 5 participants increased their knowledge of cottage food laws and Smith Co. health regulations

3 of the 5 participants intended to adopt the practice of marketing value added products as a result of attending this educational program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection

Outcome #3

1. Outcome Measures

% of livestock owners/producers that report a savings in money or increased profit by best management practices adopted.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	64

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and AgriLife Research

Animal management systems must go beyond striving to improve quality of life, quality of production and increased knowledge to achieve a level of sustainability. For production systems to be sustainable they must be profitable. To improve profitability income needs to increase and costs need to be lowered or controlled. A continued push was made through programming to encourage producers to look at enterprise diversification and adding stocking rate flexibility into their production systems.

What has been done

AgriLife Extension and AgriLife Research

Economic benefit was measured from responses from participants in the TAM Beef Cattle Shortcourse, Small Landowner Conferences, Beef Quality Assurance programs, Rebuilding Texas Herds, Southwest Beef Symposium, Beef 706, Reproductive Management Shortcourse, Cattle Handling and Dairy Programs.

Results

AgriLife Extension and AgriLife Research

62% to 100% of the participants in these programs indicated they would benefit economically through adoption of management practices outlined in these programs. Participants in the small landowner programs indicated an expected increase in income of \$10.00 per head. Participants in Quality Assurance programs indicated increased income from \$25 to \$100 per head. Of the Beef 706 participants 88% indicated they would benefit economically by an estimated \$48.00/head of animal owned. Reproductive management practices on beef and dairy operations indicated returns of \$50 to \$95 per head. Economic impact across the livestock sector is projected to be between and \$1.6 and \$24 million from adoption of management practices. Of those attending stockmanship trainings 85% indicated they would benefit financially through savings in facility design and construction costs or in saved time, labor and injury expense.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Livestock ownership, production and use in Texas continue to be influenced by natural disasters and significant climatic shifts in weather patterns. 2015 continued the ups and downs of livestock production in Texas. In many parts of the state historic record rainfall was recorded in 2015 while at the same time many areas experienced the driest four month period in history. From over abundance to severe rainfall creates significant changes in management strategies. Weather related challenges continue to alter program delivery and adoption of some management practices. Routine management of livestock has been influenced and significant need exists for education in emergency and alternative management plans continue to occur. Production costs and incentives for livestock production, management, and use are influenced by economic changes. Input prices, agriculture valuation, and health care costs are all factors. Public policy changes and government regulations challenge educators to provide up-to-date, neutral information that helps livestock participants make decisions. Population shifts and use of available land for productive and meaningful livestock production bring opportunities and challenges to livestock owners/producers/users and the associations/corporations/groups that make up this diverse industry.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Outcome measures include pre-post knowledge assessment, adoption of best management practices and elimination of non-beneficial practices, and change in confidence/competence. Changes in time and money spent/saved/invested for livestock production were measured in select programming areas.

Key Items of Evaluation

One-on-one follow up with producers engaged in this program is key to obtain results. Producers are also receiving training on enterprise budging and record keeping both production and financial.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Crop and Forage Production

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%	20%	10%	20%
202	Plant Genetic Resources	10%	10%	10%	20%
204	Plant Product Quality and Utility (Preharvest)	20%	20%	20%	20%
206	Basic Plant Biology	0%	10%	0%	10%
212	Pathogens and Nematodes Affecting Plants	10%	0%	10%	0%
213	Weeds Affecting Plants	10%	20%	10%	20%
215	Biological Control of Pests Affecting Plants	10%	20%	10%	0%
216	Integrated Pest Management Systems	30%	0%	30%	10%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	50.0	5.0	85.0	6.0
Actual Paid	37.0	5.0	79.8	6.0
Actual Volunteer	0.0	30.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
601053	329192	4374179	1328905
1862 Matching	1890 Matching	1862 Matching	1890 Matching
601053	204031	6859023	674022
1862 All Other	1890 All Other	1862 All Other	1890 All Other
4284493	0	14205578	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension and AgriLife Research

Provide training and program materials to County Extension Agents to conduct educational programs at the county level. Technical assistance is provided to agents by specialists in the area of result demonstrations and applied research. Provide multi-county, regional and statewide educational programs via specialist faculty to various stakeholders. Coordinate and collaborate with state and federal agencies in crop and forage activities.

Our scientists introduced a natural plan defensin from spinach into citrus varieties to control citrus greening. Crop breeding and cropping systems research indicated that total water use could be decreased by 20% in cotton while reducing lint yield by only 5%. Growers realized almost \$5M increase in yields when planting drought-tolerant wheat varieties developed through our research program.

Cooperative Extension Program and Cooperative Agricultural Research Center

CEP & CARC worked together to conduct educational programs for County Agents; and subject matter workshops/field days/ tours for crop producers. The Cooperative Extension Program conducted a series of educational programs, workshops, field days and farm tours focused bring small parcels of land (10 ac and less) back into production. Two of the major programs launched this year were the 43,560 Initiative (number of sq. ft. in one acre) both projects were designed to provide scale appropriate instructional/experiential training to producer and encourage producers to grow high value crops for sell to the local market.

Obesity and diabetes are very serious health issues in the US and other developed countries. Excessive consumption of sugar is one of the main causes for obesity and diabetes. The considerable demand for natural ingredients such as the zero-caloric sweeteners of some medicinal plants, as dietary supplements for obesity and diabetes management propelled the horticultural establishment of the medicinal plants research garden at the University farm. Cultivation of high-value specialty fruits, vegetables, and sweetpotato can be an effective and sustainable means for limited resource farmers in Texas to substantially increase their incomes. The dense urban areas like Houston, Dallas-Fort Worth, Austin and San Antonio with very diverse ethnic populations to purchase the crops encouraged the establishment of the organic fruits/vegetable gardens at the University farm. The opportunities to grow the high-value medicinal plants, specialty sweetpotato, organic fruits and vegetables provided collaborative activities with Cooperative Extension Program in the education and practical training of limited resource farmers, county agents, and students.

2. Brief description of the target audience

AgriLife Extension and AgriLife Research

The target audience for this program consists of agricultural producers who produce food, fiber, and forages in the state. Specific focus is on those commodities listed in the program overview. In addition, these programs are interpreted to the urban public through various methods.

Cooperative Extension Program and Cooperative Agricultural Research Center

Beginning Farmers/Ranchers; Limited Resource Farmers/Ranchers; Socially Disadvantaged Farmers/Ranchers, and Military Veterans. 4-H and Youth associated with this audience.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	36453	220780	2173	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 4

Patents listed

- * STEM-REGULATED, PLANT DEFENSE PROMOTER AND USES THEREOF IN TISSUE-SPECIFIC EXPRESSION IN MONOCOTS
- * COTTON PLANT WITH SEED-SPECIFIC REDUCTION IN GOSSYPOL
- * RICE 'ANTONIO'
- * STABILIZED SYNTHETIC BROOD PHEROMONE AND RACE-SPECIFIC RATIOS OF COMPONENTS FOR MANIPULATING THE BEHAVIOR AND PHYSIOLOGY OF HONEY BEES

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	1522	1522

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	2670

Output #2

Output Measure

- # of research-related projects.

Year	Actual
2015	233

Output #3

Output Measure

- # of one-on-one technical assistance/consultations.

Year	Actual
2015	300

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of crop and forage producers that adopt or plan to adopt best management practices to improved quality and profitability.
2	% of crop and forage producers that report increased knowledge of best management practices to improve quality and profitability.
3	Development of improved sweet potato germplasm for Texas small and limited resource farmers to increase their profitability.
4	Development of an alternative natural sweetener from plant "Lippia Dulcis" for Texas small farmers as an alternative agriculture enterprise.

Outcome #1

1. Outcome Measures

% of crop and forage producers that adopt or plan to adopt best management practices to improved quality and profitability.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and AgriLife Research

Texas is the largest cotton producer in the US and is second in population. All agricultural commodities and the economic impacts these industries have on communities are important, as is the need to understand how to manage resources in an environmentally sound manner. Finally, water conservation and water quality may be the most important aspects as Texas continues to increase its population. Texas A&M AgriLife Extension is well-positioned to address these needs for the foreseeable future.

Cooperative Extension and Agricultural Research Center

The under-utilization of land is a major concern among small and limited resource farmers and ranchers. Many that have land resources have allow it to go fallow for years and lack the resources both financial and educational to bring it back into production. We are seeing a major return to the land by many of these land owners as they retire or their adult offspring develop interest in the land. Soil Health is a major issue among not only Limited Resource Farmers and Ranchers but among the agriculture community as a whole. This issue effects both pasture /forage producers and crop producers both grain and vegetable.

What has been done

AgriLife Extension and AgriLife Research

Extension specialists from the Soil and Crop Sciences Extension unit delivered almost 2700 face-to-face educational activities resulting in over 45,000 direct contacts for the calendar year 2015. There were over 117,000 newsletters delivered, over 1.2 million listeners to TV and radio

broadcasts, and over \$1.3 million raised to support extension educational activities.

Cooperative Extension and Agricultural Research Center

The Cooperative Extension Program conducted a series of educational programs, workshops, field days and farm tours focused bring small parcels of land (10 ac and less) back into production. Two of the major programs launched this year were the 43,560 Initiative (number of sq. ft. in one acre) both projects were designed to provide scale appropriate instructional/experiential training to producer and encourage producers to grow high value crops for sell to the local market. The Cooperative Extension conducted educational programs, field days, farm tours and on Farm demo were conducted on campus and in selected counties with farmers and ranchers in areas related to improving crop production for small farmers. Over 35 programs were conducted engaging over 1,500 farmers and ranchers.

Results

AgriLife Extension and AgriLife Research

Extension personnel from the Soil and Crop Science Texas A&M AgriLife Extension Service unit have had a significant impact on the way citizens of Texas view agricultural production, natural resource management, and conservation of water. Positive impacts have increased financial returns for landowners and water conservation and quality in Texas has improved due to Extension efforts. With an ever increasing per capita demand for resources, Texas A&M AgriLife Extension Service personnel will play an increasingly important role in food and fiber production, conservation of limited water resources, and the overall well-being of Texas citizens and beyond.

Cooperative Extension and Agricultural Research Center

Twelve producers produced vegetables and crops in their respective High Tunnels ranging from strawberries to collard greens. Crops were sold into the local market and/or used by the families. Thirty Producers have committed to starting production under the 45,560 initiative in which the plan to place anywhere from one-quarter to a full acre (43,560 sq. ft.) under cultivation with the goal of grossing one dollar per sq. ft. Or \$43,560.00 per ac.

Conducted Demonstration in the areas of Grafted Cucumbers, and Strawberry, Sweet Potatoes, and Purple Hull Peas high value crops that can yield cash value on small acreages. Producers were able to produce an average of 30-40 marketable cucumbers per plant. A Cucumber production leaflet was also developed. Conducted County Based programs on small scale sustainable vegetable production in Smith, Nacogdoches, Bowie, Ft Bend, Harris, and Houston Counties.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

% of crop and forage producers that report increased knowledge of best management practices to improve quality and profitability.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	85

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and AgriLife Research

Texas is the largest cotton producer in the US and is second in population. All agricultural commodities and the economic impacts these industries have on communities are important, as is the need to understand how to manage resources in an environmentally sound manner. Finally, water conservation and water quality may be the most important aspects as Texas continues to increase its population. Texas A&M AgriLife Extension is well-positioned to address these needs for the foreseeable future.

Cooperative Extension and Research Program

The under-utilization of land is a major concern among small and limited resource farmers and ranchers. Many that have land resources have allow it to go fallow for years and lack the resources both financial and educational to bring it back into production. We are seeing a major return to the land by many of these land owners as they retire or their adult offspring develop interest in the land. Soil Health is a major issue among not only Limited Resource Farmers and Ranchers but among the agriculture community as a whole. This issue effects both pasture /forage producers and crop producers both grain and vegetable.

Cooperative Extension & Agricultural Research Center

Soil Health is a major concern among all producers today. Small and limited resource are often unaware of this issue and the impact it has on the short and long term productivity of their land. Most do not conduct practices as simple as testing the soil.

What has been done

AgriLife Extension and AgriLife Research

Extension specialists from the Soil and Crop Sciences Extension unit delivered almost 2700 face-to-face educational activities resulting in over 45,000 direct contacts for the calendar year 2015. There were over 117,000 newsletters delivered, over 1.2 million listeners to TV and radio broadcasts, and over \$1.3 million raised to support extension educational activities.

Cooperative Extension and Research Program

The Cooperative Extension Program conducted a series of educational programs, workshops, field days and farm tours focused bring small parcels of land (10 ac and less) back into production. Two of the major programs launched this year were the 43,560 Initiative (number of sq. ft. in one acre) both projects were designed to provide scale appropriate instructional/experiential training to producer and encourage producers to grow high value crops for sell to the local market. Conducted Demonstration in the areas of Grafted Cucumbers, and Strawberry, Sweet Potatoes, and Purple Hull Peas high value crops that can yield cash value on small acreages. Producers were able to produce an average of 30-40 marketable cucumbers per plant. A Cucumber production leaflet was also developed.

Cooperative Extension & Agricultural Research Center

Cooperative Extension staff both Specialist and Agents focused on assisting landowners with soil health related issues emphasizing soil testing to determine proper fertilization, proper pH adjustment rates, weed control and the use of cover crops to reduce soil exposure and add organic matter to the soil. CEP partner with the Cooperative Agricultural Research Center (CARC), Natural Resource Conservation Service (NRCS) and the 100 Ranchers a local community based organization to conduct a series of six workshops over Southeast Texas to train producers on the important of this issues. Producers were shown how to take and submit soil samples for testing and how to interpret the results. Each producer in attendance was given an opportunity to submit one free soil sample for testing.

Results

AgriLife Extension and AgriLife Research

Extension personnel from the Soil and Crop Science Texas A&M AgriLife Extension Service unit have had a significant impact on the way citizens of Texas view agricultural production, natural resource management, and conservation of water. Positive impacts have increased financial returns for landowners and water conservation and quality in Texas has improved due to Extension efforts. With an ever increasing per capita demand for resources, Texas A&M AgriLife Extension Service personnel will play an increasingly important role in food and fiber production, conservation of limited water resources, and the overall well-being of Texas citizens and beyond.

Cooperative Extension Program

Cooperative Extension staff both Specialist and Agents focused on assisting landowners with soil health related issues emphasizing soil testing to determine proper fertilization, proper pH adjustment rates, weed control and the use of cover crops to reduce soil exposure and add organic matter to the soil. CEP partner with the Cooperative Agricultural Research Center (CARC), Natural Resource Conservation Service (NRCS) and the 100 Ranchers a local community based organization to conduct a series of six workshops over Southeast Texas to train producers on the important of this issues. Producers were shown how to take and submit soil samples for testing and how to interpret the results. Each producer in attendance was given an opportunity to submit one free soil sample for testing. Over 100 producers attended the Soil Health Workshops. Eight-seven samples were submitted for testing. Agent?s follow-up with those submitting samples to develop an action plan on the best management practice to

implement on their respective farm. Twelve producers produced vegetables and crops in their respective High Tunnels ranging from strawberries to collard greens. Crops were sold into the local market and/or used by the families. Thirty Producers have committed to starting production under the 45,560 initiative in which the plan to place anywhere from one-quarter to a full acre (43,560 sq. ft.) under cultivation with the goal of grossing one dollar per sq. ft. Or \$43,560.00 per ac.

Cooperative Extension & Agricultural Research Center

Over 100 producers attended the Soil Health Workshops. Eight-seven samples were submitted for testing. Agent's follow-up with those submitting samples to develop an action plan on the best management practice to implement on their respective farm.

85% of clients attending educational programs in the area of crop and forages report increased their level of understanding of the subject presented improved 1 to 3 levels after attending our programs compared to before attending.

60% of clients attending educational programs related to the area of crops and forages have adopted or plan to adopt new methods, or improved practices presented during educational programs

Conducted Demonstration on Native Pecan Planting. Ten tree were placed on each farm with the objective of them been used to enhance land productive. Trees were used as windbreaks, shade of livestock or for production. Trees will be grafted with improved nuts as need.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

Development of improved sweet potato germplasm for Texas small and limited resource farmers to increase their profitability.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Although both annual per capita consumption and production of sweetpotatoes in USA have been steadily increasing in recent years, the production of sweetpotatoes in Texas has been declining. Among leading causes for the decline is the lack of high-valued cultivars that are more suited for a small acreage production by small and limited-resource farmers. The ongoing breeding project is aimed at developing an improved purple-fleshed fresh-market sweetpotato cultivar of higher value for small and limited resource farmers to grow in limited acreages in Texas. The projected large demand for such fresh-market sweetpotatoes in several large urban markets in Texas could potentially make such a specialty sweetpotato an excellent cash crop for limited-resource farmers in Texas.

What has been done

In the 2014 growth season, a large group-hybridization involving 50 sweetpotato germplasm lines, including 4 purple-fleshed lines, was conducted. A total of 56 true-seeds were collected from the 4 purple-fleshed lines, and were used for first-round field selections in the 2015 growth season. The main selection criteria in this round was a more moisture and tender texture in baked sweetpotatoes in addition to retaining purple color.

Results

To select sweetpotato hybrids that produce sweetpotatoes of better texture after baking, purple-fleshed sweetpotatoes harvested from various field-grown hybrid lines exhibiting good growth were baked under the same condition, and tasted by a panel of 4 for qualitative selection. Four new purple-fleshed sweetpotato hybrid lines that exhibited improved texture in baked sweetpotatoes were selected from the 2015 field-grown hybrid lines germinated from true seeds. Agronomical performances of these four new lines will be field-evaluated in the 2016 growth season. Many hybrid lines that exhibited poor growth were not evaluated for texture quality of baked sweet potatoes.

The Cooperative Extension program tested a Purple Flesh Sweet Potato developed in this program for consumer acceptance. Several recipes were developed using this purple flesh potato to determine flavor and sweetness compared to the orange flesh found in the stores. Taste test confirmed that the flavor was as good as sweet potato now available on the local market.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
206	Basic Plant Biology

Outcome #4

1. Outcome Measures

Development of an alternative natural sweetener from plant "Lippia Dulcis" for Texas small farmers as an alternative agriculture enterprise.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity and diabetes are very serious health issues in the US and other developed countries. Excessive consumption of sugar is one of the main causes for obesity and diabetes. There is a considerable demand for natural ingredients as dietary supplements for obesity and diabetes management. Scientists started exploring plant based non-caloric sweeteners to replace sugar in various dietary preparations. Some of the plant based natural sweetener products like Truvia have already become popular among concerned consumers. A South American plant, Phyla dulcis (Syn: Lippia dulcis) also contains a sesquiterpene non-caloric sweetener that is about a thousand times sweeter than sugar. Therefore, in the Plant System scientists in the PVAMU CARC started studying this plant to seek multi-disciplinary knowledge-based solutions for the establishment of Phyla dulcis under Texas environmental conditions, enrichment of the zero-caloric sweetener, and elimination of camphor and undesirable components from the extract.

What has been done

Plant Systems research scientists have made considerable progress in all subject domains impinging on Phyla growth and characteristics. In 2015, the team studied the effects of various nutrient combinations on the growth of Phyla dulcis. There were 30 nutrient combinations were applied to the field grown Phyla dulcis plots and the total biomasses have been harvested for their chemical and genetic studies.

Results

The ultimate objectives of this project include the commercial production of anti-obesity dietary supplements; and outreach transfer of the Lippia technology to limited resources families for the economic vitalization of rural agriculture in Texas and beyond. Medicinal plants project cuts across several CARC and CEP program priorities: Plant systems, natural resources and environment; based on the knowledge areas of plant product quality and utility, basic plant

biology, natural resources economics, and extension educational outreach. They are PVAMU and NIFA priorities to support research that bolsters fundamental knowledge in the food, agricultural, and health sciences.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Crop and forage production in Texas has been influenced by natural disasters such as hurricanes, floods, drought and wildfires. Production costs and incentives for production, management and use are influenced by economic changes. Higher fuel prices, fertilizer prices, equipment costs, and fees associated with technology in genetically modified crops are all factors. Public policy changes and government regulations challenge educators to provide up-to-date, neutral information that helps producers make economically viable decisions. Texas is facing a critical situation in meeting anticipated water demand as a result of population growth and unanticipated water demand due to drought and high temperatures. Population shifts and use of available land for productive and meaningful crop and forage production bring opportunities and challenges to producers/users and the associations/corporations/groups that make up this diverse industry.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Cotton

Cotton is one of the major row crops grown in Texas. Cotton is well adapted to the semi-arid environments of Texas and is considered the most consistent source of income by most farmers, especially in non-irrigated situations. Texas has become the major state in U.S. for cotton, with Texas accounting for over 50% of the total U.S. cotton acres annually with 5-6 million acres annually.

Variety Testing

Variety testing remains one of the most important decision farmers will make each year. Selecting the best yielding varieties can lead to yield increases over 20% from the best

yielding to worst yielding commercial varieties. High yields lead to increased ginning and increase in related jobs for the state. Additionally, cotton fiber quality is critically important to increase farm income and maintain our export markets. Cotton fiber quality affects the price by 10% or more in the current international market.

Educational contacts through 149 formal educational meetings are 12,800 annually

Over 50 on-farm variety evaluation trials across the state

Over 20 popular press articles and interviews over variety evaluation annually

Average yields and quality has increased over other past decade, resulting in an additional \$67/acre in value or a cumulative benefit of \$335 million for Texas.

