



Welcome to Custer County

The MSU Extension Custer County office serves the citizens of Custer County and our neighboring counties. The responsibility of the MSU Extension Custer County office is to provide education and leadership in programs related to family and consumer science, agriculture, youth development and horticulture.

Custer County is located in Southeastern Montana with the Yellowstone River flowing through the northern portion from West to East. Miles City is the center of commerce and is a transportation crossroads with I-94, U.S. Highways 12 & 59 and the BNSF Railway all passing through the community. Custer County is home to the Fort Keogh Livestock and Range Research Station, one of the largest Agricultural Research Service stations in the nation and serving the county's 90,000-head beef cattle industry. The county includes approximately 12,000 residents and is a shopping hub for all of Southeast Montana.



Sunset over beautiful South Eastern Rangeland. Photo by Mike Schuldt

Family & Consumer programming in Custer County

The Arthritis Exercise Program is a success story in Custer County. The program started three years ago and continues to grow. It is geared to those suffering from arthritis, but is appropriate for anyone who would like to increase strength and flexibility and improve balance. Most participants are over 65 and a few are over 90. Participants report greater mobility, less pain and better balance when attending the program. Currently over 30 individuals participate in the class.

Extension agent Tara Andrews has taught four cooking classes for the Healthy Lifestyle Class, which is sponsored by Holy Rosary Healthcare. To enroll in Healthy Lifestyles, individuals must be diabetic, pre-diabetic or suffer from high blood pressure or cholesterol. They learn about healthy cooking methods, try new foods and flavors, and all recipes are easy enough to re-create at home.

For the first time, Andrews taught a DEEP (Diabetes Empowerment Education Program) class this year. This is a five-week course geared toward those with diabetes, pre-diabetes and their family members. There were 10 participants who had the opportunity to interact with a local pharmacist and a diabetes educator. In addition, managing stress, maintaining a physically-active lifestyle, foot care, self-care and nutrition were covered. Participants reported that after the class they had a better understanding of diabetes, how it effects the body and what they can do to maintain their health.

Family & Consumer Science and Youth Education



Seniors participating in arthritis exercise.

Electric pressure cookers have become very popular in the last couple of years and Andrews has had requests to teach classes on cooking with a pressure cooker. She offered two classes this fall on pressure cooking and each one quickly filled to capacity. Pressure cookers offer families a way to cook a quick, healthy meal with a minimum of cleanup, making it more likely they will cook at home and enjoy a meal with their family.

Annie's Project is another new program to Custer County. The goal of the six-week course is to empower farm women to be better business partners through networking and by managing and organizing critical information. Andrews worked with the agents in Powder River County to identify topics and speakers for the program. Many speakers presented in both counties, but a few were specific to our individual counties. The first class concluded in December 2017.

Food Safety programming

Each year, 48 million people in America get a foodborne illness, 128,000 are hospitalized and 3,000 die. Those numbers make foodborne illness a very important issue in all communities. People are eating more meals than ever away from home, so food safety training for restaurants, schools, hospitals and concession stands is extremely important.

MSU Extension agent Tara Andrews teaches ServSafe, a food safety curriculum, in a number of different venues. The eight-hour Managers course is offered three to four times a year to commercial enterprises that serve food. The four-hour Food Handler's course is offered to the public three to four times a year. Andrews also teaches the Food

Handler's course at Custer County District High School for students in advanced Culinary Arts class, giving them a job skill they can use in the future. Andrews also teaches the Food Handler's class to those incarcerated at Pine Hills School: three times a year to juveniles and four times a year to adults. It is important that those getting released from Pines Hills have a job skill when they return to their communities, and ServSafe provides one of those useful skills. The last group Andrews instructs are those who run concession stands around the community. She teaches a condensed version of ServSafe, which is geared to the types of foods served in concession stands and to some of their unique food safety circumstances.



Youth learning nutrition and food safety.

Youth programming in Custer County

In addition to 4-H responsibilities, Andrews provides non-traditional 4-H youth programming in schools and outside the schools.

Custer County's Chef School has been going on for over 10 years and there are now teens who went through Chef School in second and third grades who help teach the program. In this program, we teach basic nutrition, cooking, food safety and manners. Students learn to cook healthy meals that they can go home and re-create for their families, encouraging families to eat together.

