Extension Education in McLennan County

Making a Difference

Educational programs of Texas A&M University System members are open to all people without regard to race, color, sex, religion, national origin, age, disability, genetic information, or veteran status.
The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating
The Texas A&M AgriLife Extension Service and its partners have long been dedicated to educating Texans. Extension education evolved nationwide under the 1914 federal Smith-Lever Act, which sought to extend university knowledge and agricultural research findings directly to the people. Ever since, Extension programs have addressed the emerging issues of the day, reaching diverse rural and urban populations.

In Texas, all 254 counties are served by a well-organized network of professional Extension educators and some 100,000 trained volunteers. Extension expertise and educational outreach pertain to the food and fiber industry, natural resources, family and consumer sciences, nutrition and health, and community economic development. Among those served are hundreds of thousands of young people who benefit annually from Extension’s 4-H and youth development programs.

Texans turn to Extension education for solutions. Extension agents and specialists respond not only with answers, but also with resources and services that result in significant returns on the public's investment. Extension programs are custom-designed for each region of the state, with residents providing input and help with program delivery. Here are just a few highlights of Extension impacts on this county and its people.

McLennan County – Summary of 2015 Educational Contacts

**Educational Programming:**  
Programs Presented - 725  
Participants – 23,021

**Educational Contacts:**  
Site/Office Visits – 1,822  
Phone Calls – 6,897  
E-Mail Blasts – 180,788  
Newsletters – 4,595  
Website Hits – 9,758

**Media Outreach:**  
News Releases - 54  
Newspaper Articles - 22  
Radio Programs - 26

**Volunteer Involvement:**  
Volunteer Hours – 5,990  
Clientele Reached – 38,431
Rebuilding the Beef Herd In-Depth Plan Summary
2015 McLennan County
Dr. Shane McLellan, CEA-Ag

Relevance
McLennan County is home to 75,000 total head of cattle. The 2014 McLennan County Annual Ag Increment Report estimates income off of cattle at approximately $57.5 million which is the leading single income garnering agriculture commodity out of the $160.4 million county total. Factors that affect beef cattle and forage production are considered very important to the local economy. Beef and Forage producers must develop expert management skills related to risk management, new technology and best management practices.

Response
To identify critical issues and emerging topics related to beef cattle and forage production the Texas A&M AgriLife Extension Service McLennan County Beef and Forage Committee and I worked together to develop a practical educational program to offer producers best management practices associated with beef cattle and forage production. The Beef and Forage Committee meets to discuss needed action on critical issues such as marketing, weed and brush control, forage pest control, laws and regulations, soil testing, fertilizer, new herbicides and emerging issues. The Beef and Forage Committee programming efforts reach approximately 300 beef and forage producers.

- [Mass Media](#), [Ag Newsletter](#) (312 homes), [News Releases](#) (17), [County Web Page](#) (900 hits/month), [Texas Farm Bureau Roundup Radio Program](#) (42 stations with audience of 4.2 million - 27 radio programs), [Email List](#) (510 subscribers), [Agriculture Blog](#), [Twitter](#), [Facebook](#), [Waco Tribune](#), (bi-weekly 37,520 subscribers) and [TexRay Media](#) (bi-weekly 33,500).

- [O.D. Butler Field Day](#), multi-county program in Franklin offered tour of historic ranch with topics: digging and sprigging improved grasses, weed and brush control, hay storage, drift minimization, and soil testing and fertility. 3 CEU’s provided. May, 210 attending

- [BIG Conference Horse Program](#), session offered during BIG Conference, offered information on horse nutrition, health practices, and a live working horse demonstration. February, 24 attending

- [CenTex Beef Symposium](#), nine county beef cattle program offers topics of: beef quality assurance, restocking strategies, market update, feral hogs, culling and keeping replacement heifers, niche marketing, and pond management. 11Vendors contributed $2,100 in sponsorship and an additional $1,850 in door prizes. 3 CEU’s offered. September, 93 participants

- [BIG Conference Recertification Program](#), course provided topics of laws and regulations, manage forage pest, manage predators, brush control, drought tolerance. 5 hr CEU provided. February, 161 attending

- [Private Applicator Training and Testing](#), offer 3 hours of training to certify individuals pursuing a TDA private applicator license. TDA inspector tests individuals after the training. 1 offered, 31 persons trained

- [Last Chance Video CEU Program](#), program offered to allow private applicator license holders an opportunity to recertify their license by participating in the mass 6 hr CEU program. February, 21 attending

- [Mass CEU Opportunities](#), presented laws and regulations for this six county multi-county program, water laws, integrated pest management, drift. October. 8 CEU’s offered. 175 attending.

- [Summer Beef Cattle Management](#), multi county program held in Groesbeck. Topics include body condition score, fly control options, economics of feeding minerals/protein. 2 CEU’s offered. July, 71 attending

- [Stocker Cattle Program](#), held at West Sale Barn featured discussion on minerals, supplemental feeding, health and preventative medicine, as well as a market update with a live cattle demonstration displaying why some cattle bring a premium and others are discounted. July, 69 attending

- [One-on-One Assistance](#), agent receives phone calls, emails, and text messages from producers and committee members who have emerging issues related to beef and forage production. Examples: armyworm outbreaks,
nutrition deficiency, disease, prussic acid and nitrates, forage testing, etc. Agent answers questions or contacts subject matter specialist to assist producers in minimizing potential loss.

- **Civic Groups**, spoke at multiple civic and other community gatherings on various topics from Extension, drought, small landowner, agriculture land use, taxes, etc.
- **Cattlemans Gathering**, program with TSCRA and Mid-Continent Livestock Supplements for stocker producers: supplements, legislative update, concerns of cattleman, health and theft awareness. October, 175 attending.

10 programs were conducted that contain beef cattle market updates, cattle management, forage establishment, managing insect pressure, weed and brush control as identified by the McLennan County Beef and Forage Program Area Committee. A total of 30 Continuing Education Units (CEU’s) were offered to the 1030 producers that attended these beef and forage programs.

An evaluation instrument was utilized to measure programmatic impact in 5 of 10 educational programs. The cumulative results were divided into 3 sections of intent to adopt, knowledge change, and economic impact. A total of 485 of 692 participants returned the instrument for a response rate of 70%. These persons own over 252,023 acres; 28,458 head of cattle and estimate an economic impact of $1,831,719.5 from participating in Extension programming efforts. Intent to adopt focuses on the intent to adopt practices learned at programs while the Knowledge Change section focuses on mean value¹ change concerning the audience’s knowledge level using a retrospective post evaluation instrument.

### Knowledge Change

- 114 of 139 (82 %) of respondents understand cattle markets and price factors affecting markets.
- 130 of 175 (74.2 %) of respondents state they now understand the importance of forage and soil testing.
- 264 of 380 (69.4 %) of respondents now understand how to control livestock and forage pest.
- 251 of 382 (65.7 %) of respondents now understand how to control livestock and forage pest.
- 124 of 209 (59.3 %) of respondents now understand the impact of nutrition and health on reproduction.

### Intent to Adopt

- 52 of 66 (78.78 %) of respondents will adopt heard health plans into their management plan.
- 41 of 61 (67.2 %) of respondents will alter their current cattle marketing strategies.
- 111 of 150 (74%) of respondents will utilize suggested Extension recommendations for weed control.
- 101 of 136 (56.3 %) of respondents stated they will adopt suggested forage and soil testing practices.

### Anticipated Changes and Economic Impact

- 270 of 342 (78.9%) of respondents anticipate benefitting economically as a direct result of what they learned from attending Extension Beef and Forage educational programs.

### Summary

Results indicate that the Beef and Forage Marketing and Profitability Program in McLennan County met its objectives of increasing practices adopted, understanding and knowledge developed as a result of the programs. As beef and forage producers strive to minimize risk and maximize return on investments the use of best management practices will provide producers the tools necessary to face ever changing markets and trends.
Row Crop Production In-Depth Plan Summary
2015 McLennan County
Dr. Shane McLellan, CEA-Ag

Relevance
Field crops are grown on 145,149 acres in McLennan County. These crops consist of corn, grain sorghum, cotton, wheat, oats, and soybeans. The 2014 McLennan County Annual Agricultural Increment Report estimated income off of row crops at $96 million. Factors that affect row crop production are considered very important to the local economy. Weather, insects and ever changing markets require producers to stay abreast of new laws, production practices, marketing alternatives, new technology, diseases, and insect control options. Producers must develop expert management skills related to risk management, new technology and best management practices.