Value added impacts associated with ginning the additional production is \$57 million and an additional 589 jobs.

Managing Nitrogen Costs and Protecting Water Resources

Nitrogen fertilizer is often one of the largest production costs that farmers incur each year. Correct rate, placement, and application timing of nitrogen can increase the nitrogen use efficiency and decrease the potential for accumulation in the soil, ground water, and surface water. Nitrogen is constantly cycling in the soil due to decomposition of organic matter, nitrogen fertilizer applications, leaching, and denitrification. However, soil samples collected in cotton and other crops have indicated an accumulation of nitrogen in soil, soil residual nitrogen. Previous research has proven that this soil residual nitrogen is available to the plant and should be credited to the recommended N fertilizer applications. Utilization of this soil residual nitrogen saves the farmer fertilizer expenses and reduces the likelihood of nitrate movement into surface and groundwater. Previous surveys have found the following.

Since 2007, over 19,000 producers have seen the presentations on crediting soil residual nitrogen

Over \$23/acre of average cost savings when nitrogen fertilizer is credited in cotton

Adoption of these recommendations reduces N applicaiton by millions of pounds annually

New Landowner Program Impact - Ranch Management University

Since 1994, urban-absentee landowners have dominated rural land ownership in Texas. This land ownership change has created the potential for environmental problems associated with natural resource management. Few of the new land owners have any formal training in the basics of the soil-plant-animal interface. The solution was to develop an educational program to provide this new and growing segment of landowners with basic information regarding resource management. Faculty members from the Texas AgriLife Extension Service with department affiliations in Soil and Crop Sciences, Animal Science, Wildlife and Fisheries Sciences, and Agricultural Economics, developed the Ranch Management University Workshop for Novices. The main goals in developing the program were to: a) provide basic information regarding management of soil-plant-animal-water interface to people with little or no understanding regarding basic resource management; and b) introduce the Workshop participants to the educational resources available to them through the land grant university system, including the county extension agent in their counties; and c) use the workshop as a new county agent training vehicle at a heavily discounted price. The first Workshop was held in October of 2010, with subsequent Workshops having been held each April and October since then. Given the combination of learning environment, mix of classroom and field laboratory exercises, and non-threatening scientific presentations, Ranch Management University has become a popular and effective program helping ensure sustainability and proper management of valuable Texas natural resources for both landowners, managers, and new county extension agents.

Program Impacts: Post-post-surveys of respondents who attended the workshop at least 12 months prior to receiving the survey indicated the following:

Survey respondents collectively manage 188,433 acres

Survey respondents expect an average economic benefit of \$150 per acre due to attending the workshop.

The program has thus created a \$28.2 million economic impact for landowners, the majority of who own land in Texas.

Texas Well Owner Network (TWON)

TWON educational programs emphasize that private well owners are independently responsible for monitoring their well water quality. They are at greater risk for exposure to compromised water quality than those using public water systems, and may be simultaneously introducing contaminants to the common groundwater resource stored in aquifers. Since inception of the TWON, private water well screenings and wellhead protection educational trainings have been conducted for 6,101 private water well managers during events for 149 counties and Mexico. The outcome of the TWON program is for water well owners to implement best management practices to protect the quality of their drinking water and to protect aquifers from degradation.

Private water well samples have been screened for fecal coliform, nitrate-nitrogen, and salinity since 2010. Overall, primary (health risk) or secondary (for aesthetics only; minimal health risk) water quality standards were exceeded in about 51% of samples. All participants with samples exceeding maximum contaminant levels for fecal coliform bacteria and nitrate-nitrogen intend to adopt private well BMPs leading to improved water quality for 1,236 families and the elimination of direct points of contaminant conveyance to groundwater. Locations of TWON programs are shown in the map.

The value of participating in the program as estimated by attendees was an average of \$752 or a total of about \$4.6 million for all participants to date; 99% of participants were satisfied with the training.

6-month Follow-up Impact Results:

88% of those needing to clean out hazards from their well house had done so.

75% of participants with wells near contamination sources had moved or removed the sources.

55% of those with septic tanks needing pumping had pumped their septic tanks, with an additional 33% planning to pump soon.

76% had shared TWON resources/materials with others not at the program

23% of participants who needed to had plugged their unused/deteriorated wells.

Intentions to Adopt Behavior Change after Attending the Program:

85% of participants will test their well annually.

83% of participants will pump their septic system regularly.

95% of participants will remove hazards from their well house.

85% of participants with a deteriorated or open well will plug the well.

Cooperative Extension & Research Program:

Output Programs: Standard Customer satisfaction surveys were used in evaluating all output programs along with question aimed a measuring degree of change in understanding before and after program.

Outcome Programs: (Pre-Post Testing) Pre and post evaluations were conducted to measure knowledge gained as a result of the training. **(Intention to adopt)** program participations are evaluated on the likelihood of them adopting a practice or technology

taught at an extension program. **(Economic Benefit)** Participations are asked if they anticipate an economical benefit for information obtain from the program. **(Post- Retrospective)** Participations are evaluated at a set time period after the program or educational event to determine their level of adoption. **(One-on-one follow-up)** Agents and Specialist follow-up one-on-one with producers to determine level of adoption.

Key Items of Evaluation

Pre and Post evaluations were key in measuring knowledge gained from programs, one-on-one follow up with producers engaged in this program is key to obtain results.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Water Management

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
111	Conservation and Efficient Use of Water	50%	0%	50%	50%
112	Watershed Protection and Management	50%	0%	50%	50%
	Total	100%	0%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	10.0	3.0
Actual Paid	24.0	0.0	17.2	3.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
389872	0	879338	664453
1862 Matching	1890 Matching	1862 Matching	1890 Matching
389872	0	1621606	337011
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2779130	0	4450441	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension and AgriLife Research

Published research findings generated through evaluation of water efficient technologies and best

management practices to efficiently manage available water resources, to limit off-site contaminant transport from production, processing, and landscaping systems, to utilize alternative water sources and to remove contaminants from impaired/alternative water sources.

Novel hydroponic cropping systems developed by our scientists increased lettuce yields by more than 40% while achieving water savings of more than 90% when compared to conventional irrigation systems.

Developed and conducted research and educational programs utilizing direct and indirect educational methods to support efficient utilization and conservation of water resources, to develop alternative water supplies, to implement best management practices on agricultural production and landscapes to protect water resources from contaminants, to promote proper management of surface and ground water resources, to enhance rainwater harvesting and to remove contaminants from impaired water supplies. The work of AgriLife Research and AgriLife Extension is conducted jointly where research-based information is generated and then transferred to clientele.

Continued development of educational resources such as articles, fact sheets, bulletins, curriculum materials, short course manuals and other teaching materials.

Cooperative Agricultural Research Center

Irrigation scheduling to optimize water and nutrient management of different crops in Texas; Estimating reference crop evapotranspiration and predicting potential future climate change impacts on water resources across the state of Texas; Predicting potential hydrological processes, and soil Carbon and Nitrogen dynamics of a two distinct watersheds under different weather and land management practices.

2. Brief description of the target audience

AgriLife Extension, AgriLife Research, and Cooperative Agricultural Research Center

Programs focusing on the issue of water address target audiences including but not limited to producers, homeowners, landscape managers, industry practitioners, water resource managers, and others who identify themselves with this issue.

3. How was eXtension used?

Responses to inquiries on eXtension were provided or reassigned to other specialists as needed and appropriate.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	42558	374709	23206	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	174	174

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	1794

Output #2

Output Measure

- # research-related projects.

Year	Actual
2015	65

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of participants who report an increased knowledge of best management practices related to water management.
2	% of participants who report the plan to or have adopted best management practices related to water management.

Outcome #1

1. Outcome Measures

% of participants who report an increased knowledge of best management practices related to water management.

2. Associated Institution Types

- 1862 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	89

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and AgriLife Research

Water resources for irrigation have been limited in most urban areas in Texas due to recent years of drought. Decreased surface storage supplies and declining groundwater tables forced many utilities have enacted outdoor ordinances limiting landscape irrigation to one or two days per week making it difficult for landscape managers to maintain quality landscapes. Many irrigation professionals and utility personnel lack the training in research based technology and best management practices that can help increase water conservation while maintaining highly efficient landscapes.

Cooperative Agricultural Research Center

Agricultural water allocation/management and urban water management are major issues which impact both water quality and quantity in the State of Texas because fast growing populations in urban area is increasing contaminated runoff including stream erosion, use of pesticides and fertilizers in agriculture also increasing contamination both in surface and groundwater resources. Demands for fresh water resources are increasingly becoming competitive among agricultural, urban, industrial, and recreational water usages. The efficient use of water in agriculture and urban landscape irrigation will conserve water; reduce nutrient leaching and pumping energy cost of water.

What has been done

AgriLife Extension and AgriLife Research

In 2015, 21 irrigation short courses were conducted in 8 cities statewide on topics of irrigation design, water budgeting, drip irrigation, smart irrigation control systems, landscape irrigation auditing, troubleshooting and performance testing of irrigation systems and weather stations for

water conservation. The programs provided 3,590 hours of state required continued education to 421 Licensed Irrigators, Technicians, Inspectors. As the only Texas-based provider, the program also certified 33 Professionals as Texas Certified Landscape Irrigation Auditors through the USEPA Water Sense label program.

Cooperative Agricultural Research Center

Conducted field and lab experiments and modeling of different research issues. Presented research outputs in the different workshops and conferences by students and researchers and published peer reviewed journal papers and proceedings. Educated participants of Youth Lab 2015 from different schools of Texas (k-12 students) at PVAMU.

Results

AgriLife Extension and AgriLife Research

Program surveys showed an overall satisfaction among 97% of participants. Students also reported an 89% increase in knowledge in one or more subject areas and 79% anticipate to benefit economically as a direct result of this program.

Cooperative Agricultural Research Center

Increased knowledge on soil moisture and nutrient monitoring, water requirement of different crops grown in Texas, potential impact of climate change in irrigation requirements, applicability of modified temperature based evapotranspiration equation, hydrological responses of different watersheds to rainfall and brush management among scientists, students and general publics. Increased awareness among students and youths about natural resources and water management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management

Outcome #2

1. Outcome Measures

% of participants who report the plan to or have adopted best management practices related to water management.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
-------------	---------------

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

About 20% of dwellings (residential and commercial) in Texas rely on On-Site Sewage Facilities (OSSF) for treatment and disposal of wastewater. The total number of OSSFs in Texas at end of 2014 exceeded 2,100,000. Education and training for the end-users (home and business owners) and for licensed onsite wastewater professionals (site evaluators, designers, installers, service providers, and regulators) is important to ensure water quality and public health protection from OSSF use.

What has been done

Training events included multiple offerings of Homeowner Maintenance of Aerobic Treatment Units, a 6-hour class is intended for homeowners wanting to understand more about the operation and maintenance of their aerobic treatment unit and spray field; Intro to Septic Systems, a 2 hour class is intended for homeowners wanting to understand more about their on-site wastewater treatment system; Overview of Advance Wastewater Treatment Systems and Analyzing Wastewater Systems for High Strength and Hydraulic Loading, intensive training for wastewater practitioners.

Results

Evaluation surveys from the events indicated that knowledge gained on specific topics ranged from 82% to 88%. Additionally, 81% of the participants indicated a willingness to adopt the practice of performing operation and maintenance on their OSSF.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Other (Other Program Areas)

Brief Explanation

Success in securing funding through grants and contracts
Weather patterns: both drought and flood impact interest in water management strategies.
Commodity and energy prices
Other emerging issues in communities (health, economics, etc.) can affect whether water

management is a priority for individuals, businesses, families, communities.
Regulatory and budgetary issues; ability to retain / recruit qualified staff

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluation surveys of attendees at the High Plains Irrigation Conference indicated increases in knowledge/understanding of subject matter addressed in the program: water issues in agriculture (67%); how research programs are addressing irrigation and water management issues in agriculture (67%); how water conservation strategies are used in regional and state water planning efforts (77%); water regulatory issues (75%); practical implications of applied research programs in the High Plains (100%); water management implications of Integrated Pest Management (83%); irrigation technologies, BMPs, water use efficiency, and how to get the most from irrigation technologies (92%); chemigation and irrigation safety (90%); and availability of products and services (73%). Most of these respondents provided additional information and comments; of these, 100% indicated that the information provided in the program would be useful in their irrigation decisions and that they would implement changes in their irrigation practices as a result of information they obtained at the conference.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Range Management

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	40%	0%	40%	0%
121	Management of Range Resources	60%	0%	60%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	17.0	0.0	15.0	0.0
Actual Paid	12.0	0.0	20.5	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
194936	0	887863	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
194936	0	1400159	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1389565	0	3100025	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension and AgriLife Research

Primary activities in this program will focus on development and conducting of research and educational

programs to support proper management and restoration of native rangelands for clientele. Applied research and result demonstrations to support improved rangeland management will also be conducted. Training and support for County Extension Agent and Specialist training will be provided on appropriate and timely aspects of rangeland management. Emphasis will be placed on continued development of appropriate publications, websites, online courses, and other teaching materials.

Work of AgriLife Research and AgriLife Extension is conducted jointly where research-based information is generated and transferred to clientele.

2. Brief description of the target audience

AgriLife Extension and AgriLife Research

The target audiences for this program include federal and state agencies, youth and adults. The adult audiences specifically include traditional landowners, operators, absentee landowners, and "new", novice landowners that either just bought land or have made a career off the land and has returned to it.

3. How was eXtension used?

We have two training courses on the eXtension moodle site and are active in the eXtension ask the expert community.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	5990	71938	918	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	183	183

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	441

Output #2

Output Measure

- # of research-related projects.

Year	Actual
2015	92

Output #3

Output Measure

- # of result demonstrations conducted.

Year	Actual
2015	95

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of Land Managers who report increased knowledge leading to better decision-making for wise pesticide use.
2	% of livestock producers who report increased knowledge of rangeland monitoring, watershed management, weed and brush control.

Outcome #1

1. Outcome Measures

% of Land Managers who report increased knowledge leading to better decision-making for wise pesticide use.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	52

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Brush management is a major landowner-concern in Texas to maintain pasture productivity and wildlife habitat. Brush Busters provides landowners with do-it-yourself methods for brush maintenance.

What has been done

Five ESSM Extension Unit members conducted a 4-hour workshop during the 2015 Texas A&M Beef Cattle Short Course to demonstrate Brush Busters equipment needs and application methods.

95 existing county-level applied research projects were evaluated in 76 counties and 50 new projects established in 46 counties during 2015.

ESSM Unit members conducted 138 pesticide CEU training sessions during the year.

Results

One-hundred sixty-two landowners participated in the Brush Busters workshop above. A retrospective-post evaluation was conducted (52% return). Increase in understanding of nine topics presented averaged 58% (range 31 to 81%). Participants represented 60 counties and reported owning/operating 288,981 acres (average 3,440 acres/person); 425,938 total estimated acreage represented. Ninety-eight percent of respondents indicated information received would help making better management decisions. Ninety-nine percent of respondents plan some form of brush management in the near future.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
121	Management of Range Resources

Outcome #2

1. Outcome Measures

% of livestock producers who report increased knowledge of rangeland monitoring, watershed management, weed and brush control.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	55

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

With continuing scattered drought across the state, grazing management is as important as ever for range recovery and ranching survival.

What has been done

A 3.5-hour workshop was conducted during the 2015 Texas A&M Beef Cattle Short Course. Three ESSM Extension Unit members and one County Extension Agent made presentations featuring managing natural resources with grazing management, patch burning and grazing, cattle grazing and wildlife, and rangeland apps.

Results

One hundred twenty-nine landowners participated. A retrospective-post evaluation (55% return) indicated 103% (range 90 to 129%) average increased understanding of seven teaching points evaluated. Respondents represented 52 Texas counties and reported owning/operating 119,322 total acres (average 1,690 acres); 216,720 total estimated-acres represented. Ninety-eight percent of respondents indicated information received would help making better management decisions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
121	Management of Range Resources

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes

Brief Explanation

Range Management programs are potentially affected by external factors such as those listed above. Factors such as the economy and/or appropriation changes could have a positive or negative effect on efforts to provide research and education in this area.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Seventeen educational events were evaluated using retrospective-post evaluations during 2015. Two examples of these evaluations are listed below.

For the Texas A&M Beef Cattle Short Course Range Management Workshop, average increased understanding of seven teaching points evaluated. Respondents represented 52 Texas counties and reported owning/operating 119,322 total acres (average 1,690 acres); 216,720 total estimated-acres represented. Ninety-eight percent of respondents indicated information received would help making better management decisions.

For the Texas A&M Beef Cattle Short Course Brush Busters Workshop, increase in understanding of nine topics presented averaged 58% (range 31 to 81%). Participants represented 60 counties and reported owning/operating 288,981 acres (average 3,440 acres/person); 425,938 total estimated acreage represented. Ninety-eight percent of respondents indicated information received would help making better management decisions. Ninety-nine percent of respondents plan some form of brush management in the near future.

Estimated economic benefit to clientele through fifteen educational events that were evaluated and in which Unit personnel were involved was \$19.4 million on 3 million acres.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Climate Change

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	0%	0%	20%	0%
112	Watershed Protection and Management	0%	0%	20%	0%
132	Weather and Climate	100%	0%	0%	100%
133	Pollution Prevention and Mitigation	0%	0%	20%	0%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	20%	0%
206	Basic Plant Biology	0%	0%	20%	0%
	Total	100%	0%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	2.0	1.5	2.0
Actual Paid	2.0	0.0	3.1	2.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
32489	0	287874	442968
1862 Matching	1890 Matching	1862 Matching	1890 Matching
32489	0	229957	224674
1862 All Other	1890 All Other	1862 All Other	1890 All Other
231594	0	366486	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension

Develop and conduct educational programs utilizing direct and indirect educational methods to increase knowledge of and support adoption of management practices capable of mitigating the effect of weather and climate change.

AgriLife Research

The research response to this pressing issue is to generate reliable, verifiable data regarding carbon sequestration, carbon cycling, and interrelationships of cropping systems, livestock production and climate change. An example of this effort is using carbon dioxide from coal fired power generation as a feedstock for algae production. Research is also ongoing to develop and add value to co-products from algae production.

Research effort has expanded into diagnosis, prevention, control and mitigation of vector-borne disease threats to human health, livestock and cropping systems. Texas is a major point of entry for insect vectors from Mexico and Central America. Climate change exacerbates biosecurity threats from existing and emerging mosquito-borne diseases such as Zika and Chikungunya.

Cooperative Agricultural Research Center and Cooperative Extension Program

Research was conducted on the biological consequences of climate change on plant systems: 'The effects of agronomic practices (rotation, nitrogen fertilization, tillage) on the structural units of the lignin of biomass sorghum'. Climate change mitigating agronomic practices that also enhance the production of hydrolysable lignins were studied because the bioenergy industry prefers feedstocks with readily degradable lignin in the conversion of sorghum biomass feedstocks to ethanol.

2. Brief description of the target audience

Research products and educational programs focusing on the issue of weather and climate change address target audiences including but not limited to producers, corporate businesses, landscape managers, water resource managers, decision makers, and others who identify themselves with this issue.

3. How was eXtension used?

The eXtension community of practice Livestock and Poultry Environmental Learning Center (LPELC) and web site were used to advertise the event, provide a portal for abstract submissions, house submitted publications, and store recorded lectures and presentation for the symposium.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	155	1661	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	58	58

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of educational programs conducted.

Year	Actual
2015	3

Output #2

Output Measure

- # of research related projects.

Year	Actual
2015	11

Output #3

Output Measure

- # of graduate/undergraduate students involved in research projects.

Year	Actual
2015	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of people reporting knowledge gained through participation in educational activities.
2	# of people reporting a willingness to adopt practices through participation in educational programs.
3	# of farmers gain knowledge for improved cultivation of bio-energy crops
4	# of farmers adopt improved cultivation of bio-energy crops

Outcome #1

1. Outcome Measures

of people reporting knowledge gained through participation in educational activities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Future climate change is expected to have implications for animal agriculture. Adaptation strategies for livestock and poultry production exist to minimize the vulnerability and risk of climate change. Extension educators should have a basic understanding of climate change and the implications for agricultural production, and they should be aware of greenhouse gas mitigation options that exist for animal agricultural producers.

What has been done

Since the symposium, video recordings of each presentation were made available on the internet for viewing. Highlights and directions for accessing videos were publicized to a database of more than 700 extension educators and NRCS technical service providers through a project newsletter distributed quarterly.

Results

Most of respondents reported being either much more able (9.3%) or somewhat more able (70.4%) to use the information presented in the overall Animal Agriculture and Climate Change Symposium after attending the Waste to Worth Conference (n=54).

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate

Outcome #2

1. Outcome Measures

of people reporting a willingness to adopt practices through participation in educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	53

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Future climate change is expected to have implications for animal agriculture. Adaptation strategies for livestock and poultry production exist to minimize the vulnerability and risk of climate change. Extension educators should have a basic understanding of climate change and the implications for agricultural production, and they should be aware of greenhouse gas mitigation options that exist for animal agricultural producers.

What has been done

Since the symposium, video recordings of each presentation were made available on the internet for viewing. Highlights and directions for accessing videos were publicized to a database of more than 700 extension educators and NRCS technical service providers through a project newsletter distributed quarterly.