Andrews provides research-based nutrition classes for hundreds of students from kindergarten to high school. She maintains the Storywalk, which provides two stories each week from Easter until Halloween along the walking path at Holy Rosary Healthcare.



Youth Programming in Custer County

Each page of a storybook is laminated and mounted individually on a post along the path. The Storywalk promotes family time, physical activity and literacy.

Additional programs offered include sewing classes, Safe-Sitter, kitchen science and some STEM activities.

Livestock Judging - "Kids Like It!!"

Interest in the Livestock Judging program continues to build among the Custer County 4-H members. Driven by a strong commitment of both the volunteer coaches and the parents, Livestock Judging has grown from a small group of interested individuals to one of the most progressive programs in the state.

Custer County has more than 30 active youth participating in the Judging program. The organizing volunteers have weekly workouts with an internet-based homework assignment and activities for members to complete during each session. They participate in a number of competitions in the region, including the Black Hills Stock Show, Northern International Livestock Expo in Billings, contests in Western North Dakota, and Eastern and Central Montana.

Recent developments in the Miles City community have created new venues for the youth judging program to prosper. These include the new Miles City Livestock Commission (MCLC) facility and the Miles Community College Ag Advancement center. Utilizing the indoor facility at MCLC in February of 2017, the 4-H program was instrumental in growing the annual Beef Breeders Show (all beef livestock judging contest) into a premier opportunity that attracted over 100 youth.

New for the region, on December 28-29, 2017, Custer County 4-H and Miles Community College teamed up to offer the "Pioneer Livestock Judging

Camp." Over 70 youth participants were expected for the two-day educational event. The event is made possible during winter through the use of the Ag Advancement center, which is a heated learning center that consists of a 200x100 open arena and two large classrooms. The camp is open to all youth in the region, and focuses on the basics of Livestock evaluation with both technical lecture and hands-on instruction methods utilized during the camp.

The lessons youth learn through the livestock judging program include critical thinking, decision making and public speaking. The competitive nature of the activity, along with travel and recognition, provide a great incentive for youth to get involved. We will continue to support this growing program that benefits youth.



Custer County 4-H Members Competing at the NILE

House water testing helps ranchers manage drought issues

Water is essential to producing healthy livestock. 2017 brought one of the worst drought years in history, raising concern for livestock water quality. Water testing at Custer County MSU Extension became possible in 2012 with a meter which evaluates water for Total Dissolved Solids (TDS).

Through evaluations conducted at the Extension office since 2012, sulfate concentration has surfaced as the primary issue. When TDS is measured, sulfate usually is not greater than 50% of salts making up TDS. TDS testing in the Extension office showed many samples from our area testing in the acceptable range of TDS still had unacceptable sulfate levels through a laboratory analysis. Our sulfate levels range from 40-90% of TDS. This high variability established the need for sulfate testing capability in the Extension office.

A project was initiated in 2015 with Adam Sigler, MSU Extension Water Quality Specialist, to develop a protocol to utilize an inexpensive sulfate meter in the county Extension office. Three meters were evaluated which are designed to measure lower sulfate concentration than we are concerned with for livestock safety. Sigler created a dilution protocol and evaluated the meters for accuracy compared to laboratory results. Satisfactory results were achieved with the HACH Company's meter, which proved best for our application. Field testing was implemented at the Custer County MSU Extension office in 2016.

Testing for sulfate risk became necessary for ranchers in this drought year. More than 45 water tests were completed at the Extension office, saving the need for \$50 lab analyses on these samples.

Analyzing sulfate risk in 15 minutes provided ranchers the ability to safely manage livestock water as quality diminished throughout this drought year.

In 2017, the impact of this test was highlighted when we quickly determined sulfate toxicity for one producer who lost three cows and two calves. When the water source of the pasture he planned to move to was tested, it was high risk for sulfate as well. This testing allowed him to identify the cause of his losses and prevented further significant loss.

The TDS meter is still utilized to evaluate initial risk, and the addition of the sulfate test allows us to provide water risk information to ranches in a timely manner. Our estimate indicates this testing service prevented death of 25 animals in 2017 with a value of more than \$25,000. Eliminating the need for laboratory analysis on 45 water samples resulted in a direct savings of \$2250 for area ranchers.



Dusty Trails. Photo by Mike Schuldt

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