Response
To identify critical issues and emerging topics related to row crops the Texas A&M AgriLife Extension Service McLennan County Row Crop Committee and I worked to develop a practical educational program to offer producers best management practices associated with row crop and small grain production. The Row Crop Committee meets (January 29, to discuss needed action on critical issues such as marketing, insects, fertility, herbicide, water, result demonstrations, and crop disease that emerged during the 2015 growing season. This program reaches approximately 200 row crop producers on a yearly basis.

- **Mass Media**, *Ag Newsletter* (312 homes), *News Releases* (17), *County Web Page*, (900 hits/month), *Texas Farm Bureau Roundup Radio Program* (42 stations with audience of 4.2 million - 27 radio programs), *Email List* (510 subscribers), *Agriculture Blog*, *Twitter*, *Facebook*, *Waco Tribune*, (bi-weekly 37,520 subscribers) and *TexRay Media* (bi-weekly 33,500).
- **Row Crop Result Demonstrations**, seed companies donate over $9,100 worth of corn, milo, wheat and oat seed yearly. Result demonstrations consist of hard red winter, soft wheat, and oat variety trials, two corn variety trials, grain sorghum variety trials, replicated canola variety trial, cotton defoliation trial, pecan nut casebearer evaluation, and wheat varieties with Hessian fly resistance.
- **Blackland Income Growth Conference**, regional agriculture conference held in Waco seeks to improve the overall agricultural and agri-business economy of the Blackland area. I serve as the host agent for BIG.
- **Small Grain Tour**, discussed and toured wheat, oats and canola result demonstration variety plots, sprouting and harvest issues, marketing options, nutrient requirements, and disease management options. Sponsored program $1,505 (April, 100 attending). 8 county program that is hosted in McLennan.
- **Emergency Issue Meeting**, program offered to producers after rains prolonged small grain harvest. Topics: crop insurance, sprouting, disease, marketing options, crop management options. 115 persons attending.
- **Eastside Row Crop Tour**, discussed pesticide law/regulations, new technology, managing cotton root rot, variety trials, marketing, fertilizer impact of herbicide selection in cotton, FSA program update. Sponsored program $1,425. (June, 40 attending)
- **Westside Row Crop Tour**, pesticide law/regulations, cotton production, rainfall insurance, tools to minimize risk, marketing of crops, crop rotation, tax exemptions, legislative update, and FSA program updates. 3 CEU’s offered. Sponsored program $2,002. (June, 60 attended)
- **Agriculture Increment Report**, to calculate the Ag commodity production for the past year. A monetary value is agreed upon in each commodity area for the past year. The total county ag income is $160.4 million.
- **Civic Clubs**, spoke with several civic clubs discussing Extensions and issues facing agriculture producers in a semi-urban county. 45 attending
- **Worker Protection Standards Training**, program with Texas Department of Agriculture offering ag industry persons training to cover TDA WPS requirements. January, 18 attending
Czech Agriculture Tour Program, spoke to a delegation made up of the Czech Ag Minister and Czech ag businesses on McLennan County ag production. 80 persons attending  
Technology Assisted Multi-County Multi-CEU Program, multi-county program via Centra: drought, feral hogs, weed and brush control, pond management. (December, 48 attended)

12 major educational programs have been conducted in McLennan County targeting row crop producers in 2015 that contain marketing, insects, fertility, herbicide, water, result demonstrations, farm bill and crop disease as identified by the McLennan County Row Crop Committee. A total of 22 Continuing Education Units (CEU’s) were offered to the 848 producers that attended these programs.

Result  
An evaluation instrument was utilized to measure programmatic impact in 3 of the 12 educational programs. The cumulative results were divided into 3 sections of intent to adopt, knowledge change, and economic impact. A total of 118 of 185 participants returned the instrument for a response rate of 63.7%. These persons own over 110,095 acres and estimate an economic impact of $1,739,138 from participating in Extension programming efforts. Intent to adopt focuses on the intent to adopt practices learned at programs while the Knowledge Change section focuses on mean value¹ change concerning the audience’s knowledge level using a retrospective post evaluation instrument. Results are as follows:

Knowledge Change
- 55 of 82 (97 %) of respondents now understand the economics of nutrient management and fertilizer applications.  
- 93 of 102 (91.1 %) of respondents now understand how herbicide resistance develops in crops and its implications.  
- 159 of 185(85.9) %) of respondents stated they now understand the benefits of Extension variety performance result demonstration trials.  
- 82 of 110 (74.5 %) of respondents stated they understand how to use IPM to reduce insect pest impact.  
- 73 of 102 (71.5 %) of respondents better understand market conditions and price-influencing factors.  
- 42 of 63 (66.6%) of respondents understand the impact and options of technology for crop production.

Intent to Adopt
- 4 of 56 (78.5 %) will adopt or upgrade new cropping technology based on Extension recommendations.  
- 51 of 62 (82.2 %) will use herbicides with different modes of action to reduce weed herbicide resistance after attending these Extension programs.  
- 119 of 153 (77.7 %) will refer to Extension variety trials before determining variety selection.  
- 101 of 143 (70.6 %) will alter current marketing strategies and/or price risk management for commodities.  
- 67 of 81 (82.7 %) will adopt IPM strategies to reduce the impact of pest.

Anticipated Changes & Economic Impact
- 186 of 343 (54.2%) of respondents anticipate benefiting economically as a direct result of what they learned at these programs.

Summary
Results indicate that the Row Crop Production program in McLennan County met its objectives of increasing practices adopted, understanding and knowledge developed as a result of the programs. As row crop producers strive to minimize risk and maximize return on investments the use of best management educational sessions will provided producers the tools necessary to face the ever changing markets and trends.
Relevance
Many small landscape businesses are opening their doors to the general public and are constantly asking for assistance in general horticulture information. McLennan County being an urban county for the most part has home owners visit the office frequently asking questions about insect control, trees, flowers, shrubs and lawns. The majority of problems consist of insect control, disease control, varieties, fertilization and general management of landscapes. There is a need to serve individual clientele with problems that are horticulture related. The ever changing climate of Central Texas allows for major change within growing seasons. From insect pressure, drought and heat stress to the other end of the spectrum of too much water, plants often suffer from disease that is caused by the local environment.

Response
Agent McLellan worked with the McLennan County Master Gardeners to develop practical educational programs to offer citizens of McLennan County best management practices associated with their horticulture need. The membership meets once a month to identify critical or emerging issues, conduct master gardener association business and attend horticulture related training. During the monthly meeting membership meets to discuss needed action on emerging issues such as insect pressure, plant disease, fertility, weed control, water, result demonstrations and general horticulture management. The McLennan County Master Gardeners provide educational programs for homeowners, horticulture producers and the general public. The Master Gardener monthly membership meeting allows for programming and offers an opportunity for partnership programs with me and the McLennan County Master Gardeners. McLennan County Master Gardeners have 120 very active members which I supervise. This output program is targeted to approximately 400 producers/homeowners.

- **VirKim CEU/PCO Program**, targeting school custodians, golf course managers, and lawn service companies, this all day program offers participants to obtain 5 hours in CEU’s from TDA or 4 hours from Structural Pest Control Board. This is a partnership with VirKim a local agribusiness company. Topics include: Integrated pest management, lawn weed and disease control, laws and regulations, termite treatments. (175 participants)
- **Pecan Nut Casebearer Result Demonstration**, utilizing hormone traps, tracking and egg laying activities at a local orchard. Information will be used to assist homeowners and local pecan producers on herbicide application timing to protect their crop from pecan nut casebearer damage. Dr. Knutson and local orchard owner Dan Russell work with me on this project.
- **Gardener Gathering**, The Woodway Beautiful Commission hosts this free event at Carleen Bright Arboretum each Spring. This event features area greenhouses, nurseries, and vendors selling garden decorations, and a variety of other crafts. The MCMG volunteers hand out valuable gardening information, lead garden tours and may be one of the featured speakers, or participate in Junior Master Gardener activities with the children.
- **Waco Today**, local print media published and circulated once a month feature articles written by McLennan County Master Gardeners.
- **Quarterly Horticultural Newsletter**, an appointed Master Gardener volunteer compiles the newsletter which reaches over 700 area residents. It is also available via e-mail and on the McLennan County website. Each issue contained timely gardening hints and information on a variety of topics including lawns, vegetables, trees and shrubs as well as flowering plants and environmental issues.
- **Speakers Bureau**, an appointed Master Gardener volunteer manages a list of Master Gardeners who are willing-able-qualified to present programs on gardening and related horticulture topics when requested by garden clubs, civic and other organizations. This speaker’s bureau was started in the spring of 2012 when I was struggling to meet the demand for speaking to civic groups. Master Gardeners speak at 50 events a year. 35 of our Master Gardeners are certified as subject matter specialist.
• Cedar Ridge Elementary Green Classroom, children participate in the Day in the Garden this school year attended learning stations about butterflies/bees and pollination, and then planted fall seeds they tended until harvest. This spring the students had "hands on" experience with learning stations about garden insects and planting spring seeds. A crop of carrots, Swiss chard, and collards were harvested by the students and shared with the students. 2015 contacts were 887 youth.