Results

About two-thirds of respondents were either much more motivated (12.5%) or somewhat more motivated (53.6%) to use knowledge of animal agriculture and climate change in their programming (n=56).

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate

Outcome #3

1. Outcome Measures

of farmers gain knowledge for improved cultivation of bio-energy crops

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Biomass feedstock industrialists prefer sorghum feedstocks with readily hydrolysable lignin compositions so as to maximize the yield of ethanol.

What has been done

Biomass sorghum was cultivated under several agronomic practices: different rates of nitrogen fertilization; different quantities of sorghum residue returned to the soil, corn-sorghum rotation/inter cropping, different intensities of soil tillage and combinations thereof. The enzyme, peroxidase that synthesizes lignin was extracted from the matured leaves of sorghum, and its activities were tested.

Results

Initial data indicated that Corn Sorghum rotations with or without Nitrogen fertilization, but with 25% residue returned to the soil produced sorghum feedstocks with potential hydrolysable lignin compositions than feedstocks produced under the other agronomic practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate

Outcome #4

1. Outcome Measures

of farmers adopt improved cultivation of bio-energy crops

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Other (changing programming areas)

Brief Explanation

Weather extremes of 2015 undermined the growth of biomass sorghum so that corn grew out of phase with the sorghum. This calls for a repeat of the cultivation and peroxidase assays for another two years, for results verification purposes.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Approximately 110 individuals participated in the symposium. Two evaluations were given to participants - one on the day of the symposium and a second to be completed online about one week after the event. Evaluation results showed that overall, 78 percent of respondents increased knowledge as a result of the symposium; 30 percent indicated that they expect to benefit economically as a direct result of what they learned from this activity.

Key Items of Evaluation

When asked to what extent climate change has impacted agriculture production in the Southwest US, 43.5% of respondents indicated there was "some" impact. The remaining respondents were divided between "a lot" (23.9%), "a little" (17.4%), and "not at all" (15.2%).

When asked how important it is to consider climate change in long-term planning for agriculture production in their county/region, 51.1% answered "very important". Approximately one-quarter (22.2%) found it to be "somewhat important" and the remainder found it be either "slightly important" (17.8%) or "not important at all" (8.9%).

When asked what proportion of agriculture producers in their county/region were preparing for or adaption to climate change, 54.3% answered "a few". Nearly a third (28.3%) answered "none", while a much smaller portion indicated that "some" (15.2%) or "most" (2.2%) were preparing for or adapting to climate change.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Sustainable Energy

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%	0%	10%	0%
111	Conservation and Efficient Use of Water	10%	0%	10%	0%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	50%	0%
205	Plant Management Systems	40%	0%	10%	0%
402	Engineering Systems and Equipment	30%	0%	20%	0%
606	International Trade and Development Economics	10%	0%	0%	0%
Total		100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	1.0	0.0
Actual Paid	0.5	0.0	9.4	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
8122	0	395836	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
8122	0	771680	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
57899	0	1449813	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension

Agricultural producers and the energy industry have a keen interest in the role that agriculture will play in contributing to renewable energy for America, and are looking to AgriLife Extension to help define which second generation crops will fit this market and how they will be produced. Texas is a major livestock feeding state and faces a feed grain deficit at current production levels, making second generation crops the only practical feed stocks for bioenergy. AgriLife Extension has responded by applied and demonstrations of candidate oilseed and lignocellulosic feedstock crops; holding workshops and field days for agricultural producers, by meeting with commercial interests from the energy sector to interpret potential for a variety of plant based bioenergy options. As crop-based bioenergy other than the traditional ethanol from feed grains is still in its infancy, actual adoption of second generation bioenergy is limited. Research involved the development of cropping system BMPs, testing and development of novel dedicated oilseeds and lignocellulosic bioenergy crops, advanced plant breeding systems, micro- and macro-algae, logistics and conversion technologies. Our focus is on second generation oilseeds and lignocellulosic feed stocks rather than on corn, soybeans, and other crops that can be used for food and feed. Drought and salinity tolerance, adaptation to marginal growing conditions and wide hybridization are emphasized in research in order to increase adaptation and sustainability of alternative energy systems. Organic residuals at livestock production systems offer a concentrated source of feedstock for the bioenergy production. Demonstration of identification, selection, harvesting and transportation of quality organic residuals for entering bioenergy production is critical to ensuring a sufficient energy resource.

AgriLife Research

Research involves cropping systems, novel dedicated energy crops, advanced plant breeding systems, micro- and macro-algae, novel oilseeds, logistics and conversion technologies. Our focus is on lignocellulosic and unique plant oil feedstocks for liquid motor fuels rather than on corn, soybeans, and other crops that can be used for food and feed. Drought tolerance and wide hybridization are emphasized in breeding research in order to increase adaptation and sustainability of alternative energy systems. Best management practices are needed to identify, collect, separate, transport and process these organic residuals. Development of best management practices will ensure to availability of quality organic residuals for entering bioenergy production.

2. Brief description of the target audience

The target audience includes traditional petroleum and natural gas energy companies, farmers, seed companies, start-up companies in bioenergy, electric generating companies, and the general public.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	351	369	0	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	34	34

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of educational programs conducted.

Year	Actual
2015	9

Output #2

Output Measure

- # of research-related projects.

Year	Actual
2015	12

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of people reporting knowledge gained through participation in educational activities.
2	# of people reporting a willingness to adopt practices through participation in educational programs.
3	% of participants expecting to gain economically from participating in the program.

Outcome #1

1. Outcome Measures

of people reporting knowledge gained through participation in educational activities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	35

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Water, energy, and food systems are interdependent ? policies and actions that affect one aspect invariably affect all. Sustainability, particularly on a regional scale, depends on how well these interdependencies are understood and considered in decision making. Policy, regulation, and market factors that influence the water-energy-food nexus affect agriculture production and long-term sustainability. It is essential that agriculture have a clear understanding of the nexus and have a voice in climate change policies that impact their operations.

What has been done

Since the symposium, video recordings of each presentation were made available on the internet for viewing. Highlights and directions for accessing videos were publicized to a database of more than 700 extension educators and NRCS technical service providers through a project newsletter distributed quarterly.

Results

Approximately 110 individuals participated in the symposium. Evaluation results showed of all respondents (n=35) 78 percent increased knowledge as a result of the symposium; 30 percent indicated that they expect to benefit economically as a direct result of what they learned from this activity.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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111	Conservation and Efficient Use of Water
201	Plant Genome, Genetics, and Genetic Mechanisms
402	Engineering Systems and Equipment

Outcome #2

1. Outcome Measures

of people reporting a willingness to adopt practices through participation in educational programs.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

% of participants expecting to gain economically from participating in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Water, energy, and food systems are interdependent ? policies and actions that affect one aspect invariably affect all. Sustainability, particularly on a regional scale, depends on how well these interdependencies are understood and considered in decision making. Policy, regulation, and market factors that influence the water-energy-food nexus affect agriculture production and long-term sustainability. It is essential that agriculture have a clear understanding of the nexus and have a voice in climate change policies that impact their operations.

What has been done

Since the symposium, video recordings of each presentation were made available on the internet for viewing. Highlights and directions for accessing videos were publicized to a database of more than 700 extension educators and NRCS technical service providers through a project newsletter

distributed quarterly.

Results

Approximately 110 individuals participated in the symposium. Evaluation results showed of all respondents (n=35) 78 percent increased knowledge as a result of the symposium; 30 percent indicated that they expect to benefit economically as a direct result of what they learned from this activity.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
402	Engineering Systems and Equipment

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes

Brief Explanation

Drastically lower prices for petroleum energy has reduced economic incentives for alternative energy crops and systems. AgriLife Research is continuing research into sustainable energy to maintain momentum in this area of strategic importance to Texas and the United States.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Approximately 110 individuals participated in the symposium. Two evaluations were given to participants - one on the day of the symposium and a second completed online about one week after the event. Evaluation results showed that overall, 78 percent of respondents increased knowledge as a result of the symposium; 30 percent indicated that they expect to benefit economically as a direct result of what they learned from this activity.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Community Resource and Economic Development

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
504	Home and Commercial Food Service	5%	0%	0%	0%
602	Business Management, Finance, and Taxation	10%	60%	0%	0%
608	Community Resource Planning and Development	50%	20%	0%	0%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	30%	0%	0%	0%
806	Youth Development	5%	10%	0%	0%
903	Communication, Education, and Information Delivery	0%	10%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	30.0	8.0	0.0	0.0
Actual Paid	14.0	7.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
227425	460869	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
227425	285643	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1621159	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension

Provide training and curriculum materials to County Extension Agents and volunteers for the purpose of conducting educational programs on community leadership, workforce preparedness, adult and youth entrepreneurship, emergency management, and nature based tourism at the county level. Specialists will provide in-depth educational programs to targeted audiences relative to community and economic development strategies, based on local needs. Provide multi-county, regional and statewide educational programs on various topics to business owners and community stakeholders utilizing specialist faculty and other government and private sector partners. Coordinate and collaborate with state and federal agencies in rural development activities as well as work with regional rural development centers in curriculum and professional development. Provide technical assistance to communities in analysis of various socioeconomic databases or surveys. Continue to foster working relationships with rural community colleges to obtain support and follow-up for local educational activities. Expand web-based information delivery relative to community resource and economic development topics.

Cooperative Extension Program

Conducted educational programs
 Conducted business development seminars
 Provided one-on-one consultations
 Assisted clients with writing business plans
 Maintained social media sites

2. Brief description of the target audience

AgriLife Extension

Primary target audiences for the program consist of residents, elected and appointed officials, community leaders/potential leaders (including youth), individuals with specific workforce training needs, and existing and potential business owner/managers in and around the over 1,200 communities in all 254 counties of the state of Texas.

Cooperative Extension Program

Rural communities, low-income individuals, underrepresented groups, limited resource business owners and small farm and potential small farm producers.

3. How was eXtension used?

The Cooperatives Community of Practice for eXtension is supported by Texas AgriLife Extension personnel. It provides a resource to individuals and groups interested in cooperative agricultural business practices. A focus for the community of practice is youth leadership, with the intent of drawing talented youth to careers in cooperatives. Such careers are typically located in rural communities and help to strengthen rural economies. In addition, several faculty members answer the ask an expert questions that come in through eXtension.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	27346	69260	11681	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	900

Output #2

Output Measure

- # of state or regional leadership conferences held for county officials or industry groups.

Year	Actual
2015	4

Output #3

Output Measure

- # of one-on-one technical assistance/consultations.

Year	Actual
2015	1345

Output #4

Output Measure

- Estimated hours spent consulting individuals

Year	Actual
2015	4035

Output #5

Output Measure

- # of youth trained in entrepreneurship.

Year	Actual
2015	1871

Output #6

Output Measure

- # of volunteers involved in CED activities.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percent of targeted counties conducting educational programs and activities related to strategies for community resource and economic development
2	Percent of landowners/managers participating in group educational meetings on effectively evaluating nature-based tourism resources that increased their knowledge.
3	Percent of participants of in-depth leadership educational programs who increase knowledge of community and individual leadership principles.
4	Number of participants in workforce development or continuing education training activities conducted who increase knowledge to support their current employment needs.
5	Number of targeted clientele who purchased a home or existing home was saved from foreclosure, refinanced, or rehabilitated.
6	Number of small businesses start-ups, participants in the Businesses In Development (BID) certification program, State HUB certifications received, business plans started, and small business bids submitted.
7	Number of individual?s adults and youth receiving financial literacy training and enrolled in the Individual Development Account programs.
8	Dollar amount of small business and home loans assisted with throughout the State of Texas.
9	Percentage of participants trained in Energy Auditor Program that are self-employed as a result of curriculum training and staff consultations.

Outcome #1

1. Outcome Measures

Percent of targeted counties conducting educational programs and activities related to strategies for community resource and economic development

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Issue identification activities continue to show that economic growth, jobs, income, and quality of life are concerns of communities. Community leaders, elected officials, and local business people want their area to survive and thrive in order to maintain an economic base to grow their population and provide opportunities for you rural areas.

What has been done

The imperative of the Texas CRED program is the development of individual abilities and community support for creating and growing businesses, jobs, wealth, and income. Programs such as rural entrepreneurship, community leadership, nature tourism, workforce training and certifications, Texas friendly hospitality, and community-based planning address priority issues facing rural Texas.

Results

Some 127 of the TOTAL 254 counties have reported educational programming addressing issues of community resources and economic development. Key programs were entrepreneurship, leadership, workforce preparedness, nature-based tourism, fair and event management, emergency management and disaster preparedness. Throughout the year specialists delivered 1,648 educational programs in Community Resources and Economic Development topics to 224,314 contacts. Examples of program topics included Stronger Economies Together, Supporting and Developing Local Economies, Community Capacity, Nature Tourism, Texas Event Leadership, Economic Impact Analysis, Emergency Management and Disaster Preparedness, And County Judges and Commissioners programs. Target audiences included CEAs, economic developers, city and county officials, rural business and agribusiness owners and youth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #2

1. Outcome Measures

Percent of landowners/managers participating in group educational meetings on effectively evaluating nature-based tourism resources that increased their knowledge.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Natural resources owners are looking for ways to generate additional income to maintain the economic viability of their enterprises. Entrepreneurs are looking to diversification or nature tourism as strategies to expand nontraditional or other activities for economic development. Entrepreneurs want information on what other successful operations are doing, and communities want to support local business.

What has been done

Educational activities made up of workshops, webinars, and tours were conducted statewide for natural resource owners, entrepreneurs, and community leaders. Technical assistance was provided to individual business owners relative to either nature tourism offer to lease or other business counseling. Web access to information increased.

Results

Landowners and Communities across Texas managing and developing nature based tourism operations frequently request to hear about example operations to better understand options. Extension is best able to deliver relevant educational information when able to combine internal applied research with market data. Extension faculty worked to develop a long term project to establish a research and demonstration project in cooperation with private landowners. A \$1.2 million dollar contract was signed with a private foundation to have the Texas A&M AgriLife Extension Nature Tourism program set up and operate the Long Acres Ranch Nature Tourism Center on 750+ acres in Richmond. Approximately 380 visitors attended programs as part of our development process. The site is anticipated to be fully open September 2016 after the completion of a \$2.5 million dollar visitor and education center and other site infrastructure.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development

Outcome #3

1. Outcome Measures

Percent of participants of in-depth leadership educational programs who increase knowledge of community and individual leadership principles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Issues identification processes at the local level continue to emphasize the importance of leadership to foster sustainable and vibrant communities. Community stakeholders must be prepared to build on local strengths through leadership and partner with others to create support for economic development and quality of life. This is particularly true given the importance of regionalism to development.

What has been done

The Texas Rural Leadership Program, Developing Critical Thinking Leaders, Texas Agricultural Life Leadership, Texas Event Leadership Program, and the Commissioners Court Leadership

Academy are other curriculum-based programs that help develop leadership in various areas of Texas organizations and communities. The Stronger Economies Together and other CRED programs work to bring community members together to enhance those skills and develop plans for communities to move forward.

Results

Through its V. G. Young Institute of County Government conducted educational schools, providing training related to the duties and responsibilities of the county officials. In 2015, 908 individuals took part in Extension and Extension supported programs. The Texas Rural Leadership Program (TRLP) has worked with AgriLife Extension agents and community leaders in eight target counties to provide leadership training. The target communities are currently working on putting together projects that benefit their communities while using leadership training skills. In addition, a statewide conference was held in May, with over 100 participants involved. The Texas Event Leadership Program (TELP) workshops served over 450 tourism industry professionals representing managers from Texas municipalities and for-profit businesses. TELP serves members of the Texas Association of Fairs and Events and Texas Festivals and Events Association. Texas Friendly Instructor Training workshops trained professional tourism managers, hospitality professionals and Texas A&M AgriLife agents, enlisting community leaders as Extension volunteers that will have a positive impact within their community. Evaluation indicated a 92% increase in knowledge about the program, and 100% agreed the customer service training will provide confidence to change their level of commitment in creating positive customer service experiences.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #4

1. Outcome Measures

Number of participants in workforce development or continuing education training activities conducted who increase knowledge to support their current employment needs.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	235376

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local community leaders, resource owners, and other businesses need a well-trained workforce and the ability to provide greater knowledge and tools to potential employees to meet the challenges of increased globalization, increased international trade, and an increasingly competitive business environment. Communities are concerned about individual, community and regional economic viability, maintenance/improvement of quality of life, and sustainability/growth. Providing the existing labor force with the tools and training to remain competitive in today's ever more competitive labor environment, and providing job opportunities that will attract rule and youth back to the community are of major importance.

What has been done

Educational activities made up of workshops, webinars, and online training materials were conducted/provided statewide for training new and existing labor force participants, to increase knowledge, to improve workforce skills, and to enhance/expand job opportunities. These efforts should increase job opportunities, earning potential and provide employers with a more efficient/competitive workforce.

Results

County Extension agents and their community partners conducted 49 child care conferences reaching 3,819 child care providers and directors. 22,639 clock hours of training were provided to these professionals. Evaluation results indicate that 97% of participants acquired new information, 98% plan to utilize the information to improve their programs, 98%, consider themselves better equipped to work with children, and 96% consider the trainings to be relevant to the work that they do. In addition, child care professionals completed 225,396 online courses (398,622 clock hours). During 2015, 701 food service employees participated in the Food Safety: It's Our Business Certified Food Manager program. Another 4,006 individuals completed the Food Safety: It's in Your Hands food handler's program either face-to-face or online. Also during 2015, 360 individuals completed the Cooking up a Cottage Food Business and Food Handlers for Cottage Food Businesses courses either face-to-face or online. An additional 137 individuals completed a Cottage Food or Farmers Markets for Consumers course online, and 957 individuals completed the Food Safety in the Classroom online course, which is approved for Continuing Education Units (CEUs).

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and

806 Communities
Youth Development

Outcome #5

1. Outcome Measures

Number of targeted clientele who purchased a home or existing home was saved from foreclosure, refinanced, or rehabilitated.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Minorities and limited resource clientele are disproportionately lacking in home-ownership. Home buying has always been a means of building wealth and increasing assets. As a result of limited home purchasing knowledge, more people are hesitant to purchase a home. Limited resource clientele specifically, find it difficult apply and purchase a home and find it easier to purchase a depreciating asset like a new expense vehicle than a home.

What has been done

Community & Economic Development staff has provided home buying training courses, one-on-one technical assistance to home owners, first time home buyers program education, and loan application/refinancing with emphasis placed in working with economically depressed communities.

CED Staff currently assist clientele in low interest home loan applications as well as rehabilitation grants and loans. Through partnerships with USDA Rural Development, our specialist assists target clientele with home ownership and repair qualification and application. The 504 loan program allows low to moderate income families to purchase homes in rural areas at a discounted interest rate. The 502 program allows low income senior to receive low interest, long term repair loans as well as free grant dollars for repair if they are eligible. Our specialist work with seniors and walk them through the required processes in order to receive funding for these repairs.

Results

Our housing clientele has seen increase in home ownership, foreclosure prevention, and affordable mortgage refinancing. 26 home finance and rehab applications were filled out for

USDA 504 and 502 applications. 12 families applied for home renovations and 14 families applied for \$1,440,000 in mortgage financing. . We project that \$576,000 was saved in interest payments by choosing the USDA 504 1% rehabilitation loan. As a result of CED staff direct intervention, 4 families avoided foreclosure and reduced their monthly mortgage cost

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development

Outcome #6

1. Outcome Measures

Number of small businesses start-ups, participants in the Businesses In Development (BID) certification program, State HUB certifications received, business plans started, and small business bids submitted.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	1345

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Due to limited exposure to knowledge and resources, generations of minority business owners have been lacking what it takes to be successful and sustainable business owners. Statistics show that minority owned businesses are much more likely to fail, especially start-ups and micro businesses. The lack of training and network is one of the reasons why there are Minority owned businesses generating minimal income and failing at a much more alarming rate than those businesses owned by the traditional entrepreneurs. Due to pervasive poverty, USDA has deemed 96 of the 254 counties in the State of Texas as Strike force counties needing special attention focused on economic development.

The unemployment rate for minorities continues to be significantly higher than unemployment in the majority population (exceeding 20% in some communities). Pervasive layoffs and continuing high unemployment numbers have forced a new wave of aspiring entrepreneurs who are ill-equipped to survive in an already tough marketplace flooded with displaced public and private sector individuals attempting to earn a living as business owners.

What has been done

Community & Economic Development (CED) staff has provided trainings, workshops, and one-on-one technical assistance aspiring entrepreneurs, small farmers, small businesses, and youth. CED staff also provided one-on-one counseling to individuals in an effect to assist them in starting a business, maintaining their business, developing business plans, and applying for small business loans.

Results

Participants in programs and one-on-one consultations reported an increase in knowledge, skills, and small business improvement through sustainability, increased capacity, job retention or expansion, and profitable business practices. One major firm receiving HUB (Historically Underutilized Business) certification in 2013 participated in \$181,000,000 in total contract awards in three States. Approximately 10% of class participants were surveyed and shared they had completed around \$19,247,365 dollars in total contracts.

