



# Making a Difference

## Food Safety Education in Brown County

### Relevance:

The Centers for Disease Control (CDC) estimates that 1 in 6 individuals will become ill from a food borne illness each year. Populations most vulnerable to food borne disease include pregnant women, the elderly, the very young, people with a compromised immune system, and those with chronic disease. More than half of all food borne illnesses is attributed to improper food handling in restaurants. Since nearly half of all food dollars are spent on food prepared outside the home, food safety is a top concern among consumers. Because of these staggering statistics, the Leadership Advisory Board, through the issues identification process, determined Food Preparation, Preservation, Safety, and Nutrition Education as a key issue that Texas A&M AgriLife Extension's Family & Consumer Sciences Program could address in Brown County.

This program was targeted toward retail food establishments in the 23 West Central District 7 counties along with Central District 8 neighboring counties to include Comanche, Eastland, Erath and Hamilton.

### Response:

The Brown County Family & Consumer Sciences Committee and County Extension Agent collaborated with news media outlets, City of Brownwood Health Department, local restaurants and other food service establishments to implement the Food Protection Management Program. A total of three 2 day certified food manager courses were held on May 12-13, August 13-14 and October 23-24, 2014 in Brown County to provide individuals the opportunity to receive their Certified Food Manager credentials. A re-testing opportunity was also provided on September 30, 2014. This was a joint effort between Brown, Coleman and Runnels counties as well as the Brown County Health Department. A total of 48 participated in the course, testing and re-testing procedures.

### Results:

A total of 41 individuals participated in the 2 day courses and an additional 7 participants re-tested. 26 of the 48 (54.3%) passed the ServSafe exam with an average passing score of 83.68%. In addition to the ServSafe examination, a pre and post test approach was utilized for participants completing the 2 day certified food manager course. A total of 41 pre and post tests (100%) were received. Average passing score on the pre-test was 65.38% and average passing score on the post test was 88.76%. More detailed Pre/Post Test Results of the program are noted in Table 1.

Table 1. Knowledge change based on a 20 question pretest / post test asked to individuals who participated in the Brown County Food Protection Management Course. The most significant changes (30% or >) are noted.

Question	Correct Response	Freq and % BEFORE	Freq and % AFTER	CHANGE <sup>1</sup>
What is the contact/exposure time for a chlorine sanitizer solution?	7 seconds	3 (7.4%)	33 (80.5%)	1000%
Raw ground beef must be cooked to a minimum internal temperature of:	155°F	8 (19.6%)	35 (85.4%)	337.5%
Sanitizing is:	Reduction of microorganisms from a clean surface	7 (17.1%)	29 (70.8%)	314%
Which of the following foods DO NOT need to be received at 41°F or lower?	Fresh eggs	8 (19.6%)	28 (68.3%)	250%

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December 8, 2014  
(Exhibit #6)

You partially cooked a food product and then will finish cooking before serving, what temperature must it be cooked to?	165°F for 15 seconds	24 (58.6%)	37 (90.3%)	54.16%
A critical control point is:	A point in which potential hazards can be controlled or reduced	23 (56.1%)	34 (83%)	47.83%
Which food prepared in the establishment would require a label that indicated the major food allergen included in the food?	Chicken Fried Steak fried in peanut oil	17 (41.5%)	25 (61%)	47%
If an employee has been diagnosed with Shiga Toxin-producing <i>E. coli</i> , the manager should:	Exclude them from the establishment	28 (68.3%)	40 (97.6%)	42.85%
Refrigerated potentially hazardous foods must be stored at:	41°F or below	28 (68.3%)	39 (95.2%)	39.28%

<sup>1</sup>Change was determined by the following formula: Percent change = (after frequency - before frequency) / before frequency \* 100. Blue indicates change of 1000% or higher, purple indicates change from 250-500% and yellow is 75% or less.

A total of 41 individuals (100%) completed a program evaluation in 2014. The results are noted in Table 2.

**Table 2.** Customer satisfaction was determined from a 5 question program evaluation.

Instructor Evaluation	Mostly	Completely	Somewhat
How satisfied were you with the instructor's knowledge of the subject?	2.4%	95.2%	2.4%
How satisfied were you with the instructor's speaking/presentation abilities?	4.86%	92.7%	2.44%
How satisfied were you with the instructor's organization and preparedness?	4.8%	95.2%	
How satisfied were you with the instructor's response to questions?	14.6%	83%	2.4%
Overall, how satisfied were you with the instructor's performance?	4.8%	95.2%	

In response to the question, "How likely will you be able to practice the knowledge and skills you learned in this course at your current job?" 80% said very likely and 20% said likely. Additional comments from participants included:

"I learned a lot of new info."