• Woodway Elementary Outdoor Classroom and Gardens, purpose is to encourage students to take risks, practice patience and stewardship, problem solve, interact physically with tools, insects, plant material, and of course, play in the dirt. 1257 contacts in 2015.

• J.H. Hines Elementary, minority outreach effort where we discussed lawn management, fertility, watering practices, varieties, and mowing.

• Brazos Valley Coop Home School Junior Master Gardeners, fifth year of Junior Master Gardener classes. The students learn about soils, plant propagation, insects, and all aspects of gardening.

• Annual Plant Sale, annual plant sale. Plants are divided or propagated from those growing in the gardens/yards of the Master Garden members and potted for resale and showcases the plants which thrive and do well in the local area. 2015 sale raised approximately $9,031. Money from the plant sale is utilized to buy livestock scales for the 4-H Holiday Classic, an annual youth development program.

• Cameron Park/Cameron Zoo “Beast and Blooms Earth Day,” program offered to youth that attend the zoo educational program. We set up a booth with Extension and Master Gardener promotional material and discuss recycling, water and animal conservation. Master Gardeners work several educational stations at the field day. Held in April, the 2015 attendance was 2429, 22 volunteers work this event.

• BIG Conference, I utilize our Master Gardeners to work registration for the annual Blackland Income Growth Conference at the primary registration site as well as satellite registration at the six commodity sessions. Master Gardeners are also involved in the BIG Horticulture Planning Committee, and assist me with the BIG Recertification Program. Master Gardeners oversee the registration for the Recertification program.

• Community Projects, there are 27 community projects scattered all over McLennan County that Master Gardeners oversee and manage. These include: Trailside Garden, McGregor Demonstration Garden, Farmers Market, and the ALCOA/MHMR Educational Gardens. Each year we add a project or two as an opportunity arises.

• University High School Greenhouse, Master Gardeners worked one on one with 284 University high school students providing JMG curriculum and allowing those youth to be certified in JMG.

• Waco Farmers Market, Master Gardeners set up an educational booth and provide information to the public that attend. 1954 contacts in 2015.

• Rappaport Academy North Campus Project, Mrs. Sherry Henson, classroom teacher, has implemented the JMG LGEG with her students. Two volunteer master gardeners will assist with gathering supplies and supporting the presentation in the classroom each Wednesday during the completion of the 20 lessons. Mrs. Henson is a McLennan County Master Gardener. 34 students for 2015.

• McLennan County MG Children's Garden Fair, The MCMGs and Carleen Bright Arboretum partner to present gardening and nature activities and demonstrations for children. Other organization such as Audubon Society, Master Naturalists, Master Composters, Waco Gem and Mineral Society, Rose Society, and Cameron Park Zoo teach or demonstrate activities also. October, 850 attending

• Lunch with the Masters, monthly program free to the public which features our own master gardeners as speakers. Held at the Carleen Bright Arboretum, over 400 people have attended these meetings in 2015.

• Texas Water Star Landscape Result Demonstration, a partnership between McLennan County Master Gardeners-TSTC-Extension Hort and Water specialist to compare water usage in six different settings. September

Many programs have been offered that pertain to horticulture education material as identified by the Master Gardener Association membership and public phone calls. Master Gardeners donated 5,406 hours of volunteer service, and they recorded 35,762 contacts while delivering 1,112 hours of education to McLennan County citizens this year. McLennan County Master Gardeners have donated an estimated economic value to McLennan County of $133,311.96 (volunteer hours X estimated value of volunteer hour = estimated value of the volunteer hour to the community).
Texas Star Water In-Depth Plan Summary
2015 McLennan County
Dr. Shane McLellan, CEA-Ag

Relevance
The Texas A&M AgriLife Extension Leadership Advisory Board Issue Identification in McLennan County and in the East Region ranked water as the "most needed" educational program for both ongoing and new issues programming for the state of Texas (all disciplines). Water is also the top issue/program designated for the East Region for ongoing programs and second behind youth programs for newly identified issues/programs. Landscape irrigation in Texas accounts for up to 40%-60% of total residential water use during peak summer months. This issue is critically important to millions of urban and rural residents throughout the state of Texas. Fertilizer Use in the Landscape: Improper landscape management increases the risk for surface and groundwater contamination from nitrogen and phosphorous fertilizers. This issue is critically important in preserving and protecting our valuable natural resources.

Response
In 2014 Texas A&M AgriLife Extension Ornamental Specialist Mengmeng Gu, Dottie Woodson-Extension Program Specialist for Water, Charles Swanson-Extension Program Specialist-Irrigation, and RPL Ron Woolley worked with agents in District 8 to develop a water result demonstration effort to introduce new technology and best practices for water conservation and drought survival. Agent met with McLennan County Master Gardeners and a Texas Water Star task force was formed and discussion, lync conference calls, and telephone dialogue began. Agent hosted a planning meeting with TSTC staff to discuss the possibility of partnering with TSTC Horticulture Department as a possible site for the result demonstration. Louie McDaniel, McLennan County Master Gardeners and Texas Water Star chair began grant writing process with HEB for support funds for the result demonstration.

It was decided to build 3-20 x 20 landscape beds: functional landscape, native landscape, and container landscape. All landscapes will have two symmetrical sections with one section watered according to evapotranspiration and the other section half of the amount (by using drip emitters half of gph). Plants were obtained through Mengmeng, and purchased from local nurseries and donated from McLennan County MG’s. All beds were prepared, irrigation laid in August and September of 2015, and then planted on September 28-29, 2015. There have been multiple workday since in managing the beds.

Result
Landscape beds are planted, and will be monitored in 2016 to measure water use, as well as being used as an outdoor classroom. TSTC will use the beds for their plant id contest.
Do Well, Be Well with Diabetes
2015 McLennan County
Deanna Franklin, CEA-FCS

*Do Well, Be Well with Diabetes* is a five class series covering nutrition and self-care management topics. The program helps people with diabetes learn the skills needed to manage their disease successfully.

**Relevance**
The number of Americans with diabetes is 21 million. An estimated 86 million Americans have pre-diabetes. Health-cares costs now average $13,700 per person with diabetes, for an annual total cost of $254 billion in the U.S. - $176 (72%) for health care and $69 billion (28%) in lost productivity.

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. Currently, however, only 7% of people with diabetes are at the recommended levels.

Diabetes is not curable, but it is manageable. While the skills needed to effectively manage diabetes are well documented, diabetes education is not readily available. The burdens of diabetes mismanagement are disproportionately borne by those with little or no insurance coverage, lower literacy, poor or no English skills, lower educational and income levels, and poor access to transportation.

The annual cost of diabetes in Texas is estimated at $18.5 billion. An estimated 1.8 million, or 9.7% of Texans 18 years old or older are diagnosed with diabetes; another 425,000 have diabetes but do not know it. Almost one in four adult Texans aged 65 and older have been diagnosed with diabetes. Texas is projected to have a greater incidence rate and increased costs in the future due to the growing population of people over 65 years of age and Hispanics/Latinos, who are at greater risk for the disease.

**Response**
Extension health professionals developed *Do Well, Be Well with Diabetes*, a low-cost class series covering self-care and nutrition topics delivered in five sessions. The program was pilot tested in 2002 in 12 counties. Class materials include a curriculum consistent with the American Diabetes Association Standards of Care along with PowerPoint® presentations, videos, marketing materials, and an evaluation program. County agents are trained to organize local health professionals to help plan, market, and provide the class series. The program’s primary goal is to improve blood glucose management.

**Results**
- Nine coalition members supported implementation of *Do Well, Be Well with Diabetes*. Coalition members taught classes and assisted the Extension agent with marketing, registration, data collection, food preparation demonstrations, procurement of medical supplies such as glucometers for participants, and finding convenient community locations for classes.
- 66 people with diabetes participated in 2015.
- The average age of participants with diabetes was 61.
- 5% were African American, 1% were Asian, 14% were Hispanic/Latino, 12% Native American, and 68% Caucasian.
- 28 (85%) participants reported having no previous diabetes classes, indicating a critical need for diabetes education.
Participants reported their A1C test during the past 12 months at the beginning of class to be 7.67; after the class the A1C test reading was 6.7.