- Small Businesses consulted: 1,345
- Small Business Start-ups: 123 throughout the State
- BID participants: 103 Throughout the State
- Business Plans: 15 completed
- Non-Profit Businesses assisted: 47
- Youth Entrepreneurs receiving financial literacy training: 1,871

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery

Outcome #7

1. Outcome Measures

Number of individual?s adults and youth receiving financial literacy training and enrolled in the Individual Development Account programs.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	140

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth, specifically those from underserved communities, have limited opportunities and exposure to training that teaches them about the use of money, basic bookkeeping, budgeting, credit and home-ownership. School districts are not incentivized to provide the much needed training in financial literacy which leading to bad credit, increased debt, and lack of access to capital.

What has been done

CED staff, partners and students have initiated and conducted several curriculum trainings encouraging participants to save money and invest in themselves. Staff conducts a series of six (6) financial literacy seminars that discuss bank services, understanding credit, budgeting, saving, using credit card, borrowing basics, and home ownership. Programs like this certify eligible participants allowing them to participate Individual Development Account (IDA) savings match program. Monies deposited in the IDA will be matched 2 to 1 through federal funds. This money may be used to start a business, pay for tuition, or purchase a home.

Results

In 2015 we have had approximately 140 individuals to receive financial literacy training and 18 individuals enter the IDA program. Those participants, though savings and matching are estimated to accumulate over \$108,000 to be used for higher education, home ownership and in some cases, purchase a car. This additional economic boost will create jobs as our clients buy homes and graduate from college with less debt. In addition, this makes them more likely to have better paying jobs and brings higher tax revenue into the State.

Other Impacts:

- * Start the pre-approval process for obtaining a mortgage
- * IDA accounts are opened for selected students
- * Help improve students? standard of living, knowledge on starting a small business, purchasing a home, and best practices for budgeting and saving money
- * Decrease in amount of loans or money needed to attend school, open new banking accounts, starting a small business, or purchasing a home.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
806	Youth Development

Outcome #8

1. Outcome Measures

Dollar amount of small business and home loans assisted with throughout the State of Texas.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	8945400

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Due to limited exposure to knowledge and resources, generations of minority business owners have been lacking what it takes to be successful and sustainable business owners. Statistics show that minority owned businesses are much more likely to fail, especially start-ups and micro businesses. The lack of training and network is one of the reasons why there are Minority owned businesses generating minimal income and failing at a much more alarming rate than those businesses owned by the traditional entrepreneurs. Due to pervasive poverty, USDA has deemed 96 of the 254 counties in the State of Texas as Strike force counties needing special attention focused on economic development.

What has been done

Community & Economic Development staff has provided one-on-one technical assistance to home owners, first time home buyers, business owners and aspiring entrepreneurs through small business workshops, general consultation, business planning assistance, efficient business management, business opportunities, and loan package development with emphasis placed in working with economically depressed communities.

Results

In 2015 the CED staff provided one on one consulting to 1,345 individuals. Over \$8,945,400 in new loan applications (approximately 110) were assisted with by CED staff across the State with \$1,680,000 of that focusing on home ownership and repair. Entrepreneurs and community members attended CED programs across the State in one of 115 training held throughout the State of Texas.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development

Outcome #9

1. Outcome Measures

Percentage of participants trained in Energy Auditor Program that are self-employed as a result of curriculum training and staff consultations.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Community & Economic Development Unit of the Cooperative Extension Program at Prairie View A&M (PVAMU) has partnered with USDA Rural Development and the Office of Secretary to train, counsel, and provide business opportunities to entrepreneurs interested in starting a business in energy auditing and home weatherization. The program originated from the need for residential and commercial buildings to be more energy efficient, minimize energy consumption, and reduce the strain on nuclear plants to produce energy. Limited exposure to knowledge and resources that can assist entrepreneurs has been one of the prevailing reasons why generations of minority business owners have been lacking what it takes to be successful in business.

What has been done

Program participants are trained and certified to become Building Analysis Professionals capable of conducting energy audit reports and simple repairs that address air loss, duct leakages, heat exchange, and potential building safety hazards. Participants are taught how to assess air pressures in the home, identify air leakages, measure carbon monoxide levels, determine insulation requirements, suggest lighting types and make appliance recommendations. PVAMU and its partners designed the program to include prep-courses and a rigorous 6-day, 48 Hour training in preparation for their Building Analysis Professional written and field exams, recognized nationally by Energy providers and the Energy Audit Industry.

Results

18 of 20 (90%) Certified BPI Building Analysis Professionals
9 Training in Leadership in Energy and Environmental Design (LEED) commercial energy audits
8 Course participants received internships
8 Individuals started their own Energy Audit business
2 Non-profit businesses started with a focus on energy weatherization.

4 of 5 individuals trained/certified in El Paso were offered sub-contractor work in El Paso
40 jobs potentially created total
Direct Economic Impact of \$1,600,000
Total Economic Impact \$1,820,700

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Budget reductions as a result of reduced state appropriations in 2010 and 2011, resulted in a reduction in FTEs available to carry out educational activities in 2012-2015. While remaining faculty picked up additional responsibilities, some educational opportunities were missed due to reduced faculty numbers. The major responsibility for New Farm Bill education during 2014-2015 resulted in some realignment of educational priorities. While traditional Community Resource Economic Development programs were still popular, an increased amount of faculty time and effort was redirected toward immediate clientele needs associated with New Farm Bill education and producer sign-up during 2014-2015.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Clientele/participants involved in Community Resource Economic Development programs are evaluated in several ways, depending on the length of the training activity, whether we are trying to identify short-term knowledge gains, or adoption/change of practices and economic impacts over time. Pre-tests and post-tests are used at the beginning and end of programs to better identify knowledge gains. Retrospective post evaluation surveys are used to identify adoption/change of practices and potential economic impacts over time. Results indicate that participants are learning, and adopting/changing practices, and these changes are producing potential economic benefits.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Chronic Disease, Health, and Wellness

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
723	Hazards to Human Health and Safety	35%	15%	35%	0%
724	Healthy Lifestyle	65%	35%	65%	0%
802	Human Development and Family Well-Being	0%	50%	0%	0%
	Total	100%	100%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	4.0	2.4	0.0
Actual Paid	27.0	4.0	19.0	0.0
Actual Volunteer	0.0	325.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
438606	263354	190242	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
438606	163224	771183	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3126522	0	4504574	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension and Cooperative Extension Program

Diabetes Programs

Partner with local health care professionals to plan, implement and evaluate Do Well, Be Well with Diabetes, ¡Si, Yo Puedo Controlar Mi Diabetes! or Wisdom, Power and Control for underserved people with type 2 diabetes.

Exercise and Wellness Programs

A local coalition will recruit participants and provide leadership to implement Walk Across Texas! Teams of eight or classes of children at schools will be recruited to walk for eight weeks. Teams and classes are challenged to walk regularly for eight weeks, reporting their mileage on <http://walkacrosstexas.tamu.edu>, to achieve the goal of walking the approximate 830 miles across Texas on a map that allows comparisons of teams and class progress. Participants are personally recruited as well as groups like worksites, schools, churches and clubs using free media time.

Cancer Prevention Programs

County agents will work with local volunteers, regional cancer prevention program specialists, and patient navigators to implement Friend to Friend, an evidence based program, to increase the number of women in rural, frontier, and border counties who find breast and cervical cancer earlier, when treatments are most effective. Once a year, a Friend to Friend event will be provided in 40-49 selected counties. Each event will include a presentation by a local physician, a chance to meet and make appointments with nearby clinical sources of mammograms and Pap tests, and a discussion group for networking support and finding solutions for problems like cost and transportation. Funding will be provided by the Cancer Prevention and Research Institute of Texas for transportation and clinical services to women needing assistance.

Cooperative extension agents within the Cooperative Extension program targeted limited resource clientele to provide educational workshops on how to manage and prevent Type 2 Diabetes. It has been reported by the American Diabetes Association that diabetes mortality rates are more than double among African Americans and Hispanics than their White counterparts, with 46 deaths per 100,000 for African Americans and 19 per 100,000 for Whites. Self-management education is the cornerstone for diabetic care and vital for blood glucose control.

2. Brief description of the target audience

AgriLife Extension and Cooperative Extension Program

Diabetes Programs

The target audience is all people with type 2 Diabetes who need training to learn dietary and self-care management skills such as eating more healthfully (limiting carbohydrate intake, reducing fat and sodium and increasing fiber in meal plan), increasing physical activity, taking prescribed medications, checking their blood glucose levels, and regularly visiting their health care providers.

Exercise and Wellness Programs

Walk Across Texas! is open to anyone wanting to increase their physical activity level if they live in a community with a AgriLife Extension educator or have access to <http://walkacrosstexas.tamu.edu>.

Cancer Prevention Programs

Underserved rural women who are at risk for breast and cervical cancer.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	99767	477034	114887	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	42	42

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of group educational sessions conducted.

Year	Actual
2015	7348

Output #2

Output Measure

- Number participating in educational efforts.

Year	Actual
2015	3456

Output #3

Output Measure

- # Research-related Projects

Year	Actual
2015	15

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of participants who report improved before meals blood glucose levels after attending 4 of the 5 Do Well, Be Well with Diabetes classes; 3 of 4 Cooking Well with Diabetes classes; and 5 of 6 ¡Si, Yo Puedo Controlar Mí Diabetes¡.
2	Increased number of miles walked per week at week one compared to week eight.
3	Number of people reporting knowledge gained through participation in cancer prevention educational activities.
4	Number of people reporting a willingness to adopt practices through participation in cancer prevention educational programs.
5	Number of individuals who gain knowledge in Health and Wellness while attending workshops and conferences.

Outcome #1

1. Outcome Measures

Number of participants who report improved before meals blood glucose levels after attending 4 of the 5 Do Well, Be Well with Diabetes classes; 3 of 4 Cooking Well with Diabetes classes; and 5 of 6 ¡Sí, Yo Puedo Controlar Mí Diabetes¡.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	256

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The annual cost of diabetes in Texas is estimated at \$18.5 billion. An estimated 10.6% or 2.8 million of Texans 18 years old or older are diagnosed with diabetes. Almost \$1 of every \$5 spent on health care is for people with diabetes. Poor diabetes management leads to increased health-care costs. People with diabetes who maintain their blood glucose, blood pressure, and cholesterol numbers within recommended ranges can keep their costs, health risks, quality of life, and productivity very close to those without the disease. Diabetes programs, such as Do Well, Be Well with diabetes, can have a potential economic benefit of 36.8 million.

What has been done

Do, Well, Be Well, Sí, Yo Puedo Controlar Mí Diabetes (Sí, Yo Puedo), and Wisdom, Power, Control are programs designed to educate about dietary and self-care management skills such as eating more healthfully (limiting carbohydrate intake, reducing fat and sodium and increasing fiber in meal plan), increasing physical activity, taking prescribed medications, checking their blood glucose levels, and regularly visiting their health care providers.

Results

256 participants in the Do Well, Be Well with diabetes responded with improved blood glucose control. The average blood glucose before meals reported by participants was 136 mg/dL, decreasing to 108 mg/dL at 5 weeks. A1c decreased from 7.4% in class 1 to 7% in class 5. Based on improved blood glucose after attending a Do Well, Be Well with Diabetes class, the potential economic benefits are estimated at \$36.8 million.

In 2015, 116 participants completed Sí, Yo Puedo Controlar Mí Diabetes (Sí, Yo Puedo) and

Wisdom, Power, Control classes. Significant knowledge increases were observed among participants in their general understanding of diabetes and self-care. Moreover, participants reported improvements in self-efficacy as a result of attending the classes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

Increased number of miles walked per week at week one compared to week eight.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Texas ranks 10th in the nation as the most physically inactive state. Twenty-five percent of Texans are obese. Twenty-nine percent of Americans are not physically active at all. Estimated direct costs of obesity and inactivity together account for approximately 9.4 percent of U.S. health expenditures. Regular physical activity and controlling weight can significantly reduce the incidence and impact of chronic diseases like heart disease, stroke, diabetes, cancer, high blood pressure, and depression. Regular physical activity is also associated with fewer physician visits, hospitalizations, and medications.

What has been done

Community-wide programs like Walk Across Texas! (WAT!) have been strongly associated with significant increases in physical activity. People are more likely to make a behavior change, such as increased physical activity, a regular part of their daily lives if they are provided peer support over a time period of 6 to eight weeks. Walk Across Texas! is an eight-week program to help people of all ages support one another to establish the habit of regular physical activity. Moderately intensive walking, 30 minutes, 5 days per week, is effective in reducing the onset of chronic diseases such as type 2 diabetes as shown by the Diabetes Prevention Program.

Results

Walk Across Texas! Significantly increases participants' physical activity. Over the lifetimes of Walk Across Texas! team participants in 2015, it is estimated that 1,702 could prevent the onset of diabetes through increased physical activity. Annual health-care costs for people without diabetes are estimated between \$4,560 and \$5,642 and at \$13,243 for people with diabetes. Including the cost of lost wages, the total potential economic impact for the 2015 team participants is approximately \$123 million.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

Number of people reporting knowledge gained through participation in cancer prevention educational activities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	1559

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Uninsured, underinsured, and women with low socioeconomic status living in rural and frontier Texas counties face many barriers to screening for breast and cervical cancer. Women in rural and frontier areas are more likely, therefore, to be diagnosed with more advanced stages of cancer compared to their urban counterparts.

What has been done

The purpose of the Friend to Friend plus Patient Navigation Program is to build an effective, sustainable infrastructure and overcome barriers to breast and cervical screening and diagnostic services to increase screening rates for underserved, uninsured, underinsured, and older women

in frontier, rural and border counties.

Results

In 2015, AgriLife Extension provided education to 1,559 women regarding breast and cervical screening and diagnostics. Women were given the opportunity to sign up for clinical services during the event and/ or request help with navigating the health system to make an appointment after the event. 890 (57%) event attendees requested health with navigation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Number of people reporting a willingness to adopt practices through participation in cancer prevention educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	409

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Clinical services are often more challenging to find and access is further restricted with insurance and transportation barriers. For those without insurance and of limited means, adhering to screening guidelines is difficult because even when programs like the Breast and Cervical Cancer Screening Services clinics are available within a reasonable driving distance, bureaucratic requirements make access daunting.

What has been done

AgriLife Extension, with CPRIT funds, established sub-contracts with 30+ clinical providers

throughout the program area to provide screening and diagnostic services.

Results

AgriLife Extension paid for 409 services in 2015.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

Number of individuals who gain knowledge in Health and Wellness while attending workshops and conferences.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	234

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension

In the U.S, chronic diseases are the main cause of poor health, disability, and death, and account for most of health-care expenditures. The burden of these illnesses rests on several preventable risk factors: tobacco use, poor diet and physical inactivity (both strongly associated with obesity), excessive alcohol consumption, uncontrolled high blood pressure, and high cholesterol. Promoting a healthy lifestyle is critical to addressing this public health problem.

Cooperative Extension Program

Chronic diseases are responsible for 7 of 10 deaths each year, and treating people with chronic diseases accounts for 86% of our nation's health care costs. Areas of focus for the Cooperative Extension Program includes diabetes and hypertension. Diabetes can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations.

Diabetes is the seventh leading cause of death in the United States. High blood pressure is a common and dangerous condition.

What has been done

AgriLife Extension

HealthTalk Express was developed by Texas A&M AgriLife Extension to increase awareness about healthy lifestyles to prevent chronic diseases. This program is a 30 minute or less health presentation using a persuasive public speaking approach empowering the audience to take action. HealthTalk Express currently offers presentations covering five health topics: cancer, high blood pressure, high cholesterol, stress management, and stroke.

Cooperative Extension Program

In an effort to connect poor diet choices with chronic illnesses, a nutrition program was taught focusing on childhood obesity at 18 sites in Bexar County with 425 adults and 289 youth. At each site Agent conducted a series of 6 one hour educational sessions consisting of classes that promoted health eating, weight management, diabetes education, awareness and prevention, and complications of chronic illnesses. Along with the educational monthly sessions, newsletters and informational materials focusing on diabetes information and youth nutrition were distributed monthly to participants.

Results

AgriLife Extension

In 2015, a total of 234 participants attended HealthTalk Express presentations that include the following topics: Act F.A.S.T. to Prevent a Stroke, A Matter of Cholesterol, Pressure Down: Controlling Your Blood Pressure, Get Screened, No Excuses, and Understanding Stress. Findings reveal participants significantly increased in their knowledge about topic-specific health risks before and after the presentation, 3.4=M to M=4.5 (Scale: 1 = very little to 5 = very much.) Favorable results were observed when participants reported that in the next three months they will practice the recommended health behavior, e.g. talking to their doctor about cancer screenings, M=4.1 (Scale: 1=strongly agree to 5=strongly disagree) Overall, participants found presentation teaching to be very good (Scale: 1 = poor to 5 = excellent.)

Cooperative Extension Program

A retrospective evaluation was administered at the end of each session and the results achieved were: 81.6% increased their knowledge in understanding that half their plate should be fruits and vegetables; 69.6% increased their knowledge in understanding that extra weight can increase health issues such as hypertension, elevated cholesterol, heart disease, and diabetes; 71.7% increased their knowledge in understanding that processed foods such as potato chips, cookies, snacks, increase weight gain.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

No external factors reported for 2015

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In 2015, 31,622 adults and youth participated in the Walk Across Texas! physical activity program. Participants increased mileage walked by 4.42 miles from week 1 to week 8. Over the lifetimes of Walk Across Texas! team participants in 2015, it is estimated that 1,702 could prevent the onset of diabetes through increased physical activity. Annual health-care costs for people without diabetes are estimated between \$4,560 and \$5,642 and at \$13,243 for people with diabetes. Including the cost of lost wages, the total potential economic impact for the 2015 team participants is approximately \$123 million.

In 2015, AgriLife Extension provided education to 1,559 women regarding breast and cervical screening and diagnostics. Women were given the opportunity to sign up for clinical services during the event and/ or request help with navigating the health system to make an appointment after the event. 890 (57%) event attendees requested health with navigation.

AgriLife Extension, with CPRIT funds, established sub-contracts with 30+ clinical providers throughout the program area to provide the aforementioned screening and diagnostic services. AgriLife Extension paid for 409 services in 2015.

256 participants in the Do Well, Be Well with diabetes responded with improved blood glucose control. The average blood glucose before meals reported by participants was 136 mg/dL, decreasing to 108 mg/dL at 5 weeks. A1c decreased from 7.4% in class 1 to 7% in class 5. Based on improved blood glucose after attending a Do Well, Be Well with Diabetes class, the potential economic benefits are estimated at \$36.8 million.

Key Items of Evaluation

In 2015, 31,622 adults and youth participated in the Walk Across Texas! physical activity program. Participants increased mileage walked by 4.42 miles from week 1 to week 8. Over the lifetimes of Walk Across Texas! team participants in 2015, it is estimated that

1,702 could prevent the onset of diabetes through increased physical activity. Annual health-care costs for people without diabetes are estimated between \$4,560 and \$5,642 and at \$13,243 for people with diabetes. Including the cost of lost wages, the total potential economic impact for the 2015 team participants is approximately \$123 million.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Childhood Obesity

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	50%	100%	0%	0%
724	Healthy Lifestyle	50%	0%	100%	0%
Total		100%	100%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	8.0	1.0	0.0
Actual Paid	5.0	7.0	0.0	0.0
Actual Volunteer	0.0	728.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
81223	460869	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
81223	285643	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
578985	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension
Balancing Food & Play

Third grade students in Texas schools are the primary target audience with their families as a secondary target audience. The curriculum contains three elements: 20 lesson plans, 8 take-home reading assignments, and 41-page student journals. Pre/post survey instruments capture changes in knowledge and self-reported behaviors. The Balancing Food & Play curriculum was designed to improve knowledge and behaviors related to:

- * snacking on fruits and vegetables,
- * drinking milk with meals and water with snacks,
- * encouraging at least 60 minutes of physical activity each day, and
- * limiting screen time to two hours or less per day.

Extension OnLine Nutrition Training

Childcare providers, community nutrition educators, parents and other interested adults are the targeted audiences. Online education courses, generally one-hour in length, include learning objectives, subject matter content, supporting handouts, application activities, and references. Pre/post knowledge survey is part of each course; learners must correctly answer 80% of the post knowledge survey to complete the course. Course offerings are developed to enhance educator and caregiver knowledge and skills related to nutrition and best practice behaviors associated with healthful weight.

Evidence-based best practice behaviors associated with healthy weight are:

1. Involve the whole family
2. Know your Go, Slow, and Whoa foods
3. Limit sugar sweetened beverages
4. Decrease time spent sitting
5. Be physically active
6. Tame your portions
7. Fill half your plate with vegetables and fruits
8. Plan meals and children's snacks
9. Allow children to serve themselves food

Get enough sleep each night

WAT Youth Component

The mainstay of exercise and wellness programming is Walk Across Texas! Walk Across Texas! is an eight week program to help people of all ages support one another to establish the habit of regular physical activity. Three options are offered to participants: walk in teams of eight, classes at schools, or individually. Participants log miles and use programs on <http://walkacrosstexas.tamu.edu>. Walk Across Texas! is a best practice type physical activity program as described by the Centers for Disease Control at <http://www.thecommunityguide.org/>. It was recognized as a best program by the Texas Department of State Health Services in 2006.

A local coalition will recruit participants and provide leadership to implement Walk Across Texas! Teams of eight or classes of children at schools will be recruited to walk for eight weeks. Teams and classes are challenged to walk regularly for eight weeks, reporting their mileage on <http://walkacrosstexas.tamu.edu>, to achieve the goal of walking the approximate 830 miles across Texas on a map that allows comparisons of teams and class progress.