"Great teacher, great course."

"Loved the class and feel I learned a lot."

"Great class!"

#### Acknowledgements:

Special thanks to the Brown County Leadership Advisory Board for identifying Food Preparation, Preservation, Safety, and Nutrition Education as a key issue that Texas A&M AgriLife Extension's Family & Consumer Sciences Program could address in Brown County. Additional thanks to Janet Nelson and Sandy Taylor, County Extension Agents for Family & Consumer Sciences in Coleman and Runnels counties for helping teach the 2 day courses. The Family & Consumer Sciences program area committee and Health Inspector from Brown County Health Department were instrumental in planning, coordinating and conducting the Food Protection Management training in Brown County.


#### Future Program Efforts:

The data collected from this program has helped provide information on how future educational efforts can be enhanced or improved. Food Safety education will continue to be a key issue addressed by the Brown County Family & Consumer Sciences program of Texas A&M AgriLife Extension Service.

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**VALUE**

**Food Safety Education**



Both those who work in food-service establishments and those who simply cook in their own kitchens benefit from Texas A&M AgriLife Extension's food-safety education programs. The resulting improvement in safe food handling benefits consumers by helping prevent food-borne illnesses and the public health care costs they cause.

**EXTENDING KNOWLEDGE**  
*Providing Solutions*

# Making a Difference

## Cooking Healthy Education

### Relevance:

Research shows daily calorie intake from foods eaten away from home increased from 18% to 32% in the last 25 years. Foods eaten away from home tend to be more calorie dense and nutritionally poorer than foods prepared at home, on average. Providing families with healthy recipes and menu planning tips through the multi-faceted Dinner Tonight! Program is intended to encourage families to eat at home more often and hopefully make healthier food choices. According to the United States Census Bureau statistics, the median household income for Brown County residents is \$39,965 which is \$10,955 less than the state of Texas. In addition, the percent of persons living at or below the poverty level is 17.1% with the state average being 17%. Because of these statistics, the Leadership Advisory Board, through the issues identification process, determined Food Preparation, Preservation, Safety, and Nutrition Education as a key issue that Texas A&M AgriLife Extension's Family & Consumer Sciences Program could address in Brown County.

This program was targeted toward the primary household cooks in the 23 West Central District 7 counties along with Central District 8 neighboring counties to include Comanche, Eastland, Erath and Hamilton.

### Response:

The goal for cooking healthy programs is to help families learn how to cook quick, nutritious meals for their families in an attempt to achieve good health and cut down on diet related illnesses. Multi-level cooking healthy avenues include Dinner Tonight! YouTube videos, Dinner Tonight! Cooking Schools and Dinner Tonight! electronic newsletters. The Dinner Tonight Healthy Cooking Schools offer a face-to-face educational method to teach families about meal planning and healthy food preparation. These events are intended to be high-visibility, large scale events that are fun and informative for participants. For some people, it may be their first exposure to the Texas A&M AgriLife Extension Service.

On Tuesday, April 22, 2014, the second annual Brown County Dinner Tonight! Healthy Cooking School was held at the Brown County Youth Fair Home Economics Building. This was a joint effort between Brown, Coleman, Mason, McCulloch, Menard and Runnels counties. A total of 45 people from 3 different counties participated in the event. Sponsors for the event included Brown County Fair Association, Texas Beef Council, Kroger, Brookshire's and Brown County Food Protection Management Program.

### Results:

A retrospective post-test approach was utilized to measure knowledge and skills obtained and attitude/behavior change in program participants. Results are as follows:

80% of evaluations were turned in (31 out of 39)

#### *Participant Level of Understanding:*

- 23 out of 31 participants (74.2%) increased their understanding of the role of meal planning in preparing healthy meals.
- 22 out of 31 participants (71%) increased their understanding of how to modify recipes to reduce calorie content.

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- 18 out of 31 participants (58.1%) increased their understanding of how foods eaten impact health.
- 22 out of 31 participants (71%) increased their understanding of how meal planning can help save time and reduce stress.
- 24 out of 31 participants (77.4%) increased their understanding of how to modify recipes to reduce sodium content.
- 22 out of 31 participants (71%) increased their understanding of how to modify recipes to change or reduce the fat content.

*Participant Intentions to adopt behavior:*

- 23 out of 31 participants (74.2%) intend to plan healthy meals in advance.
- 24 out of 31 participants (77.4%) intend to think about the sodium (salt) content of the foods they prepare.
- 22 out of 31 participants (71%) intend to think about the fat content of the foods they prepare.
- 22 out of 31 participants (71%) intend to think about the calorie content of the foods they prepare.