An important quality indicator being used by national accrediting agencies, such as the Joint Commission on Accreditation of Hospitals (JCAH), is whether participants report having an annual dilated eye exam. At the beginning of *Do Well, Be Well with Diabetes*, 52% of participants reported having had a dilated exam during the previous 12 months.

Participants reported a knowledge gain in how many carbohydrate choices they should have at each meal and at snack time. Before the class only 33% reported knowing the number; after the class 91% reported knowing how many carbohydrate choices they can have.

**Success Stories**

This program has given me knowledge of what Diabetes is. I would have never asked my doctor to test my A1C. I know how to eat better. Now, and hopefully I will not get diabetes. My A1C is 5.3 and I am 65 years old.

**Economic Impact to McLennan County**

The potential lifetime health-care cost savings for their remaining years of life, resulting from improved management of diabetes by these participants, is estimated to be $2,185,686 million.

**Cooking Well with Diabetes** is a follow up curriculum to *Do Well, Be Well with Diabetes*. This educational series contains four lessons with healthful information to cut fat, sugar, sodium, and increase fiber-rich foods in the diet. Food demonstrations are conducted at each class and healthy diabetic friendly recipes are given to each participant. Four lesson series were offered this year.

- 63 people participated
- 6.78% of the participants were Hispanic/Latino, 1.7% were Native American, 90% were Caucasian, and 1.7% indicated other
- 100% of participants reported they could identify starchy vegetables compared to 49% before class
- 100% of participants reported they knew how to reduce sodium in their diets compared to 53% before class
Over 60 percent of children from birth through age 6 (not yet in kindergarten) receive some form of child care on a regular basis from persons other than their parents. The Texas Workforce Commission estimates that there are over 100,000 child care providers caring for more than 760,000 children under the age of 13 in licensed or regulated child care facilities in the state of Texas. Additionally, child care is the 16th largest industry in the state, generating over 145,000 jobs and $2.3 billion in wages for Texans.

Findings from longitudinal research have clearly established the fact that quality does matter when it comes to child care. Children who receive high-quality care (e.g., warm sensitive caregiving, well-educated child care staff, low child-to-adult ratios, and small group size) develop better language, math, and social skills; exhibit fewer behavior problems; and tend to be better prepared for entrance into school. Having a well-trained child care workforce is essential to providing the high quality child care that children need to develop physically, socially, emotionally, and cognitively.

**Child Care Provider Conference**

On April 18, 2015, the Texas A&M AgriLife Extension Service conducted a child care provider training conference in Waco, Texas for 197 child care providers and directors who provide care children enrolled in child care centers, family day homes or Head Start centers. The written evaluation was completed by 175 conference participants. A total of 1,182 clock hours of training were provided to child care professionals seeking to meet state mandated training requirements established by the state of Texas.

As can be seen in the tables below, child care providers found the training to be very beneficial. Over 98% of providers said they acquired new information from the conference, considered the training to be very relevant to the work they do, plan to utilize the information gained at the conference to improve their programs, and consider themselves better equipped to work with the children in their care. Moreover, over 94% of said they will attend another conference offered by Extension.

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<th>Item</th>
<th>Percent of Attendees Responding</th>
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</table>
Participants were surveyed about each session they attended and asked if they would utilize the information learned from the session. (See Table 2 for participant responses)

<table>
<thead>
<tr>
<th>Session Title</th>
<th>Will Utilize</th>
<th>Will Not Utilize</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keynote Al Rasso</td>
<td>155</td>
<td>1</td>
<td>156</td>
</tr>
<tr>
<td>Use Your Brain? Move Your Body!</td>
<td>115</td>
<td>0</td>
<td>115</td>
</tr>
<tr>
<td>Using Pinterest to Develop Lesson Plans for a Multiage Classroom</td>
<td>41</td>
<td>6</td>
<td>47</td>
</tr>
<tr>
<td>The Building Blocks for Teaching Preschool Children with Disabilities</td>
<td>25</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Minimum Standard Updates</td>
<td>43</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>Enhancing Language Development for Children ages 3-5</td>
<td>58</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td>Celebrate the Joys of Outdoor Play</td>
<td>52</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>Impact of Implementing a Worksite Wellness Program</td>
<td>26</td>
<td>6</td>
<td>32</td>
</tr>
<tr>
<td>Math Counts and Science Matters STEAM in the Preschool Classroom</td>
<td>41</td>
<td>1</td>
<td>42</td>
</tr>
<tr>
<td>Sounds that Make You Stop and Think!</td>
<td>36</td>
<td>3</td>
<td>39</td>
</tr>
<tr>
<td>Paternal Influence on Children’s Nutritional Health</td>
<td>34</td>
<td>1</td>
<td>35</td>
</tr>
<tr>
<td>Let’s Make a Mess!</td>
<td>76</td>
<td>0</td>
<td>76</td>
</tr>
<tr>
<td>Leadership and Success: Is There a Connection?</td>
<td>33</td>
<td>0</td>
<td>33</td>
</tr>
</tbody>
</table>

Finally, participants were asked to rate each session they attended. (See Table 3 for participant responses)

<table>
<thead>
<tr>
<th>Session</th>
<th>Outstanding</th>
<th>Good</th>
<th>Fair</th>
<th>Average</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keynote Al Rasso</td>
<td>137</td>
<td>29</td>
<td>1</td>
<td>4</td>
<td>167</td>
</tr>
<tr>
<td>Use Your Brain? Move Your Body!</td>
<td>95</td>
<td>23</td>
<td>2</td>
<td>0</td>
<td>120</td>
</tr>
<tr>
<td>Using Pinterest to Develop Lesson Plans for the Multiage Classroom</td>
<td>19</td>
<td>20</td>
<td>12</td>
<td>4</td>
<td>55</td>
</tr>
<tr>
<td>The Building Blocks for Teaching Preschool Children with Disabilities</td>
<td>9</td>
<td>18</td>
<td>2</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>Minimum Standard Updates</td>
<td>23</td>
<td>18</td>
<td>3</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td>Enhancing Language Development for Children ages 3-5</td>
<td>48</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td>Celebrate the Joys of Outdoor Play</td>
<td>38</td>
<td>20</td>
<td>2</td>
<td>0</td>
<td>60</td>
</tr>
<tr>
<td>Impact of Implementing a Worksite wellness Program</td>
<td>14</td>
<td>14</td>
<td>5</td>
<td>1</td>
<td>34</td>
</tr>
<tr>
<td>Math Counts and Science Matters STEAM in the Preschool Classroom</td>
<td>27</td>
<td>15</td>
<td>3</td>
<td>0</td>
<td>45</td>
</tr>
<tr>
<td>Sounds the Make You Stop and Think!</td>
<td>26</td>
<td>13</td>
<td>4</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td>Paternal Influence on Children’s Nutritional Healthy</td>
<td>23</td>
<td>13</td>
<td>2</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Let’s Make a Mess!</td>
<td>51</td>
<td>25</td>
<td>2</td>
<td>0</td>
<td>78</td>
</tr>
<tr>
<td>Leadership and Success: Is There a Connection?</td>
<td>28</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>37</td>
</tr>
</tbody>
</table>
Childhood Obesity
2015 McLennan County
Meilana Charles, Extension Agent-FCS

Relevance
McLennan County families face serious poverty and unhealthy lifestyles challenges. Over 37,000 receive SNAP benefits and according to County Health Rankings, in 2015 McLennan County ranked 131 out of 237 counties in health outcomes. Specifically, 21 percent of adults are obese and 26 percent are physically inactive. Additionally, 6.1 percent of adults are unemployed and 28 percent of children and 20 percent of adults live in poverty. As a result, county residents suffer from high levels of obesity, high blood pressure and diabetes. Low income/limited resource communities are disproportionately impacted by these preventable health issues.

Response
McLennan County’s Cooperative Extension Program targets low income/limited resource county residents with the hopes of reducing food insecurity and improving their overall quality of life. In 2015, Cooperative Extension Program provided 112 nutrition programs presented to 1034 adult county residents.