Youth in Texas Schools is the target audience. Evaluation strategies include surveys, observation, and recording of behaviors (such as miles walked).

AgriLife Research

Research is conducted in collaboration with State and Federal Women, Infant and Children Program leaders to provide data and programs to improve dietary habits of children and their parents or care givers. Research also involves native American populations and the school lunch program.

Cooperative Extension Program

Poor health, obesity, poor nutrition and limited physical activity are significant health concerns that disproportionately affects minority and low-income populations. The Family & Consumer Sciences unit strives to provide educational opportunities and resources via informal education classes to those who are most at risk. Programs serve to increase knowledge, change behaviors, and increase physical activity. Topics focused on portion control, serving size, lifestyle changes, health consequences of excess weight, and physical activity. Classes were conducted with targeted audiences at community centers, senior activity centers, senior wellness centers, school programs, and faith based institutions. The prevalence of overweight/obesity has epidemic consequences for youth and adults. Health issues for children include bone and joint problems, sleep apnea and social and psychological issues.

Choose Health: Food, Fun, and Fitness

CHFFF uses experiential learning to teach healthy eating and active play, targeting behaviors research shows to be most important for preventing childhood obesity and chronic disease. Topics include replacing sweetened drinks with low-fat milk and water, eating more vegetables, fruits, and whole grains, eating fewer high-fat and high-sugar foods, and playing actively 60 minutes a day. Choose Health: Food, Fun, and Fitness is aimed at 8-12 year olds and targets those behaviors research shows to be most important for preventing childhood obesity and chronic diseases such as heart disease and cancer.

The curriculum also supports key messages of the 2010 Dietary Guidelines for Americans as summarized by USDA in their new MyPlate initiative to help Americans build healthier diets:

- Drink water instead of sugary drinks.
- Switch to fat-free or low-fat (1%) milk.
- Make half your plate fruits and vegetables.
- Make at least half your grains whole grains.
- Enjoy your food, but eat less.
- Avoid oversized portions.

Step Up and Scale Down

Step Up & Scale Down is a 12 lesson program developed to provide nutrition information to people who want to live healthier lifestyles. The program focuses on weekly motivation, support, hands on learning and accountability to assist them achieve their goals.

Balance Living

Balance Living is a series of five lessons focusing on time management, stress management, mindful eating, physical activity, and sleep are the major components addressed in this curriculum because these areas tend to be overlooked when life gets hectic or out of control. The goal of this series is for participants to gain knowledge and skills to live a more balanced life.

2. Brief description of the target audience

AgriLife Extension

Balancing Food & Play

Third grade students in Texas schools are the primary target audience with their families as a secondary target audience.

Extension OnLine Nutrition Training

Childcare providers, community nutrition educators, parents and other interested adults are the targeted audiences.

WAT Youth Component

Youth in Texas Schools

AgriLife Research

Parents and others who care for children, school lunch program administrators, and native Americans.

Cooperative Extension Program

Minority families and individuals
 Senior adults
 Single parents
 Secondary education and college students
 Persons coping with and at risk for chronic illnesses

3. How was eXtension used?

Community of Practice - Childhood Obesity Webinars

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	8531	0	36412	50310

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational methods conducted.

Year	Actual
2015	1282

Output #2

Output Measure

- # of classes/workshops addressing nutrition and health.

Year	Actual
2015	2200

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	The percent of youth that reported engaging daily in 60 minutes or more of physical activity. (National Indicator Outcome 2,1d)
2	Percentage decrease the number of children reporting decreased sweetened beverage intake. (National Indicator Outcome 1,2c)
3	The percent of youth that reported increasing their physical activity and/or reducing sedentary. (National Indicator Outcome 2,1c)
4	Number of participants who understand and use My Plate in meal buying and preparation, become aware of diet related diseases, understand the connection between diet and exercise, increase consumption of fruits and vegetables.
5	Number of participants modify recipes to decrease amount of calorie and adopt healthy eating habits.

Outcome #1

1. Outcome Measures

The percent of youth that reported engaging daily in 60 minutes or more of physical activity.
(National Indicator Outcome 2,1d)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	73

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Children in particular are vulnerable to the deleterious consequences of excessive weight and the adoption of poor behaviors. Obesity and overweight often track into adulthood as do poor behavior choices learned or reinforced during childhood. As overweight or obese adults, these children will face higher healthcare costs and lower quality of life than their healthful weight peers. Therefore, educating children on nutrition and physical activity with the intent to reinforce positive lifestyles and the adoption of healthy behaviors can help prevent or slow the tendency toward unwanted weight gain.

What has been done

The Balancing Food & Play curriculum was designed to improve knowledge and behaviors related to:

- * snacking on fruits and vegetables,
- * drinking milk with meals and water with snacks,
- * encouraging at least 60 minutes of physical activity each day, and
- * limiting screen time to two hours or less per day.

Results

Self-reported student behaviors related to physical activity, soda consumption, and screen time all of which are associated with obesity improved during the time that Balancing Food & Play was taught. The percentage of students who reported:

- * getting at least 60 minutes of physical activity increased from 51 percent to 73 percent;

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

Percentage decrease the number of children reporting decreased sweetened beverage intake.
(National Indicator Outcome 1,2c)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Children in particular are vulnerable to the deleterious consequences of excessive weight and the adoption of poor behaviors. Obesity and overweight often track into adulthood as do poor behavior choices learned or reinforced during childhood. As overweight or obese adults, these children will face higher healthcare costs and lower quality of life than their healthful weight peers. Therefore, educating children on nutrition and physical activity with the intent to reinforce positive lifestyles and the adoption of healthy behaviors can help prevent or slow the tendency toward unwanted weight gain.

What has been done

The Balancing Food & Play curriculum was designed to improve knowledge and behaviors related to:

- * snacking on fruits and vegetables,
- * drinking milk with meals and water with snacks,
- * encouraging at least 60 minutes of physical activity each day, and
- * limiting screen time to two hours or less per day.

Results

At the completion of Balancing Food & Play, students were more likely to correctly identify food

and physical activity best practice recommendations.

Self-reported student behaviors related to physical activity, soda consumption, and screen time all of which are associated with obesity improved during the time that Balancing Food & Play was taught. The percentage of students who reported:

* drinking soda almost never or never increased from 30 percent to 40 percent

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

The percent of youth that reported increasing their physical activity and/or reducing sedentary.
(National Indicator Outcome 2,1c)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	91

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Children in particular are vulnerable to the deleterious consequences of excessive weight and the adoption of poor behaviors. Obesity and overweight often track into adulthood as do poor behavior choices learned or reinforced during childhood. As overweight or obese adults, these children will face higher healthcare costs and lower quality of life than their healthful weight peers. Therefore, educating children on nutrition and physical activity with the intent to reinforce positive lifestyles and the adoption of healthy behaviors can help prevent or slow the tendency toward unwanted weight gain.

What has been done

The Balancing Food & Play curriculum was designed to improve knowledge and behaviors related to:

- * snacking on fruits and vegetables,
- * drinking milk with meals and water with snacks,
- * encouraging at least 60 minutes of physical activity each day, and

* limiting screen time to two hours or less per day.

Results

At the completion of Balancing Food & Play, students were more likely to correctly identify food and physical activity best practice recommendations.

Self-reported student behaviors related to physical activity, soda consumption, and screen time all of which are associated with obesity improved during the time that Balancing Food & Play was taught. The percentage of students who reported:

* limiting screen time to 2 hours or less increased from 77 percent to 91 percent.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Number of participants who understand and use My Plate in meal buying and preparation, become aware of diet related diseases, understand the connection between diet and exercise, increase consumption of fruits and vegetables.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	418

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Efforts targeting nutrition health and wellness engaged in activities focusing on chronic disease prevention targeting obesity and obesity related diseases. Among children and adolescents, 15% are overweight and more than 70% have diseases that are associated with obesity such as hypertension and elevated cholesterol levels. Preventable illnesses make up approximately 80 percent of the burden of illness and 90 percent of all U.S. health care costs. Over the past three decades, childhood obesity rates in America have tripled, and today, nearly one in three children

in America are overweight or obese. The numbers are even higher in African American and Hispanic communities, where nearly 40% of the children are overweight or obese. Obesity has important consequences on our nation's health and economy. Among adults, the medical costs associated with obesity are estimated at 147 billion dollars (Finkelstein, 2009). Many American communities are characterized by unhealthy options when it comes to diet and physical activity.

What has been done

A minimum of 60 minutes of exercise is recommended for individuals to live a healthy lifestyle. In addition to an increase in knowledge and change in behavior, there is a goal to increase physical activity. The use of Face Book has allowed for various ideas in infusing water to reduce sweetened beverage consumption and increase fruit and vegetable intake by juicing.

Extension agents incorporate exercise within their programming to show the importance of being active. Physical activity includes walking, Zumba, Line Dancing and other movement exercise.

Outreach activities with limited resource participants were conducted at community centers, senior activity centers, and county agencies, faith based institutions, and a hospital. A series of MyPlate messages are sent out monthly from the Program Specialists to agents so that they can relay this message to their local clientele and partners. Messages include adding fruits and vegetables to their daily diet, reducing the intake of sodium, consuming less sugars and fats, and increasing the amount of vegetables and fruits on their plate and lessening the amount of consumed starches.

A series of 6 one hour educational sessions consisting of classes that promoted health eating, weight management, diabetes education, awareness and prevention, and complications of chronic illnesses. Along with the educational monthly sessions, newsletters and informational materials focusing on diabetes information, health/wellness, and youth nutrition were distributed monthly to participants.

The Eating Smart Being Active 6 session curriculum was used to teach 460 adults who graduated from a 6 week education program. Additionally, there were 1896 individuals in participant families were reached indirectly and another 2,370 additional adults and youth were reached via health fairs, career events, promotion programs and other activities throughout the year. Approximately 1502 sessions were presented to adult program participants in Harris County nutrition educational program.

Choose Health Food Fun and Fitness 6 session curriculum was used to teach youth how to make healthier food choices. There were 1,415 youth who graduated from the program as a result of attending a minimum of 6 classes in Harris County

Nutrition programs were delivered throughout the year in diverse locations of Maverick County. Curriculums used include, Live it! Real Live Nutrition for Teens. This is a nine lesson program that provides technical and educational information to limited resources families and individuals to help them understand the importance of nutrition and diet. In addition, it heightens awareness of the relationship between high calorie food consumption and lack of exercise to health status. This program was offered to youth of junior high and high school age. Another curriculum utilized is, Choose Health: Food, Fun, and Fitness (CHFFF). This is comprehensive nutrition and fitness curriculum composed of six hands-on lessons for 8-12-year-olds (3rd-6th graders).

Results

Evaluation results indicated that 83% of those individuals were enrolled in one or more Food Assistance Programs. 90% (418 or 463) of participants showed improvement in one or more food

resource management practices (i.e. plan meals, compare prices, does not run out of food or uses grocery list). 94% (432 or 463) of participants showed improvement in one or more nutrition practice (i.e. plan meals, makes healthy food choices, prepares food without adding salt, reads nutrition labels or has children eat breakfast. At program entry, 141 reported 30 to 60 minutes of (Moderate Activity) physical activity on most days. At Exit 352 program participants reported 30 to 60 minutes of moderate physical activity most days. The percentage of all participants with any positive change in any food group at exit (fruits, vegetables, grains, protein foods, and dairy was 95.8 (Positive change means exit intake was recommended amount for age, gender and physical activity based on dietary graduates.) A total of 532 students participated in these educational programs. Upon completion of these classes, 87% stated that they now understand that junk food or unhealthy snacks should be limited and eaten in moderation, 69% understand that drinking soda or high sugared beverages can cause weight gain and 97% stated that they now understand the warning signs of diabetes therefore, they are able to make behavioral changes with will make a positive impact on their overall health.

Evaluation results indicated that 91% (1648 of 1820) youth improved their abilities to choose foods or gained knowledge according to the Federal Dietary Guidelines recommendations. 78% (1,421 of 1,819) youth use safe food handling practices more often or gained knowledge. 68% (1,239 or 1,819) youth improved their physical activity practices or gained knowledge.

Youth in Maverick County evaluation results from 258 participants stated that 241 participants learned what makes a balanced diet and 246 learned how to make healthy food choices.

Step Up & Scale Down is a 12 lesson program developed to provide nutrition information to people who want to live healthier lifestyles. The program focuses on weekly motivation, support, hands on learning and accountability to assist them achieve their goals. There were 30 participants in Bell and Falls County where they lost 212.4 pounds. Participant comments from this program include: 1) Having accountability helps the weekly? weigh-ins made be more intentional about what I ate during the week. 2) Now, that the program is over, I will find a friend to be my accountability partner. 3) It is so much easier to work on changing habits and choosing healthy food when I have a system in place. 4) Thanks Rody, for leading the program! The classes and activities were helpful and informative.-Anne S.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

Number of participants modify recipes to decrease amount of calorie and adopt healthy eating habits.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	125

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Texas citizens, living in rural or urban areas, are socially disadvantaged or low income and are experiencing problems with diet related illnesses such as diabetes, hypertension and elevated cholesterol levels. Children living in food deserts are lacking access to retail venues in their communities to purchase healthy foods; such as supermarkets, has been associated with a lower quality diet and increased risk of obesity. Having a balance diet to include fruits, vegetables, and controlling portion sizes are steps to preventing and managing obesity related diseases including diabetes, hypertension, cancer and heart disease. Unfortunately, nearly two out of three (64.5%) of U.S. adults are overweight or obese. Overweight and obese individuals are at increased risk for the healthcare issues previously mentioned.

What has been done

The Cooperative Extension Program and the Cooperative Agricultural Research Center have worked collaboratively to introduce medicinal vegetables into the diets of limited resource citizens. A demonstration with approximately 125 African American and Hispanic audiences attended a presentation using the savory Indian Melon instead of starchy potatoes for the processing of individuals who are diabetic. The Research team provided information on these products and the agent passed out samples for participants to sample. Instead of taking over the counter appetite suppressants, Bottle Gourd and Bitter Melon (*Momordica charantia* L) was introduced as a method of juicing.

Results

The success of incorporating Bitter Gourd in the Diet has been evident in reducing the A1C Levels of one participant from an 11.0 to a 6.2. His success also includes losing 50 pounds. Another individual has also seen a decrease in her A1C Level as well. These successes was accomplished by juicing the Bitter Gourd and incorporating it in their diet on a daily basis.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Any of a number of factors could affect the implementation, and subsequent number of participants, of the three programs such as changes in politics, priorities, and/or policy. For example, the Texas legislature cut funding for the Texas A&M AgriLife Extension Service; this could result in fewer county educators to provide leadership at the local level. Likewise a change in either national, state or administrative priorities or policy could divert resources from child obesity programming.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

At the completion of Balancing Food & Play, students were more likely to correctly identify food and physical activity best practice recommendations.

Self-reported student behaviors related to physical activity, soda consumption, and screen time - all of which are associated with obesity - improved during the time that Balancing Food & Play was taught. The percentage of students who reported:

* getting at least 60 minutes of physical activity increased from 51 percent to 73 percent;

* drinking soda almost never or never increased from 30 percent to 40 percent; and

* limiting screen time to 2 hours or less increased from 77 percent to 91percent.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Food Safety

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	0%	0%	0%	10%
502	New and Improved Food Products	0%	25%	0%	10%
503	Quality Maintenance in Storing and Marketing Food Products	0%	25%	0%	10%
701	Nutrient Composition of Food	0%	0%	0%	10%
702	Requirements and Function of Nutrients and Other Food Components	0%	0%	0%	20%
703	Nutrition Education and Behavior	0%	25%	0%	10%
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	0%	25%	0%	20%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	100%	0%	100%	10%
Total		100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	4.0	3.0	9.0
Actual Paid	12.0	4.0	4.3	4.5
Actual Volunteer	0.0	224.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
194936	263354	294062	996679
1862 Matching	1890 Matching	1862 Matching	1890 Matching
194936	163224	329264	505516
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1389565	0	1427317	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension

County Extension Agents were trained to become instructors for the Food Protection Management Program. This program consists of (1) a Certified Food Manager (CFM) program, which is targeted towards owners and managers and (2) a food handler's program which is designed for front-line food service workers. In addition to offering these two programs at the community level, AgriLife also provided/identified continuing education to our Agents so they could maintain their instructor qualification status per Agency guidelines. In 2015 the FPM program was implemented in more than 90 counties across the state. CFM program materials were available in both English and Spanish; the food handler's program, which also was offered online, was available in English, Spanish, and Mandarin.

The CFM course was evaluated by assessing the pass rate on the CFM exam. The food handler's course was evaluated by assessing change in knowledge pre and post.

Cooperative Extension Program

The Cooperative Extension Program county agents target limited resource adults and youth and provided presentations on food safety. Limited resource clientele learned proper food handling procedures, personal hygiene while preparing produce and meat products to prevent cross contamination, how to prepare and store food properly. Agents and specialist within the Cooperative Extension Program were ServSafe trained and received certification. Three CEP agents took the Certified Food Manager Course and were certified. Educational trainings were conducted with restaurants, schools, and churches teaching staff members how to properly handle food. Educational methods used to conduct trainings included one-on-one consultations, on-site food demonstrations, train-the-trainer, educational programs and classes, taught a series of food safety classes to special interest groups, and educational displays at various sites. The Cooperative Agricultural Research Center (CARC) provided information to the Cooperative Extension Program regarding Conducting research based food quality and food products. CARC provided information to agents on how to protect vegetables and fruits from being contaminated in home gardens as well as during preparation. Additionally, on a continuous basis, the CARC examined ways to supplement caprine products with polyunsaturated fatty acids (PUFA). Ongoing development of value added caprine products (both meat and dairy). Evaluated strategies for minimizing transfer of microbial pathogens during food handling. Food selection was improved by optimal evaluation of transfer of nutrition knowledge. CARC worked with CEP-FCS Specialist to develop, FACT Sheets, social media, and other resources pertaining to food safety.

Cooperative Agricultural Research Center

Work was carried out on both of the aforementioned research areas by the investigation focusing on the

effort to increase omega-3 fatty acids in goat meat by changing the feed and testing the quality of the meat produced.

Developed protocols to get the approval to carry out work on microbial pathogens in the laboratory. Once approval is granted, work on microbial pathogens in milk will commence. Developing new methodologies to learn how to analyze milk and dairy products to measure levels of microorganisms to determine levels of contamination that could occur during food handling. Developing new methodologies methodologies to analyze the level of antibiotics in goat's milk as an analytical quality assurance tool.

There is an ongoing effort to develop methodologies and to improve the quality and safety of goat's milk and product's made from goat's milk. Research is being carried out to develop procedures to get lab certifications to test pathogens in goats milk and products made from goat's milk and to develop rapid analytical procedures to evaluate the microbial counts in goat's milk and associated products.

Procedures are also being developed to test for antibiotics in goats milk and associated products made from goats milk.

2. Brief description of the target audience

AgriLife Extension

Individuals who are employed in the retail food service industry. This includes cooks, managers, and owners who are affiliated with foodservice establishments including restaurants, school food service, bed and breakfasts, prisons, and other establishments that prepare and serve food to individuals.

Cooperative Extension Program

Minority families and individuals

Senior adults

Single parents

Persons coping with and at risk for chronic illnesses

Youth

Cooperative Agricultural Research Center

The primarily targeted audience is the underserved population living in the surrounding counties and the Northwest Houston Corridor. This population is dominated by Hispanics and African - Americans. Also, this area has been designated by the State of Texas as Prairie View A&M University's service area.

3. How was eXtension used?

eXtension was utilized to market our online food handler's program.

FACT Sheets were used by CEP from

eXtension to provide limited resource clientele additional food safety information.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	6654	143224	3725	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	62	62

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of group educational sessions conducted.

Year	Actual
2015	670

Output #2

Output Measure

- Number of research-related projects.

Year	Actual
2015	25

Output #3

Output Measure

- Number of on site demonstrations for adults and youth.

Year	Actual
2015	1654

Output #4

Output Measure

- Number of research workshops/presentations.

Year	Actual
2015	3

Output #5

Output Measure

- Number of graduate/undergraduate students involved in research projects.

Year	Actual
2015	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage increase in knowledge as a result of completing the food handler's course.
2	Number of commercialization methods/technologies for improving the quality, safety and use of food and food products that will ensure the reduction of food borne illnesses and other nutritionally related diseases.
3	FPM Pass/Fail Rate - percentage of participants who pass the DSHS Certified Food Manager exam on the first attempt. (National Indicator Outcome 3,2)
4	Number of new and different value-added caprine products added to the food base and accepted by the target audience.
5	Number of limited resource clientele who adopts safer food handling practices.

Outcome #1

1. Outcome Measures

Percentage increase in knowledge as a result of completing the food handler's course.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	22

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Centers for Disease Control and Prevention (CDC) estimate that foodborne diseases cause 48 million illnesses, 128,000 hospitalizations, and 3,000 deaths each year. Those most vulnerable to foodborne disease include pregnant women, elderly, very young, individuals with a chronic disease, as well as those with weakened immune systems.