*Customer Satisfaction:*

- 23 out of 31 participants (74.2%) indicated they were completely satisfied with the program
- 8 out of 31 participants (25.8%) indicated they were mostly satisfied with the program

**Comments from the Dinner Tonight! Healthy Cooking School:**

- "Delicious food doesn't need to be full of fat and calories."
- "If you use what you have on hand, you can still eat healthy."
- "The way foods are prepared together makes them taste good, compared to separately. There were lots of foods here tonight that I don't like, but really liked them together the way they were prepared."
- "Great ideas for meals and what dishes go well together."

**Acknowledgements:**

Special thanks to the Brown County Leadership Advisory Board for identifying Food Preparation, Preservation, Safety, and Nutrition Education as a key issue that Texas A&M AgriLife Extension's Family & Consumer Sciences Program could address in Brown County and to the Dinner Tonight! Healthy Cooking School Planning Committee:

Chef Michael Cook – Executive Chef, Sodexo, Howard Payne University  
 Andrea Lee – Brownwood Regional Medical Center  
 David Goodwin – Brown County Fair Association  
 Rachel Hall – Bangs FCCLA Department Supervisor  
 Kay Lynn Gordon – Brown County 4-H Foods & Nutrition Project Leader  
 Kim Miles, Janet Nelson, Kristy Powell, Jacque Behrens and Sandy Taylor – County Extension Agents – Family and Consumer Sciences with Texas A&M AgriLife Extension Service.

**Future Program Efforts:**

The data collected from this program has helped provide information on how future educational efforts can be enhanced or improved. Cooking Healthy education will continue to be a key issue addressed by the Brown County Family & Consumer Sciences program of Texas A&M AgriLife Extension Service.

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page 18 one

**Better Living for Texans:**

The Better Living for Texans program is designed to educate limited resource families on Food Resource Management, Basic Nutrition and Food Safety. This federally funded program is a cooperative endeavor among Texas A&M AgriLife Extension, Texas Health and Human Services Commission and the Food and Nutrition Services of USDA. This funding is based on county statistics which show that 14.19% of the Brown County population receives SNAP (Supplemental Nutrition Assistance Program). This is 2,586 households. This funding has provided for many resource materials, curricula, and a part time program assistant position in Brown County. Brown County currently operates on the Silver level with a program assistant, which requires a minimum of 624 hours per year targeted toward the BLT program. During 2014, I have conducted a total of **52** nutrition education programs reaching a total of **1,306** youth and adults. These programs were conducted with the following audiences:

- \* The Ark Abuse Shelter
- \* Infant and Toddler Head Start Parents
- \* Central Texas Opportunities Head Start Parents
- \* Central Texas Opportunities Head Start Students
- \* Early Primary School
- \* Early Elementary School
- \* Early Middle School
- \* May ISD
- \* Brookesmith ISD
- \* Kinder Kare Child Development Center
- \* Area Agency on Aging Caregiver Retreat
- \* Howard Payne University
- \* 4-H Foods & Nutrition Project Participants
- \* October Fest Senior Camp Participants

**General FCS Programming Efforts:**

FCS agent serves as Wellness Coordinator for Brown County and coordinates all Healthy County activities as part of the Texas Association of Counties. In 2014, Brown County had 4 county employees complete a Health Risk Assessment. For these activities, the Texas Association of Counties awards \$25 for each participant. This resulted in a \$100 donation to Brown County to be used for health & nutrition education efforts. In addition, general FCS programs were conducted with various audiences to include Bangs FCCLA department, Good Samaritan Ministries Senior Care Committee and Red Stone Park Assisted Living Facility.

**Texas Extension Education Association:**

Brown County has 3 very active Extension Education Clubs. Club meetings are held twice a month and County Association meeting is conducted once a month. I am responsible for coordinating association meetings as well as writing and distributing a monthly EE newsletter. I presented club programs in May and October 2014. Programs were "The Top 10 Most Useful Items around the House" and "What's That You're Drinking?"

The annual EE Spud Sale was a huge success and made over \$2000 for 4-H Scholarships. Scholarships totaling \$1500 were awarded to three graduating 4-H members.

New members were recruited in all 3 EE clubs and marketing efforts included articles in the Brownwood Bulletin newspaper, radio advertisements and promotional flyers at the Hobby and Craft Fair and Teach and Learn Program.

According to the Brown County Annual Report for 2013-2014, Brown County TEEA members volunteered a total of 8,754 hours. The value of time is calculated at \$22.14 per hour. Therefore, Brown County TEEA members donated a total value of \$193,813.56 in 2013-2014.