The following series programs were conducted:

- **Youth Development Training** Event for afterschool agencies and organizations to learn about Cooperative Extension Programs and different extension programs. Six presentation presented to 68 participants

- **Balanced Living** four lesson series focusing on time and stress management, mindfully eating, daily physical activity and sleeping habits. Five lesson series were presented to 12 participants

- **Cooking on a Budget** Single session provided ideas to information on how to purchase, prepare and cook health food while staying within a monthly food budget. One session was presented to 17 participants

- **Discover MyPlate** – a 6 lesson youth program focusing on introducing the 5 food groups and physical activity to kindergarteners. Nine lessons series were presented to 421 youth.

- **Nutrition and Healthy Living Basics** three lesson series focusing on MyPlate food groups, menu planning and reading food labels. Four lesson series with 108 participants and one single session program was presented to 17 participants
Nutrition and Healthy Living Basics Participant Response “After attending this class I don’t think eating and cooking healthy is expensive and out of my limit budget.”

Acknowledgements

Special thanks to our partners: CareNet Pregnancy Center, Caritas of Waco, City of Waco Parks and Recreation, Christian Women’s Job Corp, St. Luke A.M.E. Church, E.O.A.C. Head Start/Early Head Start, Meals on Wheel Senior Centers, Salvation Army and Waco Housing Authority for allowing Cooperative Extension Program to implement educational programs at their locations with their clientele. This impact sheet will be used to interpret results to County Commissioners Court, county leadership advisory board and program area planning committees.
Food Safety
2015 McLennan County
Meilana Charles, Extension Agent-FCS

Relevance
In 2014, Waco-McLennan County Public Health District reported 281 gastrointestinal diseases, almost doubling its 2013 numbers. These numbers included foodborne illnesses such as 28 Campylobacteriosis cases, 99 Salmonellosis cases and 133 Shigellosis cases. The county’s low income/limited resource residents are more vulnerable to infectious diseases than any residential groups.

Response
McLennan County’s Cooperative Extension Program targets low income/limited resource county residents in hopes of reducing the risk of foodborne illnesses by providing programs and resources focusing on the reducing foodborne illnesses. This year in McLennan County, Cooperative Extension Program provided 10 food safety programs to 97 participants.

Results
Cooperative Extension Program provided food safety programs as part of several series and as single session programs to McLennan County residents.

Healthy Baby, Healthy Me- a four lesson series for expectant parents and parents of infants that focuses on Listeria Monocytogenes, Toxoplasma Gondii, Salmonella and Campylobacter. The program helped these families understand why pregnant moms are at an increased risk for foodborne illness, possible lifelong effects to their unborn baby, preventative measures, making homemade, less abrasive cleaning and sanitizing solutions that kill bacteria, foods that could be contaminated, selecting quality food items and how to use internal food thermometers. Two lesson series were presented to a total of 75 participants.
HEALTHY BABY, HEALTHY ME RESULTS

<table>
<thead>
<tr>
<th>Hand Washing</th>
<th>% Always</th>
<th>% Most of the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you wash your hands with soap and warm running water before preparing food?</td>
<td>69%</td>
<td>21%</td>
</tr>
<tr>
<td>After playing with a pet and before prepare a meal?</td>
<td>86%</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food Preparation</th>
<th>% Always</th>
<th>% Most of the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you thoroughly rinse fresh vegetables under running water before eating them?</td>
<td>66%</td>
<td>24%</td>
</tr>
<tr>
<td>After cutting raw meat, chicken or seafood, how often do you wash in hot, soapy water all the items that touched the raw food before you continue?</td>
<td>69%</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How Much Have You Heard About The Bacteria...</th>
<th>A Lot</th>
<th>A Little</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmonella?</td>
<td>48%</td>
<td>41%</td>
</tr>
<tr>
<td>Listeria?</td>
<td>24%</td>
<td>48%</td>
</tr>
</tbody>
</table>

CUSTOMER SATISFACTION RESULTS

<table>
<thead>
<tr>
<th></th>
<th>% Strongly Agree</th>
<th>% Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>This class has taught me rules about what is okay and what isn’t okay concerning healthy behaviors/habits</td>
<td>100.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>This class has taught me how to make better decisions</td>
<td>95.45%</td>
<td>4.55%</td>
</tr>
<tr>
<td>This class is helping me reach my goals</td>
<td>95.45%</td>
<td>4.55%</td>
</tr>
<tr>
<td>The teacher for this class is knowledgeable about the topic</td>
<td>100.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>The teacher for this class encourages me to respond to questions and treats me with respect</td>
<td>100.00%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

Healthy Baby, Healthy Me Participant Comment “Great instructor. Ms. Charles is very informative and knows a lot of what she talks about in class. I’ve learned about different food safety and sanitizing precautions and food illnesses. Since attending her classes I use this information for the safety of my family. I [now have] awareness of raw meat, veggies and fruit. I will use what I’ve learned at home with my family.” ~ Celeste-CareNet Pregnancy Center.

Other Single Session Programs As part of a health and nutrition series, McLennan County’s Cooperative Extension Program provided 4 non-series food safety programs to 22 participants. The program covered the basic food safety principles: Clean, Separate, Cook and Chill.

Summary
McLennan County food safety problems were successful in introducing audiences to new and familiar foodborne illnesses, proper handwashing procedures, how to properly clean food and foods to avoid during pregnancy.

Acknowledgements
Special thanks to our partners: CareNet Pregnancy Center and Caritas of Waco for allowing Cooperative Extension Program to implement food safety educational programs at their locations with their clientele. This impact sheet will be used to interpret results to County Commissioners Court, county leadership advisory board and program area planning committees.

Value
The Cooperative Extension Program- Prairie View A&M University engages adults and children in programs that teach them how to eat nutritious foods and engage in regular physical activity to promote health and reduce their risk for obesity and chronic disease. The Texas public benefits through a healthier population, reduced health care costs, and increased productivity. For example, annual health care costs for people with diabetes are estimated at $13,243 compared to an estimated $2,560 per person for people who do not have diabetes. If program participants who changed lifestyle behaviors continue to do so and prevent the development of diabetes, the estimated potential savings could be $64,098.
Parenting
2015 McLennan County
Meilana Charles, Extension Agent-FCS

Relevance
According to the County Health Rankings 38 percent of McLennan County families are headed by single parents. Also, 4.9 percent of the county’s single mothers are adolescents. In addition, 10.4 percent of McLennan County babies are born too soon. All numbers exceed the national and state averages of single parenthood, adolescent parents, and premature births. These issues are more problematic in low income/limited resource communities.

Response
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 to 615 participants.

Results
Becoming a Mom—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.

<table>
<thead>
<tr>
<th>BECOMING A MOM GETTING TO KNOW YOU</th>
<th>%</th>
<th>BECOMING A MOM POST-EVALUATION</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between age 25 – 35</td>
<td>64</td>
<td>Excellent or Good</td>
<td>100</td>
</tr>
<tr>
<td>U.S. Born</td>
<td>69</td>
<td>Easy to understand</td>
<td>100</td>
</tr>
<tr>
<td>Parents previously</td>
<td>73</td>
<td>Convinced to try something specific based on the class</td>
<td>77</td>
</tr>
<tr>
<td>Receiving healthcare Insurance</td>
<td>44</td>
<td>Facilitator(s) were:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lively</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Respectful</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowledgeable</td>
<td>71</td>
</tr>
<tr>
<td>Not Working</td>
<td>82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BECOMING A MOM SESSIONS RATINGS</th>
<th>% Found the Session Extremely Helpful</th>
<th>% Found the Session Helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1: You and Your Pregnancy</td>
<td>63</td>
<td>17</td>
</tr>
<tr>
<td>Session 2: Prenatal Care</td>
<td>65</td>
<td>13</td>
</tr>
<tr>
<td>Session 3: Eating Healthy during Pregnancy</td>
<td>57</td>
<td>22</td>
</tr>
<tr>
<td>Session 4: Stress During Pregnancy</td>
<td>45</td>
<td>32</td>
</tr>
<tr>
<td>Session 5: Things to Avoid during Pregnancy</td>
<td>55</td>
<td>27</td>
</tr>
<tr>
<td>Session 6: The Big Day</td>
<td>68</td>
<td>25</td>
</tr>
<tr>
<td>Session 7: Caring for your Baby</td>
<td>86</td>
<td>10</td>
</tr>
<tr>
<td>Session 8: Postpartum Care &amp; Graduation</td>
<td>86</td>
<td>14</td>
</tr>
</tbody>
</table>
**Other single session programs**  
McLennan County’s Cooperative Extension Program provided single session programs that discussed including the Inclusion Childcare Conference (33) and Childcare Conference (221).