Recently, the U.S. Department of Agriculture Economic Research Service estimated that the medical, productivity loss, and premature death costs related to the top 15 foodborne pathogens totaled over \$15.5 billion annually. Five pathogens caused 90 percent of this burden, which included: Salmonella, Toxoplasma gondii, Listeria monocytogenes, Norovirus, and Campylobacter .

What has been done

During 2015, 4,366 individuals completed the food handler's program either face-to-face or online.

Results

Participants completed a knowledge survey at the time of the program to assess their current knowledge of food safety. Subject areas emphasized include personal hygiene, hand washing practices, cross-contamination, handling ready-to-eat foods, and time/temperature control. At the beginning of the program, the mean knowledge score was 71.85; immediately after the program ended the average score had risen to 87.59. Paired t-tests determined this increase was significant.

4. Associated Knowledge Areas

KA Code **Knowledge Area**
712 Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #2

1. Outcome Measures

Number of commercialization methods/technologies for improving the quality, safety and use of food and food products that will ensure the reduction of food borne illnesses and other nutritionally related diseases.

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Milk and associated products from goats milk is increasing here in the United States. There is an interest in these products from consumers who are looking for alternative foods for personal and health reasons. There has also been an increase in persons from other countries who now live in the United States who are familiar with these products and would like to continue to have them as part of their diet. Therefore, there is need to develop knowledge and analytical procedures to test the quality and safety of these products that are sold to consumers.

What has been done

Research has been carried out in the Food Systems group in the Cooperative Agricultural Research Center to develop testing methods for microbial counts and the presence of pathogens and antibiotics in the goat's milk and associated products made from the milk.

Results

The results of this work has been reported in presentations and reports written by the researchers.

The objective of the antibiotic study was to determine residual amounts of oxytetracycline in fresh, aged, and pasteurized milk of 3 breeds of goats using HPLC analysis. The HPLC results indicated that the depletion rate of this antibiotic was faster in goats than the reported data for cows. The results also indicated that oxytetracycline is not stable in goat milk at refrigeration temperature or during pasteurization and will decrease significantly.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
503	Quality Maintenance in Storing and Marketing Food Products
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #3

1. Outcome Measures

FPM Pass/Fail Rate - percentage of participants who pass the DSHS Certified Food Manager exam on the first attempt. (National Indicator Outcome 3,2)

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	67

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension

More than half of all foodborne illnesses are attributed to improper handling of food prepared away from home. Because almost half of our food dollars is spent on food prepared outside the home, food safety is a top concern among consumers. Therefore, food safety education is a critical prevention component for reducing the risk for foodborne diseases.

Cooperative Extension Program

Food quality and safety involves purchasing, preparing, and storing food using procedures that prevent the spread of bacteria and reduce the risk of foodborne illness. Every year more than 76

million people get sick from food poisoning. County Health Department provides food handler training for food service employees. Extension provides all clients with proper food handling procedures, teaching the effectiveness of personal hygiene, preparing food properly, and storing food properly allows clients to handle food safely and can prevent contamination which causes foodborne illness.

What has been done

AgriLife Extension

The CFM program was offered in 72 counties across Texas in 2015. The program promotes the adoption of targeted behaviors, including: (1) the use of temperature control measures in food service, such as thermometer use, time and temperature control and cooking food to a safe internal temperature; (2) increased adoption of proper hygiene and handwashing practices; (3) as the proper storage, washing and sanitizing of utensils and equipment between use to reduce cross contamination; and (4) increased adoption of pest management practices to keep insects, rodents and other disease-causing pests under control. Passing a national CFM exam is required in order for one to have the CFM credential.

Cooperative Extension Program

The Health Coordinator and Extension agents became certified and in Food Protection Management courses to educate limited resource clientele and business on proper food safety. Education programs were conducted throughout 17 Texas counties with youth and adults. Education programs were conducted in schools, churches, schools, restaurants, day cares, and with community outreach organizations.

Results

AgriLife Extension

During 2015, 701 food service employees participated in the Certified Food Manager program. Subject material was delivered by trained Extension Agents using lecture, group discussion, and interactive, hands-on activities.

Cooperative Extension Program

Within Travis County/Austin, TX. Food safety workshops were conducted with limited resource participants at risk for foodborne illnesses. Although food safety classes were not targeted specifically to seniors, the majority of classes were conducted with senior populations. This group is significant the CDC considers this population a vulnerable group. Food safety education efforts were conducted in 78702, 78721, 78723, 78752, and 78753 zip codes. These sites include senior activity centers, senior wellness centers, City of Austin Parks and Recreation centers, faith based institutions, and a community based program for independent life skills. Based on 2010 Census Austin, households with individuals 65 years and over include zip codes 78702 (22.1%), 78721 (25.4%), 78723 (17.9%), 78752 (11.9%), and 78753 (11.6%). Food safety classes were conducted in these targeted zip codes. Food safety topics include: food safety basics (clean, separate, cook, chill), hand washing, shopping for food safety, reading dates on food labels, food safety and eating out, food safety myths, food safety storage, and care of reusable bags. A total of 22 workshops were conducted with 321 participants.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

712 Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #4

1. Outcome Measures

Number of new and different value-added caprine products added to the food base and accepted by the target audience.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Due to the increase of chronic illness within the American population, consumers are becoming more health conscious with their dairy and meat products. Caprine dairy items that includes cheese and ice cream has been shown to benefit individuals who cannot digest the traditional milk from cows. Food products, particularly meats, are more appealing when available in either ready-to-eat, or easy to prepare forms. Caprine products are shown to have significantly less total fat, saturated fat and cholesterol than pork, lamb and chicken. However, the average American citizen does not consume caprine for a variety of reasons. The most prevalent reason is that this choice of meat has not been a part of their diet consumption. Therefore incorporating caprine products into easy to prepare products that are healthy and aesthetically pleasing may increase consumer acceptance and increasing the availability of caprine dairy products in various recipes may be more appealing to the traditional American population.

What has been done

Goats have been raised using feed higher in omega 3 fatty acids and their growth rate parameters have been measured. The animals were subsequently slaughtered and the meat analyzed for the presence of omega 3 fatty acids in the meat. The meat was processed into sausages and sensory tests were carried out the products.

The Cooperative Extension Program conducted introduced caprine to sample through cheese, ice cream, and caprine sausage.

Results

The results of this work has been reported in presentations and reports written by the researchers. The taste panel results showed that the caprine meat overall, was less tender and ranked higher in chewiness. Some of the panelists preferred sausages with less percentage composition of caprine meat in the sausage.

Of the 25 individuals who sampled the product they indicated the taste was appealing and if not told, they would not know they were consuming products made from caprine.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #5

1. Outcome Measures

Number of limited resource clientele who adopts safer food handling practices.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Government Regulations
- Competing Public priorities

Brief Explanation

Recent updates to the Food Code (for which the CFM exam is based) resulted in new versions of the exams which emphasize subject areas that previously had not been highlighted in our courses. The lower-than-expected pass rate has been noted nationally by National Restaurant Association (who supplies one of our CFM exams). We anticipate that pass-rates will slowly go up as that has been the case in the past.

Other external factors include food safety knowledge/skills of participants, food service experience, and level of education. Language barriers of participants can also be an issue.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluation of the program is based on customer satisfaction (how well participants liked the program and were satisfied with the instructor) as well as the pass-rate on the CFM exam. Customer satisfaction continues to be high in spite of a lower-than-anticipated pass rate on the CFM exam.

Participants completed food safety (n=226) and customer satisfaction surveys

(n=89). Food safety survey items include changes in behavior and an increase in knowledge. Salient points focusing on changes in behavior and knowledge include the following:

- 100% respondents will thaw food in the refrigerator or cold water
- 100% respondents will always wash their hands before, during, and after preparing food or eating
- 98.% respondents will cook and store food properly to prevent foodborne illnesses
- 97% respondents will use the dates on food labels to keep food safe
- 88% respondents learned something new about food safety and food borne illnesses
- 70% respondents received extremely valuable information on food safety

Customer satisfaction surveys (n=89) findings:

- 80% respondents were completely satisfied with the activity
- 97% of respondents learned many things that will be of practical use
- 81% of respondents replied yes they will take action or make changes based on what was learned
- 90% of respondents anticipate an economic benefit as a result of what was learned

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Global Food Security, Hunger, and Nutrition Education

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	40%	0%	100%	0%
704	Nutrition and Hunger in the Population	20%	0%	0%	0%
801	Individual and Family Resource Management	40%	0%	0%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	30.0	0.0	0.0	0.0
Actual Paid	60.0	0.0	1.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
974680	0	99897	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
974680	0	64689	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
6947826	0	430147	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension and Cooperative Extension Program

Nutrition education will be conducted using a variety of methods including group, individual, media, and newsletters. Group methods will either be single education events that focus on a very specific concept/behavior (e.g. washing fresh produce to reduce the risk of a foodborne illness) or a series of lessons that focus on broader concepts such as label reading or food resource management. Networking with agencies and organizations to expand outreach and identify new audiences will also occur.

AgriLife Research

Research will be conducted in Africa, Latin America and the Middle East in cooperation with the Gates Foundation, Howard G. Buffett Foundation, local extension services, local universities, Texas Department of Agriculture, Department of Defense and USAID. Examples of planned activities include the Texas Israeli Exchange, Iraq Trade and Development, and the Kurdistan Initiative.

2. Brief description of the target audience

AgriLife Extension and Cooperative Extension Program

The target audience for the Better Living for Texans program is SNAP recipients and applicants. However, Texas has been granted waivers by USDA/FNS that allow us to extend our program to other limited resource audiences. These audiences include: women receiving WIC benefits, children attending schools in which 50% or more of the children receive free or reduce meals; children and parents in Head Start programs; individuals receiving food at a food bank or food pantry; children who participate in the Summer Food Service Program; and individuals living in census tracks where 50% or more of the population is at 130% of the poverty level or below.

AgriLife Research

Target audiences include the United Nations, governments and non-governmenatal organizations in Africa, Latin America and the Middle East.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	52978	347161	38964	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	7	7

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	4246

Output #2

Output Measure

- # Research-related Projects

Year	Actual
2015	6

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	BLT participants who enroll in Walk Across Texas will increase the number of miles walked by 15% at the end of the 8 week program.
2	Amount of monthly out-of-pocket food expenses reported saved by program participants.
3	The percentage of participants who use the food label to determine the amount of food to eat either "always," "almost always," or "sometimes" will increase.
4	The percentage of participants who shop with a list "always" or "sometimes" will increase.
5	# of producers adopting best management practices on sustainable agriculture.

Outcome #1

1. Outcome Measures

BLT participants who enroll in Walk Across Texas will increase the number of miles walked by 15% at the end of the 8 week program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

According to the Centers for Disease Control and Prevention, 30% of adults in Texas engage in no leisure physical activity; only 18% achieve current recommendations for aerobic and muscle strengthening activities. An estimated 30% and 38% of Texas adolescents are active daily and participate in daily physical education, respectively. Because of the documented benefits of regular physical activity, helping sedentary individuals adopt the habit of regular physical activity can be beneficial in improving health and reducing the risk of chronic disease.

What has been done

BLT participants (adults and youth) were encouraged to join Walk Across Texas (WAT), which is an 8-week program designed to help individuals adopt/improve the habit of regular physical activity. This program is designed to be implemented in teams (which allows for peer support and encouragement) and includes a variety of activities beyond that of traditional walking. Participants log their miles and over an 8 week period virtually walk across the state of Texas.

Results

At the beginning of the program, participants who reported their weekly mileage (n=1493) were walking an average of 26.7 miles; at the end of 8 weeks, mileage had increased to 29.9 miles; a mean increase of 3.2 miles. If those participants continue walking at the same level as during WAT they have the potential to save a collective \$9,755,600 in future health care costs by avoiding type 2 diabetes and by reducing work absences.

4. Associated Knowledge Areas

KA Code **Knowledge Area**
703 Nutrition Education and Behavior

Outcome #2

1. Outcome Measures

Amount of monthly out-of-pocket food expenses reported saved by program participants.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	27

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In Texas, 17 percent of households have incomes that are at or below 100 percent of the federal poverty level (FPL). An estimated one out of seven Texans receives benefits from the Supplemental Nutrition Assistance Program (SNAP), formerly known as food stamps. SNAP helps eligible families buy nutritious food to feed their families. Proper nutrition is important because diet quality has been linked to four of the 10 leading causes of death. In addition to challenges with nutrition, data from the 2014 Current Population Survey indicates that 17 percent of Texas households face food insecurity. This figure continues to be higher than the national average of nearly 14%.

What has been done

County Extension Agents and Program Assistants delivered the BLT program in 198 counties across Texas, generating more than 674,000 educational contacts and reaching an estimated 182,300 individuals. Programming was conducted either as a series or in single education activities. Hands-on activities and food demonstrations also were included in programming efforts to encourage the adoption of targeted behaviors.

Results

A sample of 1063 BLT participants who completed the program series Back to Basics reported spending an average of 244.12 upon entry into BLT and were spending an average of 217.00 30 days after the program ended (a savings of \$27.12 per month). A paired-samples t-test showed this was a significant decrease.

Over the course of a year, if this savings held, that would mean \$325.44 saved per household. For these 1063 individuals, that is \$345,942, assuming that the reduction in out-of-pocket food expenses were not due to some unexpected economic hardship like loss of a job/income or other program benefit (like SNAP).

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #3

1. Outcome Measures

The percentage of participants who use the food label to determine the amount of food to eat either "always," "almost always," or "sometimes" will increase.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	41

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Understanding the nutrition information presented on food labels can help individuals make healthy food choices. The Food and Drug Administration reports that more than half of Americans read food labels; many (66%) of them do so to check the calorie content of the food.

What has been done

BLT programming efforts promote targeted behaviors, including reading food labels to determine calorie, sodium, and fat content. County Extension Agents and Program Assistants delivered educational programs that promoted label reading and included hands-on activities which gave participants the skills needed to select healthy food options based on food label information.

Results

Participants (n=1422) who completed the Three Easy Bits series were asked how often they used the Nutrition Facts serving size information to determine how much of a snack to eat. At the beginning of the series, the percentage who reported doing so "always," "almost always," or

"sometimes" was 47.4%. Immediately after the program ended, the 84.9% expressed intent to do so. Thirty days later, the percentage of participants following this behavior had risen further to 88.1%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #4

1. Outcome Measures

The percentage of participants who shop with a list "always" or "sometimes" will increase.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

An estimated 17% of Texas households face the challenge of food insecurity. Studies show that individuals who are food insecure have poor diet quality and may be at a higher risk for chronic disease (compared to those who are food secure). Adopting sound food resource management practices (which include planning meals in advance) can help low-income households manage/stretch their food (and food dollars) to improve food security.

What has been done

BLT participants who completed the Back to Basics series learned about food resource management practices that can stretch their food dollars. These practices include planning a meal in advance, comparing prices, and using the unit price to identify economical foods. Participants gained experience in planning meals and snacks as part of a group activity.

Results

Of the 1937 adults who completed our pre, post and follow-up surveys 80% reported that they planned their meals in advance either always or sometimes. Immediately after the program

series ended, 97% expressed intent to do so. Thirty days later, 97% reported that they were planning their meals in advance either always or sometimes. Interestingly, the percentage who reported always planning their meals rose considerably from 21% at the beginning of the program to 63% thirty days after the program ended.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #5

1. Outcome Measures

of producers adopting best management practices on sustainable agriculture.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

Our physical activity goal was almost met but there are a number of external factors that impact the extent to which the target audience can be physically activity. These factors include weather as well as a lack of a safe place to be physically active. Time constrains (or perceived lack of time) can also be a factor, especially if individuals are working multiple jobs.

Other factors include language barriers (although our programs are offered in English and Spanish) and lack of transportation or child care.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Individuals who enrolled in a program series were invited to complete a survey which assessed the extent to which they were following targeted behaviors. At the end of the series, participants were surveyed again to learn their intent to practice the targeted behaviors. Approximately 30 days later, participants were contacted and surveyed again to learn the extent to which the targeted behaviors were being followed. This allowed us to gauge intent to change behavior as well as the actual adoption of targeted behaviors.

In addition to the results previously mentioned BLT participants reported the following:
The percentage of households who ran out of food before the end of the month "always" or

"sometimes" fell from 70% (upon entry into the program) to 46% (thirty days after the program ended)

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Fostering Strong Families

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	50%	50%	0%	0%
802	Human Development and Family Well-Being	50%	50%	0%	0%
Total		100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	8.5	0.0	0.0
Actual Paid	14.0	7.0	0.0	0.0
Actual Volunteer	0.0	367.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
227425	460869	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
227425	285643	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1621159	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension

Parenting and Dependent Care Programs

The Texas A&M AgriLife Extension's Family Development and Resource Management Unit is committed to providing educational programs to support and strengthen Texas families. In the areas of parenting, child care, and dependent care, Extension offers a wide range of programs and resources to citizens across the state. Programs and resources include train-the-trainer workshops for professionals and volunteers, multi-session parent education workshops, 1-2 hour lectures, distance education workshops, self-study child care training guides, internet resources (e.g., online child care courses, fact sheets, research briefs, trend data, links to websites), and newsletters.

Family Financial Management Programs

Implement the Money Smart Financial Education Curriculum.

Implement the Wi\$e Financial Planning for Generation X and Y Curriculum

Implement the Welcome to the Real World Financial Simulation Activity

Cooperative Extension Program

Within limited resource audiences served by the Cooperative Extension Program at Prairie View A&M University effective parenting is an issue that this audience struggles with due to lack of income and knowledge of various methods of parenting. Parenting is without question a critical influence on a child's mental health, development, and positive family environment, yet less than 1% of parents have evidence to parent education programs. Evidence-based parenting programs have numerous benefits including decreases in parental depression; increase parental confidence; and decrease in social, emotional, and behavioral problems in children. Parent education classes benefit parents by teaching child development and child management skills. They learn to create environments that can lead to the development of more positive behaviors in their children. Parenting education teaches parents how to be a positive role model who develops strong values and beliefs in their children.

Cooperative Extension Program agents work in collaboration with Texas A&M AgriLife agents in certain counties conducting parenting and dependent care programs.

AgriLife Extension and Cooperative Extension Program

Passenger Safety Programs

County Extension agents and law enforcement officers trained and certified as child passenger safety technicians will conduct child safety seat checkup events in under-served rural areas of Texas. In addition, child safety seat fitting stations have been established at county Extension offices and fire/EMS departments to allow families additional access to certified technicians. When needed, a replacement seat is issued at no charge to parents and caregivers at checkup events and fitting stations.

2. Brief description of the target audience

AgriLife Extension

Parenting and Dependent Care Programs

Target audiences for child care programming include adults and teens providing care for preschool and school-age children in family, center and school-aged settings. Target dependent care audiences include adults and teens providing care for adults and children who are unable to provide some portion of care for themselves due to illness or age-related disabilities. Programs and resources are accessible to target audiences regardless of gender, marital status, family status, race/ethnicity, income level, or educational level. It is estimated that 70% of this audience falls under the category of "low-income."

Family Financial Management Programs

Money Smart: unbanked, less financially-sophisticated consumers.

Wi\$eUp: Generations X and Y, with emphasis on women ages 22-35.

Welcome to the Real World Financial Simulation: high school age youth.

Cooperative Extension Program

- Minority families and individuals
- Senior adults
- Single parents
- Limited resource families
- College students
- Individuals who have experienced job loss
- Teen parents

AgriLife Extension and Cooperative Extension Program

Passenger Safety Programs

Under-served residents of rural areas in Texas.

3. How was eXtension used?

Relevant resources from eXtension have been used to prepare news releases and contribute to the eXtension database of FAQs in family financial security.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	250711	143471	10271	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of group educational methods conducted.

Year	Actual
2015	2138

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of child care providers who increase their knowledge of child care best practices as a result of participating in child care provider training's.
2	Percentage of dependent care providers who increase their knowledge of dependent care best practices as a result of participating in depend care training's.
3	Percentage of parents who increase their knowledge of parenting practices as a result of attending parenting training's.
4	Percentage of fathers (father-figures) who increase the amount of time spent reading to their children.
5	Number of participants who increase knowledge on financial management.
6	Number of participants who reduced debt and increased savings.
7	Number of car seats inspected.
8	Number of limited resource clientele who gained knowledge about improving their financial stability by reducing debt and increasing savings.
9	Number of car seats incorrectly installed on arrival and number installed correctly after instruction and/or new seat.
10	Number of car seats recommended for replacement for any reason.

Outcome #1

1. Outcome Measures

Percentage of child care providers who increase their knowledge of child care best practices as a result of participating in child care provider training's.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	97

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and Cooperative Extension Program

Sixty-seven percent of children under age 5 receive some form of child care on a regular basis from persons other than their parents (U.S. Census Bureau, 2013). Researchers have found that quality matters when it comes to child care. Children who receive high-quality care develop better language, math, and social skills; exhibit fewer behavior problems; and tend to be better prepared for entrance into school (Vandell et al., 2010). Evidence indicates that professional preparation (i.e., more formal education and content-specific training in child development) is linked to higher quality care environments for children (Zaslow, Tout, Maxwell, & Clifford, 2004).