**Inclusion Childcare Training**-  
**Active Infants**- a four week series providing parents of infants a general understanding of infant nutrition, physical development and infant communication. Two series program presented to 104 participants

**Understanding Premature Birth: A Primer for Secondary Caregivers** – a single session class explaining premature births to secondary caregivers and how to best support parents of premature infants. One lesson series was presented to 21 participants

**Reducing Stress Holiday Stress**-a single session class to explain the importance of decreasing stress during pregnancy and the health implications associated with long-term stress on pregnancy and the baby. One session was presented to 21 participants

**Hydration During Pregnancy**- a single session class explaining the importance of drinking water during pregnancy instead of caffeinated beverages, carbonated beverages, alcohol and unregulated energy drinks. The health benefits of drinking water and negative implications associated with drinking too much of the other beverages. One session was presented to 12 participants.

**Acknowledgements**

Special thanks to our partners: CareNet Pregnancy Center and Caritas of Waco for allowing Cooperative Extension Program to implement educational programs at their locations with their clientele. This impact sheet will be used to interpret results to County Commissioners Court, county leadership advisory board and program area planning committees.

**Value**

*The Cooperative Extension Program- Prairie View A&M University engages adults and children in programs that teach them how to eat nutritious foods and engage in regular physical activity to promote health and reduce their risk for obesity and chronic disease. The Texas public benefits through a healthier population, reduced health care costs, and increased productivity. For example, annual health care costs for people with diabetes are estimated at $13,243 compared to an estimated $2,560 per person for people who do not have diabetes. If program participants who changed lifestyle behaviors continue to do so and prevent the development of diabetes, the estimated potential savings could be $64,098.*
Relevance
Managing the 4-H program includes many aspects; members and volunteer leaders not only participate in educational events and activities, but they are also involved with the Extension agent(s) and a variety of groups and committees to plan and facilitate the program. The goal is to reach each 4-H member in many ways and assist them with their growth and ability to learn with their 4-H projects.

Response
In order to develop the qualities aspired by society, the youth needs a variety of projects and activities. Through a diversity of projects and activities in the McLennan County 4-H Youth Development program youth learned and practiced developmentally appropriate life skills that will contribute in forming productive citizens. The McLennan County 4-H Program is led by county agents and the 4-H Adult Volunteer Taskforce, 4-H Council, & Youth Board whom met throughout the year to coordinated programming. Each meeting presented an opportunity to brainstorm ways to promote and recruit for 4-H and plan programs that would help members complete their projects, and recruit new members to their projects.

McLennan County 4-H Council - The county 4-H Council was developed September 2013 to offer a purposeful 4-H leadership opportunity at the county level. To run for council office the candidates must have attended either the District 8 Leadership Lab or the county wide 4-H Club Officer Training as well as submit a Recordbook. The 2015-2016 county council elections were held in May where eight youth were elected. 4-H Council has met ten times where they have coordinated and planned the council meeting programs & community services throughout the year. They also participated in the Adopt a Highway, partnering with Cargill to support our 4-H program as well as the community. They have also participated in World’s Finest Chocolate and Chance Drawing Fundraiser.

Club Management Efforts and Training - The club managers coordinate monthly meetings to keep the community clubs functioning properly. One club manager training was held in June to remind club managers about the updated re-chartering process, 4-H Clubs and improvements for next year. We will hold training in August to show the best 4-H cash management practices and also covered the adult volunteer screening process.

4-H Program Marketing & Communication - To keep the 4-H members and their parents up to date, monthly newsletters are sent to 4-H families to inform them of all the current happenings. Current events are frequently posted on the McLennan County 4-H web page and Facebook page. E-mails are frequently sent out to inform members of events, programs, activities, and reminders. McLennan County 4-H consist of approximately 60 volunteers and 293 youth enrolled in 4-H.

The 4-H & Youth Development programs led by staff and volunteers include:

- **4-H Promotion and Recruitment.** The agent and volunteers participated in multiple 4-H promotion opportunities. 4-H was promoted through the “Let’s Go, Let’s Grow” recruitment campaign, new 4-H club open house programs, and media outlets supporting 4-H activities and programs. 4-Her’s participated through the One Day 4-H Recruitment at the Heart O’ Texas Fair, One Day 4-H Dance, and the Robinson Night Out to promote 4-H to local residents of the Robinson area.

- **Curriculum Enrichment.** Through the help of adult & teen volunteers, the extension staff, Master Gardeners, and many others McLennan County Extension reached 5,076 youth through curriculum enrichment programs. Programs included; Better Living for Texans Head Start Nutrition, Junior Master Gardeners, Healthy Diva’s Self-Image & Self-Esteem Program, Hatching in the Classroom, Kids Kows & More Ag Literacy, & the Heart O’ Texas Ag Literacy School Tours.
**Kids Kows & More.** Program targeted to the McLennan County Youth population that lacks agriculture awareness education. This program was selected to make our youth aware of the importance and continued annual increase of agriculture in McLennan County. The Kids, Kows, and More program we have the ability to educate the students about Ag products and services by reaching approximately 275 students within the school system. Topics covered this year included Water Quality, Curds & Whey, honey bee production, table grains and Dairy Production. Texas Agrilife Agents, County Collaborators and County volunteers worked together to provide this day of Ag Awareness. An evaluation instrument was utilized to measure programmatic impact resulting from this educational program. I have evaluated the Kids Kows, & More Program using the pre and post-test method. Pre and post-test evaluations of each teacher’s 3rd and 4th grade classes were performed.

- **Recordbook Workshops/ & Contests.** The agent organized two county trainings promoting and providing 4-H Recordbook assistance and throughout the month of March. Laura Huebinger, District 8 4-H Specialist, was able to provide assistance and guidance to the 4-H members. The agent reviewed and helped with multiple youth on their Recordbooks. 19 recordbooks competed at the county level of which, 17 books advanced to district, and 2 books advanced to state. McLennan County had a state winning Recordbook in the Clothing and Textile division.
- **County Camp Teen Leader Training & County Camp.** The agent traveled with 3 teen leaders to the D8 Southeast County Camp Teen Leader Training and agent planning meeting. Two teen leaders and the 4-H agent where delegate to lead the cooking workshop. 11 youth attended County Camp in July.
- **State 4-H Roundup.** Agent assisted members with preparing for the state contest, submitting entries, and served as advisor as needed and appropriate. 14 youth attended state 4-H roundup. One clothing and textile Educational presentation entry, two fashion show entries, one storyboard entry, one Share the Fun entry, and one Meat Judging team and one Food Challenge main dish team. Also, one 4-H Opportunities Scholarships was received. (June)
- **District 8 Leadership Lab.** 5 youth from McLennan County attended Leadership Lab. Two youth ran for district council of which, one was elected the District 8 4-H Vice President and currently serves on the Texas 4-H State Council. (June)
- **Club Officer Training.** McLennan County Adult Volunteers, extension staff, and teen leaders teamed up to host a county wide club officer training. Sessions included 4-H club recruitment, leadership, club officer roles & responsibility, & club activity and program brainstorming. 3 adult volunteers, 7 council members, and 28 youth participated. (August)
- **Annual 4-H Achievement Banquet.** 4-H members and volunteer leaders were recognized for their efforts during the 4-H year. There were exactly 115 people in attendance at the 2015 McLennan County Achievement Banquet. Bosqueville 4-H hosted the banquet with a dance that followed. (August)
- **District 8 Gold Star Banquet.** Held at the Gatesville Civic Center in Gatesville. McLennan County agents attended to recognize and congratulate our recipients Laci Keel, Joshua Crumley and Claire Crow. (October)
- **County Fashion Show.** The agent organized the county contest, two judges officiated the interviews. Six youth from McLennan County participated in the contest and will all advance to District. (October)
- **County Food Show & Food Challenge.** The agent organized the county contest, three judges officiated the interviews (Master Gardeners and FCS volunteer) officiated the interviews. 30 youth participated, 8 Food Challenge teams & 3 Food Show participants. All food show participants advance to District contest as well as 2 Junior/Intermediate and 2 Senior Food Challenge teams. (November).
- **Pecan Food Show.** The agent organized the county Pecan Food Show, five judges tasted the entries. 5 different categories and 33 entries. All pecan desserts served as the dessert for the Elected Officials Luncheon.
Summary
With the leadership of the 4-H Adult Taskforce and 4-H County Council, the McLennan County 4-H Youth and Development Program will continue to grow. The stakeholders and youth involved want to do more and are willing to volunteer to help make it happen. The Texas A&M AgriLife Extension staff will continue to support and lead the program to great things.

Future Plans
We will continue to offer similar programing focused on educating youth and adult volunteers. The goal is to continue to develop the 4-H County Council program and an active 4-H Youth Board. We also hope to continue increasing our 4-H enrollment numbers.

Special thanks to the McLennan County 4-H Adult Taskforce, McLennan County 4-H Livestock Coalition, McLennan County 4-H FCS Coalition, the McLennan County Master Gardeners, the Extraco Events Center, and the many volunteers who led programming or served as judges for our contest, and the businesses in McLennan County for their cooperation with 4-H.
Hatching in the Classroom
2015 McLennan County
Kelsey P. Schatte, CEA-4-H YD

Relevance
Hatching in the Classroom is a curriculum that is introduced to students in order to demonstrate the basic scientific principles through hands-on learning experience. The curriculum allows students to hatch chicken eggs, examine embryos, observe a beating heart and see the excitement of the hatching process. The experiments will enable the students to learn about the complex systems such as nutrition and the circulatory system, as well as learn basic scientific skills such as data measurement, collection and analysis. By observing the chicks during the 21 day process, the students will gain knowledge on agriculture awareness in the poultry industry. The audience targeted was McLennan County students in elementary and intermediate grade levels. In 2015, a total of 273 students participated in the experiment.

Response
Hatching in the Classroom was presented to local schools to teach the participating students about agriculture awareness, scientific principles, embryology, and animal care. We collaborated with six schools: Axtell Elementary, Dean Highland Elementary, Foster Elementary (Riesel ISD), Hallsburg ISD, Mart Elementary, and Spring Valley Elementary. There were 273 students that were reached. The following learning activities were conducted in classrooms:

- Determine the different parts of the egg, breed and classes of chickens, development process of the embryo, importance of candling, correct way to build a brooder, handling of a baby chick and the incubation process before and after the program.
- Communication
- Building a relationship between the consumer and producer in the agriculture industry

Results
After the conclusion of the experiment, the 273 students were able to fill out a post survey.

<table>
<thead>
<tr>
<th>Question</th>
<th>% Correct</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>How long does it take for a chicken egg to hatch?</td>
<td>81.3%</td>
<td>222 out of 273</td>
</tr>
<tr>
<td>What is the ideal temperature for incubation of a chicken egg?</td>
<td>89.7%</td>
<td>244 out of 273</td>
</tr>
<tr>
<td>What are examples of different types of breeds of chickens?</td>
<td>90%</td>
<td>245 out of 273</td>
</tr>
<tr>
<td>What day are we able to start the candling process?</td>
<td>95.2%</td>
<td>260 out of 273</td>
</tr>
<tr>
<td>What is the purpose of the shell?</td>
<td>96.3%</td>
<td>263 out of 273</td>
</tr>
<tr>
<td>Would you participate in the Hatching in the Classroom experiment again?</td>
<td>97%</td>
<td>265 out of 273</td>
</tr>
</tbody>
</table>

Future Plans
The Hatching in the Classroom curriculum will continue to increase Agriculture Awareness throughout the local schools in McLennan County. We also hope to continue increasing our school/student participation while keeping the current contacts we have already utilized.
Acknowledgements

Special Appreciation goes to the teachers who participated in this curriculum:

- Nannette Pankonien, Mart Elementary
- Lori Hall, Mart Elementary
- Sherry Uptmore, Axtell Elementary
- Katy Lynch, Axtell Elementary
- JoEllen Skinner, Axtell Elementary
- Mindy Hamilton, Foster Elementary (Riesel ISD)
- Cheryl Hughes, Hallsburg ISD
- Allison Davis, Dean Highland Elementary
- Alain Humphreys, Spring Valley Elementary
- Lisa Chapman, Spring Valley Elementary
- Hillaree McDaniels, Spring Valley Elementary
- Kristi Fajardo, Spring Valley Elementary
- Jason Forbis, Spring Valley Elementary

The fertilized chicken eggs were bought with the donation money from Cargill. Cargill is a huge supporter of the McLennan County 4-H club and we could not have participated without the donation.
Relevance
Volunteers are vital in organizing and running a successful agency. These volunteers should be trained; these trainings should be conducted at the State, District and County level. The trainings should emphasize the unity of volunteers to enable an increase in youth enrollment along with participation. The goal is to increase the number of active volunteers in McLennan County to 150 and to reach 75 new adult volunteers along with 4-H members.

Response
In order to train these volunteers, the agent should be providing local project specific trainings, club management trainings, along with activities trainings including District and State trainings, Virtual 4-H Volunteer Conference, Livestock Mentor and Shooting Sports Coaches trainings. Volunteers will be used by training them to impact and serve the McLennan County 4-H program more efficiently.

4-H Volunteer Programs/Trainings:
- **Virtual 4-H Volunteer Conference:** Series of workshops designed to get volunteers excited to make the best better for the youth of Texas and McLennan County. These workshops were conducted via WebEx over a two day period. McLennan County volunteers listened in on the 4-H Shooting sports and Archery Opportunities in order to build our shooting sports project. Also, the agent viewed the Parliamentary Procedure session to assist the 4-Hers run a meeting correctly. (April & August)
- **Volunteer Screening Training:** The training will provide an in-depth overview and step-by-step process of volunteer screening. There will also be a time for you to ask any questions you may have about the volunteer screening process or scenarios in your county. (May)
- **Volunteer Recognition:** The agents hosted a volunteer recognition dinner to award and appreciate their work throughout the year. We award each project area an outstanding volunteer direct and indirect. (May)
- **Project Leader ran programs:** McLennan County FCS Coalition, 4-H Club managers and volunteers assist in planning and developing project trainings throughout the year. These programs are held between May and August.
  - Community Service Sewing- 4 volunteers from the Clothing and Textile project leaders solely planned this workshop. They taught the various sewing instructions and allowed the participants to make items for donation. (June)
  - Cupcake Workshop/TSTC Tour-7 volunteers assisted in developing the workshop and found the Cake Decorating/ Baking specialist from Waco who taught the majority of the 7 hour workshop.(June)
  - Pie Making Workshop- Partnering with HEB, we had donated ingredients and instruction from a culinary specialist. 4 Food and Nutrition project leaders supported this workshop by helping the Chef teach the 4-H kids the steps to making a pie. (July)
  - Bag Making Workshop- 4 volunteers from the Clothing and Textile project leaders solely planned this workshop. They taught the various sewing instructions and allowed the participants to make 4 different types of bags. These projects will be used to enter the local Youth Fair. (July)
  - Duds to Dazzle Training-4 volunteers from the Clothing and Textile project leaders solely planned this workshop. Planning for District contest the volunteers planned a scavenger hunt to make teaching Duds to Dazzle more enjoyable. (August)
Summary
With the leadership of the 4-H Adult Volunteers and McLennan County 4-H FCS Coalition will continue to grow the number of active volunteers. The stakeholders and youth involved want to do more and are willing to volunteer to help make it happen. The Texas A&M AgriLife Extension staff will continue to support and lead the program to great things.

Future Plans
We will continue to offer similar programming focused on educating youth and adult volunteers. The goal is to continue to increase the number of volunteers throughout McLennan County and hope to build a stronger volunteer impact to give back.

Special thanks to the McLennan County 4-H Adult Taskforce, McLennan County 4-H FCS Coalition, the McLennan County Master Gardeners, the Extraco Events Center, HEB, TSTC, and the many volunteers who led programming or served as judges for our contest, and the businesses in McLennan County for their cooperation with 4-H.
Relevance
Let’s Go, Let’s Grow initiative is an opportunity to increase the McLennan County 4-H enrollment by marketing and promoting for 4-H, as well as offering new projects and activities to a new target audience. Members and volunteer leaders not only participate in educational events and activities, but they are also involved with the Extension agent(s) and a variety of groups and committees to plan and facilitate the program. The goal is to reach each 4-H member in many ways and assist them with their growth and ability to learn with their 4-H projects; along with increasing enrollment numbers in members, volunteers and clubs.

Response
In order to increase enrollment, marketing and promoting 4-H being desired by the society, working with the 4-H and Advisory Board, potential projects and focus areas will be identified to promote with the objective of recruiting new members and volunteers resulting in organized club expansion and new project offerings. 4-H members and leaders met throughout the year to coordinated programming and at each meeting presented an opportunity to brainstorm ways to promote and recruit for 4-H and plan programs that would help members complete their projects, and recruit new members to their projects.