Within Texas, more than 2 children die from child abuse or neglect on an average every week, 182 children are confirmed victims daily, more than 7 children are maltreated every hour (Texas Child Abuse and Neglect Fact Sheet, 2014). According to the County Health Rankings and Roadmaps, Harris County accounts for 34% of single parent households with 27% of the children living in poverty. In the United States, there are estimates of 2.7 million grandparent headed households, with no parent present. In Texas, there are approximately 712,850 households that include grandparents. In 311,052 (43%) of these households, grandparents have full responsibility for the care of their grandchildren. In Harris County, of the 119,244 households that include grandparents, approximately 11,089 (9.3%) households have no parent present. Grandparent headed-households have an average annual income of \$33,000. About 25% of these caregiver report having a disability. Grandparent and other kinship caregivers report having limited information, few resources, and feelings of isolation. Lastly, the Harris County Issue Identification Forum identified parenting education as an imperative need to promote positive parenting skills that will support our youth.

What has been done

AgriLife Extension

In 2015, county Extension agents and their community partners conducted 49 child care provider training conferences throughout the state of Texas for 3,819 child care providers and directors. Over 22,639 clock hours of training were provided to child care professionals. In addition to the face-to-face conferences, early childhood educators in the U.S. completed 225,396 online courses in 2015 (398,622 clock hours).

Cooperative Extension Program

The Circle of Learning Conference in collaboration with fellow Family and Consumer Science agents provided 120 participants with education, resources, CEUs and Clock hours for child care workers and director of child care centers

Results

AgriLife Extension and Cooperative Extension Program

Results from a 2015 evaluation study with over 2,000 participants indicate that over 90% of participants acquired new information (97%), plan to utilize the information to improve their programs (98%), and consider themselves better equipped to work with children (98%). Evaluation data collected from online participants indicate that they are very satisfied with the quality of the courses. Over 98% rated the online courses as Good, Very good, or Excellent. Ninety-eight percent of respondents stated that they learned new information from the courses, and 99% would recommend the online courses to others.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #2

1. Outcome Measures

Percentage of dependent care providers who increase their knowledge of dependent care best practices as a result of participating in depend care training's.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	96

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension and Cooperative Extension Program

More than 10% of the population in Texas is over age 65. Between 2000 -2010, the 65 and older population grew faster than the total population and the 85 and older population increased. . Families provide an estimated 80% of care to Texans, with the remaining 20% provided by formal community agencies and institutional facilities. Estimates show that Texas has approximately 2.1 million caregivers, who provide more than 2.2 billion hours of care valued at more than \$22 billion.

What has been done

AgriLife Extension

In 2015, AgriLife Extension eldercare programs reached more than 2,100 educational contacts, providing more than 3,300 contact hours. Programs for dependent care providers included improving health literacy, grandparents raising grandchildren, fall prevention in the home and supporting military caregivers. AgriLife Extension provided primary leadership and/or speaker support for dependent care conferences that targeted professional and non-professional caregivers alike. Most conferences existed on a county or multi-county basis, often offering continuing education units to attendees. In 2015, AgriLife Extension piloted a Virtual Learning Event to provide a conference experience three successive in-depth, engaged learning experiences without the need for travel.

Cooperative Extension Program

McLennan County's Cooperative Extension Program addressed parenting issues by providing both series and single session pregnancy and parenting programs to support county residents. These programs target low income/limited resource county residents by disseminating information concerning specific child development subject matters, supplying parenting tips and promoting safe pregnancies for expectant mothers. This year in McLennan County, Cooperative Extension Program provided 33 parenting programs 615 participants.

Results

AgriLife Extension

AgriLife Extension continues to enhance and expand in-person offerings with synchronous and asynchronous online offerings. Of the numbers listed above, 692 (33%) contacts and 812 (25%) contact hours, were online-only. AgriLife Extension awarded 635 National Association of Social Workers continuing education units to online trainees. In a random sampling of 155 Virtual Learning Event participants, respondents indicated (1-5 scale; 1= worst, 5= best) they were prepared to teach clients/families about the content: 4.24; they were prepared to participate in discussions about the content with their colleagues: 4.26; they intended to apply the content to their work: 4.32; the content was not easily obtained from other sources: 4.01; and they would recommend the content to a colleague: 4.32.

Cooperative Extension Program

Becoming a Mom- is an eight week series class explaining the importance of having a healthy pregnancy, and how to achieve a healthy pregnancy, delivery and birth. Three series programs were presented to 230 participants and 77% of those parents stated they were willing to change their eating habits to achieve a healthier pregnancy and 100% stated that the information was easy to understand. More than 450 grandparents attended this conference and for the second year, a local legislator spoke on the importance of grandparents.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #3

1. Outcome Measures

Percentage of parents who increase their knowledge of parenting practices as a result of attending parenting training's.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

AgriLife Extension

Parents' contributions to their children's development are unparalleled, especially during their early childhood years. Research indicates that children who grow up with actively involved and nurturing parents reap numerous benefits, including better school performance, increased self-esteem, healthier relationships with peers, and greater access to financial resources. High quality parent education programs, according to researchers, can help young parents develop the skills they need to effectively raise their children (CDC, 2009).

Cooperative Extension Program

Within limited resource audiences served by the Cooperative Extension Program at Prairie View A&M University effective parenting is an issue that this audience struggles with due to lack of income and knowledge of various methods of parenting. Parenting is without question a critical influence on a child's mental health, development, and positive family environment, yet less than 1% of parents have evidence to parent education programs. Evidence-based parenting programs have numerous benefits including decreases in parental depression; increase parental confidence; and decrease in social, emotional, and behavioral problems in children.

What has been done

AgriLife Extension

The Texas A&M AgriLife Extension Service provides Texas parents with a wide variety of research-based information and resources to assist them in their efforts to raise healthy children. In addition to newsletters, fact sheets, and single-session parenting seminars, AgriLife Extension offers parents, grandparents, and other caregivers the opportunity to participate in county AgriLife Extension agent and volunteer led parenting programs designed to increase participants' knowledge of key parenting concepts and to improve parenting practices.

Cooperative Extension Program

Harris County Active Parenting is a culmination of three research based curriculums that target youth ages 5-12, teens, co-parents, and parents who are divorced. These curriculums are designed to instill positive parenting practices through 1) Communication and Cooperation; 2) Discipline and Responsibility; and 3) Power, Courage, and Self-Esteem.

Results

AgriLife Extension

Results from a recent evaluation study with over 70 parents who participated in the Parenting Connections series indicated that the program had a very positive impact on specific parenting practices. Statistically significant attitudinal and behavioral changes from pre to post occurred in the following areas: parent-child communication, parental self-efficacy (i.e., confidence in parenting skills), and use of positive disciplinary practices. In addition, parents reported a significant improvement in their children's behavior after participating in the program.

Cooperative Extension Program

This year 1299 parents participated in a minimum of one and up to six classes of the Active Parenting program. Evaluation data stated that 100% of individuals intend to adopt one or more parenting skills learned, and 88% increased their overall knowledge. In addition, parents received educational resources via 334 Strengthening Diverse Families Newsletters that were disseminated at programs and emails to provide support to parents and grandparents. Furthermore, parents were reached via 105 Facebook social media posts with 1,062 followers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #4

1. Outcome Measures

Percentage of fathers (father-figures) who increase the amount of time spent reading to their children.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	52

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Reading aloud to children is a simple, yet powerful, activity that has been shown to improve children's literacy development across a variety of domains. In a recent survey of fathers' involvement in their children's learning conducted by the National Center for Fathering and the National Parent Teacher Association, researchers discovered that 39% of fathers never read to their children. It is well established that fathers play a critical role in their children's development. Fathers who find time to read with their children are taking advantage of one of the best opportunities to care for, connect with, and contribute to their children's future.

What has been done

Fathers Reading Every Day (FRED) is a family literacy program designed by the Texas A&M AgriLife Extension Service to increase parental involvement in children's early literacy development, with a specific focus on fathers. During the FRED program, fathers and father-figures of young children are presented with research-based information to help them begin daily reading activities with their children. FRED programs are held at public libraries, Head Start centers, elementary schools, churches, child care centers, and AgriLife Extension centers.

Results

Results from a 2015 evaluation study involving more than 500 FRED participants show statistically significant increases in the amount of time that fathers/father-figures spent reading to their children and the number of books read to their children during a typical week. Moreover, 47% indicated that the program increased their involvement in their children's education, 49% indicated that program improved their children's vocabulary, and 47% indicated that the program helped their children learn to read.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #5

1. Outcome Measures

Number of participants who increase knowledge on financial management.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	511

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many families face the constant challenge of managing limited resources to meet everyday expenses. Moreover, many young people are leaving high school lacking the basic fundamentals of financial literacy. According to a survey from the Hartford Financial Services Group, less than one-quarter of students (~ 24%) and only 20% of parents say students are prepared to deal with the financial challenges awaiting them in the adult world. More than three-quarters of students report that they wish they had more help preparing for managing their personal finances. Only 21% of students between the ages of 16 and 22 report having taken a personal finance course at school.

What has been done

County Extension Agents or classroom teachers teach a minimum of three financial lessons: creating a spending plan, invest in yourself, and checking accounts. These lessons are part of the National Endowment for Financial Education (NEFE) High School Financial Planning Program curriculum. Following classroom instruction, the students complete a "Real World" simulation.

Results

In 2015, an evaluation study was conducted with over 1,000 youth participants who completed the Welcome to the Real Word program. The following results were found: A 35% increase in knowledge of how to create and follow a spending plan (69.5% plan to create and follow a budget), a 37% increase in knowledge of how to track spending in a register (60.7% plan to keep a register of transactions), and a 34.3% increase in knowledge of the effects of student loan debt on their future budget.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

Outcome #6

1. Outcome Measures

Number of participants who reduced debt and increased savings.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	917

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Carrying a heavy debt load precludes saving for the future. It also impacts personal credit history, making future borrowing more expensive. The increase in college debt has accelerated with college debt having a larger share of overall household debt than credit card debt among younger age groups. Retirement readiness will be challenged by households unable to save for the future. Gender differences in the ability to reduce debt and increase savings cloud the financial well-being for women, whose greater longevity will require adequate resources in retirement.

What has been done

The Welcome to the Real World simulation has a built-in savings component. Youth participants are encouraged to put money into savings before they begin paying their monthly expenses. The program, Wi\$eUp: Financial Planning for Generation X and Y women, was designed with two overarching goals: increase savings and decrease debt.

Results

Results from Welcome to the Real World youth participants revealed that 50.3% increased their knowledge of pay yourself first, and 68% plan to open a savings account. Seventy-seven percent of Wi\$eUp program participants in Extension programs reported reducing their debt since taking the Wi\$eUp course compared to 61% of the non-Extension participants in

Wi\$eUp classes offered by non-Extension community educators. In 2015, the National Council of Negro Women began to offer training on the Wi\$eUp program to volunteer facilitators who will offer the program in their communities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #7

1. Outcome Measures

Number of car seats inspected.

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

Number of limited resource clientele who gained knowledge about improving their financial stability by reducing debt and increasing savings.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	55

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All individuals, whether living in rural or urban communities are confronted with multifaceted issues that include declining workforce preparedness, job loss, lack of resources, and increased poverty. Unemployment and children living in poverty is an issue in most areas of the United States and Texas is included. The ability to manage one's money is a valuable life skill. Learning through trial and error can be very stressful and expensive. Losing your job, being laid off, or having your family income decrease is traumatic. It is not just a loss of income, but also of the security and way of life. The effects of less income can be managed by economizing. Keeping a positive attitude and adopting several economizing skills will help improve financial situations.

What has been done

The Money Management program is a six lecture series offered to youth in a classroom setting at Memorial Junior High, Eagle Pas High School, and Parent Education Program for pregnant teens. Series Modules include: Explore careers; Investigate how career choices can be influenced by education and other factors; Make consumer choices related to future independent living; Learn skills needed to manage their finances; Evaluate their success in managing their monthly income and expenses; Explore alternatives to balance a budget. The Savvy Saving Seniors curriculum was designed specifically for seniors. Clients benefit from three lessons: 1) Becoming Resource FULL with the Help of Benefits & Peace of Mind Savings, 2) Steps to Avoiding Scams, 3) It's in the Cards.

Results

Of the 67 participants in Maverick County Real World participants stated completed the evaluation and 82% of the participants stated that they would complete their education so that they can reach their career goals, 65% stated that they would definitely make regular deposits in their account, 42% stated they would use a register to keep track of transactions, 71% stated they would open a savings account and 58% stated that they would create and follow a spending plan.

Of the 551 clients participating in the Savvy Saving Seniors workshops, 100% stated they will adopt one or more skills as a result of participating in workshop and 66.7 stated that they will start small but definitely make improvements to increase savings and reduce debt by incorporating skills learned from participating in workshops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #9

1. Outcome Measures

Number of car seats incorrectly installed on arrival and number installed correctly after instruction and/or new seat.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	2166

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Traffic crashes were the leading cause of death for children age 4 and the second leading cause of death for children age 3 and every age 5 through 14 in 2013. The total annual cost of motor vehicle occupant-related death and injury is \$7 billion for children ages 14 and under. Safety belts and child restraints are the single most effective tool in reducing these deaths and injuries. In 2013, 43% of children killed in car crashes were not in car seats, booster seats, or seat belts. Crash data from the National Highway Transportation Safety Administration shows that, on average in 2014, 3 children were killed and an estimated 470 children were injured every day in the United States in traffic crashes.

What has been done

The Passenger Safety Project is funded through federal funds competitively awarded through the Texas Department of Transportation. Passenger Safety conducts the National Highway Traffic Safety Administration's National Child Passenger Safety Technician Training to certify technicians to assist parents with child safety seat education. In 2015, the project trained 44 participants as certified child passenger safety technicians. To date, 912 technicians have been trained, including 174 Extension agents and 239 law enforcement officers. Child safety seat checkup events are primarily conducted in under-served rural areas to educate parents on the correct usage of child safety seats.

Results

The proper use of child safety seats reduces the risk of injury and death, leading to reduced medical costs, avoidance of lost future earnings, and improved quality of life. These economic benefits are an estimated \$2,238 per child age 0 to 4 and \$2,663 per child age 4 to 7 for new seats distributed, and \$634 per child for seat misuse with an assumed 75% continued use. In 2015, 2,166 safety seats were inspected in 2015 and 1,500 new seats distributed at no cost to families. The economic benefit is estimated at over \$2.9 million. During the past five years, 10,221 safety seats have been inspected and 6,950 new seats distributed with an economic benefit of more than \$13.8 million.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

Outcome #10

1. Outcome Measures

Number of car seats recommended for replacement for any reason.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	1500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Traffic crashes were the leading cause of death for children age 4 and the second leading cause of death for children age 3 and every age 5 through 14 in 2013. The total annual cost of motor vehicle occupant-related death and injury is \$7 billion for children ages 14 and under. Safety belts and child restraints are the single most effective tool in reducing these deaths and injuries. In 2013, 43% of children killed in car crashes were not in car seats, booster seats, or seat belts. Crash data from the National Highway Transportation Safety Administration shows that, on average in 2014, 3 children were killed and an estimated 470 children were injured every day in the United States in traffic crashes.

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4. Associated Knowledge Areas

KA Code	Knowledge Area
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801	Individual and Family Resource Management
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

No external factors reported for 2015.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Child Care: Evaluation data, particularly for child care programs, continues to show outstanding results. In 2015, AgriLife Extension reached over 3,819 child care providers and directors with research-based, best practice professional development training through 49 conferences held across Texas. Moreover, providers and directors completed over 225,396 online courses (398,622 clock hours). Providers in both the face-to-face and online trainings rate the quality of the trainings very highly. The vast majority of participants indicate that they learned new information, believe the information will improve the care they offer to children, and plan to implement the practices in their programs.

Child Passenger Safety: In 2015, 2,166 safety seats were inspected in 2015 and 1,500 new seats distributed at no cost to families. The economic benefit is estimated at over \$2.9 million. During the past five years, 10,221 safety seats have been inspected and 6,950 new seats distributed with an economic benefit of more than \$13.8 million.

Key Items of Evaluation

In 2015, county Extension agents and their community partners conducted 49 child care provider training conferences throughout the state of Texas for 3,819 child care providers and directors. Over 22,639 clock hours of training were provided to child care professionals. In addition to the face-to-face conferences, early childhood educators in the U.S. completed 225,396 online courses in 2015 (398,622 clock hours).

Results from a 2015 evaluation study with over 2,000 participants indicate that over 90% of participants acquired new information (97%), plan to utilize the information to improve their programs (98%), and consider themselves better equipped to work with children (98%). Evaluation data collected from online participants indicate that they are very satisfied with the quality of the courses. Over 98% rated the online courses as "Good," "Very good," or "Excellent." Ninety-eight percent of respondents stated that they learned new information from the courses, and 99% would recommend the online courses to others.

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Life Skills for Youth (includes Character Education and Leadership)

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	25%	40%	0%	0%
806	Youth Development	75%	60%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	100.0	10.0	0.0	0.0
Actual Paid	133.0	12.0	0.0	0.0
Actual Volunteer	0.0	105.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2160541	790062	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
2160541	489673	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
15401014	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension

This program is based on five learning experiences, of a minimum of 30 minutes each, tied to the work of the project for which they participate. Each project is experientially focused. Examples of activities include workshops, demonstrations, and hands-on experiences.

Numerous materials and support is provided by the Texas 4-H faculty to agents and specialists. These items are used for implementation of projects and for professional development of staff. Use of volunteers is significant in enhancing and extending efforts to reach and provide youth with positive experiences.

Cooperative Extension Program

4-H Youth development takes place in 36 Texas counties facilitated by Extension Agents with the Cooperative Extension Program in partnership with community volunteers and agencies. There are outreach activities such as presentations and experiments as well as literature dissemination at local health fairs and other community events. There are demonstrations and educational enrichment provided to youth in schools and afterschool programs in leadership, healthy living, career exploration and science exploration. There are community clubs that develop and promote citizenship and service to others in a context with caring adults. There are special interest project clubs in areas such as gardening and goats. Youth maintain record books and practice in order to participate in contests such as food challenges, robotics, public speaking, and livestock shows on the county, district, state, and national levels. Special events like camps, conferences, and project-oriented days are also sponsored. Local Extension websites, blogs, Twitter, and Facebook will be used to promote and highlight program successes.

2. Brief description of the target audience

AgriLife Extension

All youth of 4-H age are targeted for programs depending on location, issues identified by the local communities, and programs of interest.

Cooperative Extension Program

Limited-resource youth, ages 5-19, and caring adults in urban and rural communities of 36 Texas counties throughout the State will be targeted for this program. Special recruitment efforts will be marketed to parents, adults and other agencies for support and collaboration to meet expected goals.

3. How was eXtension used?

eXtension was not directly used. We do offer some volunteer development trainings on this topic and some introduction 4-H Youth Development Program overviews on the site. Specifically, the South Region 4-H Leaders have placed some information on this site for new employees and volunteers on the following topics:

- Overview of 4-H Youth Development
- Ages and Stages of Youth Development
- Volunteer Management
- Youth Protection Standards

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	545569	3056871	1176316	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	20	0	20

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of group educational sessions conducted.

Year	Actual
2015	49677

Output #2

Output Measure

- # of youth that participate in educational activities and programs.

Year	Actual
2015	50342

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of youth who increase knowledge of life skills concepts and practices.
2	% of youth who report they have adopted life skills concepts and practices.
3	% of youth who plan to pursue higher education interest or career interest as a result of their project work.
4	% of youth who report abilities (skills) changed as a result of participation in character education programs.
5	% of 4-H club participants increasing knowledge of leadership skills.
6	% of 4-H club participants applying leadership skills.
7	% increase knowledge of employability skills among limited resource youth.
8	% of limited resource youth aware of or interested in pursuing entrepreneurship, green jobs, and/or STEM careers
9	% of limited resource youth improving science skills.
10	% of limited resource youth adopting behaviors that lead to a healthy lifestyle.
11	% of limited resource youth providing service or volunteering.
12	% of 4-H club participants increasing knowledge in healthy living
13	% of 4-H club participants changing behaviors for healthier living
14	% of limited resource youth exercising leadership
15	Percent of youth who improved their life skills in at least one area. Common areas include respectfulness, decision making, responsibility, sense of community, and teamwork.
16	Percent of youth who plan to adopt character practices as a result of participation in character education programs.
17	Percent of youth who report an increased knowledge of character education principles.

Outcome #1

1. Outcome Measures

% of youth who increase knowledge of life skills concepts and practices.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

% of youth who report they have adopted life skills concepts and practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Life skill development is the cornerstone of 4-H. In today's world, it is critically important that youth have the opportunity to learn critical life skills so that they can be better citizens in the county, state, country, and world. The ones we specifically aim to address through 4-H are responsibility, decision making, respectfulness, team work, respectfulness, and many others.

What has been done

4-H programs during the year, aim to teach life skills. Some strategies include 4-H club work, project work, district events, regional programs, summer camps, and statewide impact programs and camps.

Texas 4-H Youth Development includes over 61,000 youth in over 2100 clubs in Texas. Through this experience, youth learn leadership, citizenship, and life skills through club meetings and project experiences.

Results

Outcomes are measured at the county, district, regional, and state level. A snapshot of state results is below.

- * 89.4% respondents indicated they feel more confident in their ability to recognize leadership qualities in others.
- * 89.2% respondents indicated they feel more confident in serving in a leadership role in their county.
- * 88.2% respondents indicated they feel more confident in their abilities as a leader.
- * 78.4% respondents indicated they feel more confident with public speaking.

One specific program, Texas 4-H Roundup yielded the following changes in youth through 4-H club experiences:

- * Self-esteem/confidence
- * Networking with others
- * Public Speaking
- * Teamwork
- * Communication

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #3

1. Outcome Measures

% of youth who plan to pursue higher education interest or career interest as a result of their project work.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Career development and workforce development have been a significant priority for the Texas 4-H Youth Development Program. Over the last few years, this has become more of a priority for

the program. Specifically, several grants have been received to focus on career development.

What has been done

Significant effort in 2015 was placed on career development through agriculture. Most notably, the Youth Livestock Ambassadors participated in several programs specifically focused on career opportunities and pathways.

Results

An agreement scale defined as 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Agree was used for measurement. Results are as follows:

- * 4.76 - The 4-H program has prepared me in career development.
- * 4.41 - 4-H has prepared me for college level curriculum.
- * 4.86 - The 4-H program has offered me advanced livestock educational opportunities.
- * 4.73 - I will use skills gained in the livestock showing experience in my career.
- * 4.86 - The livestock showing experience will benefit me in the future no matter what career I choose.
- * 4.88 - I have met people that will help me in my career.

A program for middle school youth demonstrated the following:

- * 90% - Learned something I did not know before about career opportunities
- * 85% - Learned something I did not know before about degree or career opportunities.
- * 79% - Gained ideas of what I can do now to plan for my chosen career
- * 78% - Gained ideas of what I can do now to plan for my college education.
- * 68% - Plan to take action or share with other the information I learned from Crossroads.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

% of youth who report abilities (skills) changed as a result of participation in character education programs.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

How others are treated, character education, ethical decisions, and anti-bullying are all significant programs in Texas 4-H Youth Development. Currently, this topic is one of the three most important educational content areas the Texas 4-H Program addresses.

What has been done

Character education is a significant part of our youth livestock program. A statewide assessment is conducted on every 4-Her and FFAer that participates in the program. Over 25,000 youth participate in Quality Counts Education annually. Quality Counts is the character education program ALL youth who show livestock at major shows must complete. The total program has yielded over 80,000 passing exam grades since 2011.

Results

In 2015, the Quality Counts test (measuring knowledge and skills of ethics and character) has been passed by 25,000 youth (4-Hers and FFAers). This means they passed a test that covered the items below at a rate of 80% or better.

Character Education related to responsibility in the food supply

- * Animal care and well-being as it relates to raising livestock projects
- * Responsibilities of producing a safe and wholesome product
- * Food safety and the impact of livestock projects on the red meat industry
- * Proper medication use, reading and following labeled instructions
- * Livestock exhibitors' role in the food supply continuum
- * Accurate record keeping and withdrawal periods

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #5

1. Outcome Measures

% of 4-H club participants increasing knowledge of leadership skills.

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

% of 4-H club participants applying leadership skills.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Leadership development happens best locally. Youth leadership programs that are conducted and evaluated locally provide the most meaningful outcomes because this development is happening on-going throughout the year vs one shot camps and statewide programs.

What has been done

To best ascertain leadership development, a leadership evaluations are conducted through various programs and experiences. For 2015, leadership was measured through 4-H youth participating in foods and nutrition programs.

Results

Results include:

- * 87.0% are more comfortable working in a team because they participated in the food challenge
- * 86.5% are more comfortable speaking with others because they participated in the food challenge
- * 83.7% will be more comfortable with serving in a leadership role (be a leader) because they have participated in the food challenge
- * 81.8% are more willing to listen to others because they have participated in the food challenge
- * 81.8% are going to do a better job of following through on obligations because they have participated in the food challenge

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures

% increase knowledge of employability skills among limited resource youth.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	172

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The United States of America continues to face a critical shortage of well-trained professionals for research and other careers in food and agricultural sciences. According to the national census, the demographics of America are evolving toward a new minority majority. Despite this trend, there currently exists underrepresentation of limited-resource and minority individuals in Science, Technology, Engineering, Agriculture, and Math (STEAM) careers. According to research by Dr. Ann Stiles of Project Grad Houston, pre-college programs facilitated by universities play a critical role in predicting college attendance and increasing a young person's likelihood to be career ready.

What has been done

There were 179 participants from more than sixteen counties involved in residential college preparatory programs on campus. These youth and their adult leaders were exposed to career pathways in agriculture or completed apprenticeships in research and extension. Apprentices took field trips, attended workshops, toured farm, had recreation, and networked. Other participants received admissions and scholarship information, engaged in outdoor exploration and environmental education, created an educational plan, and participated in hands-on STEM activities. Agents participated in college fairs and career days. They held college prep workshops for families and school personnel and hosted field trips to college campuses. A career spotlight for current and past 4-H scholarship recipients to help them with interview skills, professional dress and resumes.

Results

Youth are more likely to enroll in higher education and explore career opportunities which result in increased wage earners that contribute to the economic stability of their communities. As a result of attending the pre-college programs, 64% of apprentices and 84% other participants are more likely to pursue enrollment in post-secondary education. Two youth received four year

scholarships at \$15,000 each for four years. Four 4-H scholarship recipients received summer internships at the Texas 4-H Camp.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #8

1. Outcome Measures

% of limited resource youth aware of or interested in pursuing entrepreneurship, green jobs, and/or STEM careers

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	515

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Employment trends in the 21st century are in Science, Technology, Engineering, and Math (STEM) careers and green jobs as indicated by the Workforce Investment Act. Unfortunately, findings from the first report of the STEM Workforce Data Project confirm that there have persistently not been enough people to fill these positions in the United States, called the skill gap or broken worker pipeline. So even though unemployment is extremely high, these positions remain vacant.

What has been done

There were 515 youth from more than sixteen counties reached with hands-on STEM activities. Projects include robotics, photography, and goats. In addition, there were pre-college programs that focused on careers in Agriculture and STEM-related disciplines. There was a Minority Adventures in Ag field day hosted in Dallas County.

Results

Youth are more likely to enroll in higher education and explore career opportunities which result in increased wage earners that contribute to the economic stability of their communities. Youth increased their awareness of agriculture degrees and STEM careers. Results of the 511 responses for retrospective post-tests are as follows: 81% of 344 respondents increased their

awareness of STEM careers, while 60% of 337 respondents increased their interest in STEM careers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #9

1. Outcome Measures

% of limited resource youth improving science skills.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	6348

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Employment trends in the 21st century are in Science, Technology, Engineering, and Math (STEM) careers and green jobs as indicated by the Workforce Investment Act. Unfortunately, findings from the first report of the STEM Workforce Data Project confirm that there have persistently not been enough people to fill these positions in the United States, called the skill gap or broken worker pipeline. So even though unemployment is extremely high, these positions remain vacant.

What has been done

There were 6348 youth from more than sixteen counties reached with hands-on STEM activities. Projects include gardening and robotics. Programs include Ag in the Classroom, Egg to Chick, and Youth Water education (including water stream trailer). There was a Minority Adventures in Ag field day hosted in Dallas County and Mobile Ag Awareness Days in Harris County.

Results

Youth increased their ability to make better scientific decisions. Results of the 212 responses on pre and post-tests from the Cass and Harris County Science, Engineering, and Technology programs indicate that 40% of the respondents increased their ability to question and test hypothesis using the scientific method while 42% increased their ability to develop a hypothesis.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #10

1. Outcome Measures

% of limited resource youth adopting behaviors that lead to a healthy lifestyle.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	20911

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

According to Feeding America, data from 2011 indicate that Texas (at 18.5%) is among the top three food insecure states in the nation. Twenty-two percent of Texas children under age eighteen are food insecure the highest rate of any state in the country. Texas is also ranked seventh in the nation with a child obesity rate of 20.4 percent. According to the 2011 Youth Risk Behavior Survey, conducted by the Centers for Disease Control and Prevention, Texas youth continue to engage in behaviors that do not contribute to a healthy lifestyle.

What has been done

The Youth Voice: Youth Choice healthy living programs mobilized directly 17,532 undeserved youth, 3,021 parents, and 538 enrolled and episodic adult leaders to take action around nutritional deficiencies, healthy food choices, and physical activity in twelve counties. The educational series came from the Choose Health: Food, Fun, and Fitness and Step Up and Scale Down curriculum. Community events and health fairs were also key program components.

Results

There were 4,114 Healthy Living Common Measure surveys administered as part of the Youth Voice: Youth Choice Healthy Living programs. An average of 74% of participants adopted healthy living behaviors such as eating more fruits/vegetables/whole grains, eating less junk food, drinking more water, and encouraging family and friends to eat meals together.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #11

1. Outcome Measures

% of limited resource youth providing service or volunteering.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	797

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Since its inception, 4-H has placed emphasis on the importance of young people being engaged, well-informed citizens. The core areas of citizenship are civic engagement, service, civic education, and leadership. The opportunity to value and practice service has been identified as one of the eight essential elements of positive youth development. Giving back to others in meaningful ways helps learn about themselves as well as gain exposure to the larger community.

What has been done

Youth have been engaged civically, provided community service, and taken part in service learning. There were 336 youth involved in community service. This included One Day 4-H activities.

Results

Communities benefit as youth positively contribute to as responsible citizens and willing public servants. Of the 1000 youth enrolled in 4-H clubs through the Cooperative Extension Program, 34% of them provide service or volunteer.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

806 Youth Development

Outcome #12

1. Outcome Measures

% of 4-H club participants increasing knowledge in healthy living

Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

% of 4-H club participants changing behaviors for healthier living

Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

% of limited resource youth exercising leadership

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	650

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Since its inception, 4-H has placed emphasis on the importance of young people being engaged, well-informed citizens. The core areas of citizenship are civic engagement, service, civic education, and leadership. Youth voice and self-determination are essential elements of positive youth development. Civic engagement provides a foundation that helps youth understand the big picture of life and find purpose and meaning. By connecting to their communities and community leaders, youth expand their role in decision making processes.

What has been done

There were 321 teens from 12 counties were trained as healthy living ambassadors and 140 youth serving as club officers. There were of these 19 youth who attended national conferences for additional leadership training at the National Youth Summit on Healthy Living. There were also 170 youth participants who attended the annual Youth Leadership Laboratory and Research Extension Apprenticeship Program (REAP).

Results

Participants acquired life skills in decision making, self-esteem, self-pride, and the importance of fulfilling responsibilities and benefits of team work. As a result of REAP and Youth Leadership Lab programs, 90% and 87% participants increased their ability to apply leadership skills respectively. Of the 1000 youth enrolled in 4-H Club through the Cooperative Extension Program, 65% of these limited resource youth exercise leadership. Communities benefit as youth positively contribute to communities as responsible citizens and willing public servants.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #15

1. Outcome Measures

Percent of youth who improved their life skills in at least one area. Common areas include respectfulness, decision making, responsibility, sense of community, and teamwork.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	78

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Life skill development is the cornerstone of 4-H. In today's world, it is critically important that youth have the opportunity to learn critical life skills so that they can be better citizens in the county, state, country, and world. The ones we specifically aim to address through 4-H are responsibility, decision making, respectfulness, team work, respectfulness, and many others.

What has been done

4-H programs during the year, aim to teach life skills. Some strategies include 4-H club work, project work, district events, regional programs, summer camps, and statewide impact programs and camps.

Texas 4-H Youth Development includes over 61,000 youth in over 2100 clubs in Texas. Through this experience, youth learn leadership, citizenship, and life skills through club meetings and project experiences.

Results

Outcomes are measured at the county, district, regional, and state level. A snapshot of state results is below.

- * 89.8% respondents indicated they feel more comfortable working in a team.
- * 87.5% respondents indicated they feel more confident in making decisions.
- * 86.0% respondents indicated they feel more comfortable speaking with others.
- * 78.4% respondents indicated they feel more confident with public speaking.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #16

1. Outcome Measures

Percent of youth who plan to adopt character practices as a result of participation in character education programs.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

How others are treated, character education, ethical decisions, and anti-bullying are all significant programs in Texas 4-H Youth Development. Currently, this topic is one of the three most important educational content areas the Texas 4-H Program addresses.

What has been done

Character education is a significant part of our youth livestock program. A statewide assessment is conducted on every 4-Her and FFAer that participates in the program. Over 25,000 youth participate in Quality Counts Education annually. Quality Counts is the character education program ALL youth who show livestock at major shows must complete. The total program has yielded over 80,000 passing exam grades since 2011.

Results

In 2015, the Quality Counts test (measuring knowledge and skills of ethics and character) has been passed by 25,000 youth (4-Hers and FFAers). This means they passed a test that covered the items below at a rate of 80% or better.

Character Education

- * Understanding of livestock projects and their role in life skill development
- * Six pillars of character: trustworthiness, respect, responsibility, fairness, caring and citizenship
- * Decision making and the importance of goal setting
- * Gamesmanship vs. Sportsmanship
- * Teamwork, trust and respect between family, supervisor and fellow exhibitors

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #17

1. Outcome Measures

Percent of youth who report an increased knowledge of character education principles.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

How others are treated, character education, ethical decisions, and anti-bullying are all significant programs in Texas 4-H Youth Development. Currently, this topic is one of the three most important educational content areas the Texas 4-H Program addresses.

What has been done

Character education is a significant part of our youth livestock program. A statewide assessment is conducted on every 4-Her and FFAer that participates in the program. Over 25,000 youth participate in Quality Counts Education annually. Quality Counts is the character education program ALL youth who show livestock at major shows must complete. The total program has yielded over 80,000 passing exam grades since 2011.

Results

In 2015, two specific camps were conducted to teach character education through livestock projects. Results are below:

- * 98% Understand the importance of proper daily care of their project.
- * 98% Will be looking for health problems in my project.
- * 98% will respect others in the show ring
- * 94% Understand how to use feeds & additives to control the weight or condition of my project.
- * 94% Will set personal goals for me and my project.
- * 94% Will follow directions on medication labels.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

No external factors reported for 2015.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

See results of state defined outcomes.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Adult Leadership and Volunteer Development

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	40%	60%	0%	0%
806	Youth Development	60%	40%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	11.0	0.0	0.0
Actual Paid	20.0	4.0	0.0	0.0
Actual Volunteer	0.0	99.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
324893	263354	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
324893	163224	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2315942	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

AgriLife Extension

The following activities will be used to implement this program:

*Provide training for Extension professionals on the ISOTURE volunteer management model and key concepts related to volunteer administration.

*Provide training and guidance to Extension specialists in the role and support of program development related to volunteerism.

*Provide orientation and training directly to volunteers in preparation for their service resulting in a positive experience.

Cooperative Extension Program

The Cooperative extension program seeks to build the research, knowledge and competencies of teen leaders, adult volunteers, extension agents, and headquarters staff (specialists and leader). Extension agents and headquarters staff received professional development in the volunteerism and partnerships domains of the 4-H Professional Research, Knowledge, and Competencies. Teen leaders and adult volunteers were trained in the 4-H Volunteer Research, Knowledge, and Competencies areas of communications, organization, 4-H program management, educational design and delivery, positive youth development, and/or interpersonal characteristics.

2. Brief description of the target audience

AgriLife Extension

The following groups are included in the target audience for this program:

- * Youth and adult volunteers who have a need or interest in a Texas Extension program.
- * Extension educators
- * Youth and adults who have an interest in community development and partnerships.

Cooperative Extension Program

The target audience includes partnering with underserved youth, families, and community organizations to recruit and train volunteers. One recent challenge posed by NIFA's Director of Youth & 4-H has been to combine professional and volunteer development. Additional audiences that will be targeted include Extension faculty, young professionals, students, and the unemployed who may be limited-resourced or commit to serve those who are.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	35903	190370	6620	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # group educational sessions conducted.

Year	Actual
2015	1633

Output #2

Output Measure

- # of volunteers and staff that participate in professional /volunteer leadership development and service-learning.

Year	Actual
2015	92

Output #3

Output Measure

- # of community service and service-learning hours provided by volunteers and participants.

Year	Actual
2015	143

Output #4

Output Measure

- # service or volunteer hours.

Year	Actual
2015	1454

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of participants who report an increased knowledge of leadership development practices.
2	% of participants who plan to or adopt leadership development practices.
3	# of counties who implement a volunteer management plan.
4	% positive attitude toward services.

Outcome #1

1. Outcome Measures

% of participants who report an increased knowledge of leadership development practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	66

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Leadership has been a long-standing issue for both youth and adults. It is important for young people to develop and gain leadership life skills in order to grow into successful, contributing members of society in adulthood.

What has been done

Youth leadership programs have traditionally focused on youth developing knowledge and skills to serve in leadership roles through traditional 4-H program experiences and through Leaders 4 Life program. Adult leadership development programs are held for community members to learn about leadership, gain skills needed to serve in community leadership positions and acquire knowledge of community and economic development, as well as knowledge, skills and responsibilities specific to their volunteer role. Extension's adult volunteer programs also focus on developing the volunteers as leaders within their communities through training and service.

Results

Evaluations are conducted at the county, district, regional and state level for various leadership programs including, but not limited to, youth ambassador programs, Texas rural leadership program, as well as volunteer trainings.

A sampling of some results includes:

- * 98% learned skills to help them make better leadership decisions.
- * 98% gained skills needed to be an effective communicator.
- * 96% improved their teamwork skills.
- * 76% can better define leadership and leadership qualities.
- * 66% learned their personal leadership style.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #2

1. Outcome Measures

% of participants who plan to or adopt leadership development practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	66

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a strong need to develop and maintain sustainable communities using appropriate community and economic development tools and programs. One educational response is to develop adults and youth in counties to be leaders of tomorrow. It is the responsibility of AgriLife Extension and the 4-H Youth Development Program to provide volunteers with high-quality, educational opportunities and resources so they are best equipped to lead programs. These adult volunteer experiences are provided face-to-face and through online training and development.

What has been done

Leadership development programs have been implemented in a variety of ways for youth and adults. The youth leadership programs were focused on youth developing knowledge skills to serve in leadership roles through traditional 4-H program experiences and through Leaders 4 Life program. Adult leadership development programs were held for community members and Extension volunteers to learn about leadership, gain skills needed to serve in community leadership positions and acquire knowledge of community and economic development

Results

Evaluations are conducted at the county, district, regional and state level for various leadership programs. A snapshot of some results from leadership development programs include:

- * 96% increased in their ability to organize and lead group discussions.
- * 96% increased in their ability to complete and follow through on obligations.
- * 95% increased their confidence in serving in a leadership role.
- * 92% increased their ability to delegate responsibility.
- * 66% learned how to effectively apply their personal leadership style.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #3

1. Outcome Measures

of counties who implement a volunteer management plan.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	254

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Texas 4-H Youth Development Program has over 25,000 adult volunteers that help lead the program. However, as an agency and as a 4-H Program, we are not taking full advantage of their skill set to grow the 4-H Program. To assist and promote growth of the program at the local level, a plan was initiated for counties to have project plans, in support of two major projects Ag/Youth Livestock and FCS. These include project planning, implementation, as well as the use of volunteers through coalitions.

What has been done

In the development of program plans, County Extension Agents were required to develop project coalitions to support the Ag/Youth Livestock and Youth FCS programs in the 254 counties in

Texas. This approach includes the development of coalitions to support program development efforts for these two major project areas.

Results

No measurable results are available at this point; however, results and impact reports are anticipated after calendar year 2016 knowing that all counties have some type of volunteer management incorporated into a project plan.

It is also noteworthy to share that last year Extension utilized more than 97,000 volunteers, who contributed more than 3.6 million hours. Each year, new Extension faculty participate in training to learn more about their role as a volunteer manager and key concepts and tools available in working with volunteers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #4

1. Outcome Measures

% positive attitude toward services.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	105

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The opportunity to value and practice service has been identified as one of the eight essential elements of positive youth development. It is also a critical component for successful volunteer recruitment and retention. Giving back to others in meaningful ways helps youth and adult leaders learn about themselves as well as gain exposure to the larger community.

What has been done

Teen volunteers and adult leaders have been able to serve others as project leaders, contest judges/coaches/mentors, club managers, ambassadors, and committee members. Additional service opportunities have included tree planting, donating supplies to victims of human trafficking, and visiting a nursing home. Agents and specialist receive training at NAE4HA, TAE4HA, Urban Extension and Extension Conference on Volunteerism.

Results

According to survey responses, 85% of adult leaders and volunteers state they value service more.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Changes in program direction and program plan requirements for agents.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Various evaluations are conducted for individual volunteer and leadership development programs facilitated by the Texas A&M AgriLife Extension Service. Evaluation results specific to these programs are summarized and included in each program report. The evaluations include after only, retrospective post and before-after.

Key Items of Evaluation

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

Childhood Obesity (Outcome 1, Indicator 1.c)	
0	Number of children and youth who reported eating more of healthy foods.
Climate Change (Outcome 1, Indicator 4)	
0	Number of new crop varieties, animal breeds, and genotypes with climate adaptive traits.
Global Food Security and Hunger (Outcome 1, Indicator 4.a)	
0	Number of participants adopting best practices and technologies resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources.
Global Food Security and Hunger (Outcome 2, Indicator 1)	
0	Number of new or improved innovations developed for food enterprises.
Food Safety (Outcome 1, Indicator 1)	
0	Number of viable technologies developed or modified for the detection and
Sustainable Energy (Outcome 3, Indicator 2)	
0	Number of farmers who adopted a dedicated bioenergy crop
Sustainable Energy (Outcome 3, Indicator 4)	
0	Tons of feedstocks delivered.