4-H Program Marketing & Promoting programs include:

- **Success Seekers 4-H SPIN Club**: Cooperative Extension and AgriLife partnered and worked together to charter a 17 member, 1 club manager SPIN club focusing mainly on Nutrition project area. Club members participated in the county Food Show, Food Challenge, Pecan Food Show and local FCS Day celebrations.
- **Kiwanis’s Club**: Guest speaker at a monthly Kiwanis’s club meeting discussing what 4-H is, what it offers and how the program can benefit the club. Kiwanis’s club members assist as judges on contests throughout the year. (February)
- **National Agriculture Day**: Axtell Elementary invited McLennan County 4-H Agent to participate in a station where a poultry industry lesson was given to the participating students, particularly the egg to chick process. Also, we discussed the poultry project within 4-H. There were 280 total students from Pre-K to 5th grade. (March)
- **Texas Farm Bureau Collegiate Meet Contest**: The purpose of this contest is to build basic discussion skills, develop an understanding of important agriculture issues and explore how groups can pool knowledge to reach a consensus to solve problems. The agent judged the contest and was able to promote 4-H throughout the process. (April)
- **Adopt a Highway Community Service**: McLennan County 4-H partnered with Cargill Employees to participate in the Keep Texas Beautiful program, where they promoted litter prevention and beautification activities. There were a total of 20 participants from McLennan County 4-H that participated. (April)
- **Ronald McDonald House Dinner Community Service**: McLennan County 4-H partnered with the Bell County Ronald McDonald House and was able to assist in cooking dinner for the individuals staying in the house. This community service project allowed for the 4-Her’s to promote 4-H outside the county and there were a total of 17 participants from McLennan County 4-H that participated. (September)
- **One Day 4-H Recruitment Booth**: McLennan County 4-H members set up a booth and promoted 4-H at the Heart O’ Texas Fair in October. The member passed out pamphlets and distributed project information about our 4-H program. There were a total of 30 members that participated in the recruitment booth and we recruited 7 new families. (October)
• **National 4-H Week 4-H Dance:** McLennan County 4-H partnered with Heart O’ Texas and Extraco Event Center in hosting a 4-H recruitment dance and can food drive. The dance was held in a show arena during the Heart O’ Texas. 20 members came along with 5 new members. (October)

• **Salvation Army Community Service:** Youth Council members decided on a community service for November to be the Bell Ringing Community Service where they set up a booth for 4-H, discussed what they do within 4-H and their experiences. McLennan County had 35 total members participate. (November)

**Summary**
With the leadership of the 4-H member, club managers, Advisory Board and project leaders we are able to develop and implement the growth in McLennan County. The stakeholders and youth involved want to do more and are willing to volunteer to help make it happen. The Texas A&M AgriLife Extension staff will continue to support and lead the program to great things.

**Future Plans**
We will continue to offer similar programing focused on educating youth and adult volunteers. The goal is to continue to increase 4-H enrollment numbers and adult volunteers, promote 4-H through marketing the growth of projects.

Special thanks to the McLennan County 4-H Adult Taskforce, the McLennan County Master Gardeners, the Extraco Events Center, Cargill, and the many volunteers who led programming or served as judges for our contest, and the businesses in McLennan County for their cooperation with 4-H.
Relevance
With over 75,000 market entries across the state and with the McLennan County Junior Livestock Show having over 1,000 entries in 2015, education on acceptable management practices, personal character, and ethics are important issues. In order to increase awareness of proper ethics and food production, it is important to educate our youth on current practices and awareness with raising an animal project for not only exposition, but also for consumers. This program has a purpose to prepare youth to meet the challenges of childhood, adolescence, and adulthood, through a coordinated, long-term, progressive series of educational experiences through life skills and develop social, emotional, physical, and cognitive competencies with the use of livestock projects as a vehicle.

Response
As a result, the County Extension Agent in McLennan County worked with the 16 member 4-H Livestock Task Force to develop programs to address the issues identified above. These programs were targeted towards 4-H and FFA youth and their families that are exhibiting livestock at the local, county, state, and national levels. Texas A&M AgriLife Extension Service in McLennan County developed these programs to address this audience:

- **Beef Cattle Workshop and Showmanship Clinic**, discussed feeding and nutrition, showmanship techniques, show ring etiquette, clipping practices, and offered live demonstrations of showing and clipping (September 2010 – 20 attending)
- **Rabbit Clinic**, discussed current trends, selection criteria, feeding and management practices, showmanship techniques, breeding dates, and available breeders to purchase stock. (September 2015 – 78 attending)
- **Sheep and Goat Clinic**, discussed showmanship techniques, dress attire, sportsmanship, Fitting, tracking, and hands on instruction for youth.
- **Swine Clinic**, discussed showmanship techniques, Feeding strategies, facility design and layouts, exercise, and skin and hair conditioning.
- **Project Visits**, agent visits the residence of livestock project and offers assistance in feeding, facilities, showmanship, health, weight management, and show preparation. (yearly – 175)
- **Livestock Show Entries**, 4-H youth exhibited livestock at the county show (4-H County Show entries – over 300) and at the major shows in Texas which are State Fair of Texas, Fort Worth Livestock Show, San Antonio Livestock Show & Rodeo, San Angelo Livestock show, Houston Livestock, Rodeo Austin, Heart O’ Texas Fair & Rodeo, and Rodeo Austin; 4-H Major Show entries – over 325)

Livestock Judging - 4-H youth were taught the principles of livestock evaluation, parts, of livestock, industry trends, oral reasons, and they participated in 8 contest across the State, Competing on the State level. (16 youth participating)

Results
An evaluation instrument was utilized to measure programmatic impact in the Cattle and Rabbit educational program. The results are in the knowledge level change. A total of 98 returned the post evaluation survey instrument. The results are as follows:

**Anticipated Changes and Intentions to Adopt** - This shows clientele’s behavior changes and does not reflect the youth who have already adopted these practices before the program:
-90 of 98 (91.84%) intend to review county and major show rules and weight breaks prior to the shows.
-88 of 98 (89.80%) intend to adopt proper showmanship techniques to make their animal look its best in the ring.
-83 of 98 (84.70%) intend to practice showing and working with their animal project at least 6 times per week.
-62 of 98 (63.27%) intend to give all shots in proper places and practice safe health measures with their animals.
-58 of 98 (59.18%) intend to establish a routine when feeding their animal projects daily.

Knowledge Level Change - Mean value change was measured using a retrospective post evaluation instrument. A total of 98 returned the evaluation from the Cattle and Rabbit Showmanship Clinic educational program. Results are:

<table>
<thead>
<tr>
<th>Topics</th>
<th>Mean Value Before</th>
<th>Mean Value After</th>
<th>Mean Change</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding of county show rules and previous year’s weight breaks to utilize for exhibition of Livestock.</td>
<td>1.86</td>
<td>3.51</td>
<td>1.66</td>
<td>89.23%</td>
</tr>
<tr>
<td>Understanding of the benefits of proper and outstanding showmanship skills.</td>
<td>2.17</td>
<td>3.67</td>
<td>1.50</td>
<td>69.22%</td>
</tr>
<tr>
<td>Understanding of how to properly display your animal to look its absolute best in the show ring.</td>
<td>2.22</td>
<td>3.69</td>
<td>1.47</td>
<td>66.25%</td>
</tr>
<tr>
<td>Understanding of proper and professional show ring etiquette.</td>
<td>2.33</td>
<td>3.86</td>
<td>1.53</td>
<td>65.50%</td>
</tr>
<tr>
<td>Understanding of exercise and working with your animals at home/barn.</td>
<td>2.53</td>
<td>3.88</td>
<td>1.35</td>
<td>53.50%</td>
</tr>
<tr>
<td>Understanding of animal care and animal health.</td>
<td>2.53</td>
<td>3.75</td>
<td>1.22</td>
<td>48.34%</td>
</tr>
</tbody>
</table>

Level of Understanding = 1 – Poor, 2 – Fair, 3 – Good, 4 – Excellent
Knowledge Change was determined by the following calculation: (after % - before %) / before % * 100. Change indicates the mean value difference between the before and after measurement.

Summary
Feedback throughout the year reinforces the need for continued education in these program areas to further assist this active youth project area. Educational publications and tools and a calendar of events will remain readily available on our website for all families interested. Project visits and livestock judging will continue to be educational tools used.

Acknowledgements
Special thanks to the following experts for presenting at our educational programs: Dr. Jason Cleere, Dr. Shane McLellan, Mrs. Kelsey Schatte, Ms. Deanna Franklin, Mr. Jeff Richter and Family, and our two Master Volunteer Livestock Ambassadors: Mr. Kevin Herzog and Mrs. Natalie Herzog.
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