Pondera County is located in the heart of the Golden Triangle, famous for quality wheat and barley production. Grain production and livestock provide approximately $70 million in gross revenue. The county contains 1,625 square miles and is very rural with approximately 6,400 residents in the communities of Conrad, Valier, Dupuyer, Brady, and Heart Butte. In addition to the established communities, there are five Hutterite Colonies.

The elevation varies from 3300’ on the eastern plains to 8500’ at the Continental Divide. Major watersheds include the Marias and Teton River drainages. Lake Frances near Valier is fed from Swift Reservoir and is a major supplier for irrigation and household water. Also, the Tiber water system has approximately 450 miles of water lines to serve 270 households, utilizing water impounded at Lake Elwell on the Marias River.

There are approximately 75,000 acres of irrigated croplands in Pondera County including alfalfa, high quality malt barley and wheat. In 2015 crop acreage grown, Pondera County was ranked second for barley, fourth for durum and seventh for winter wheat in Montana. Pulse crops including chickpeas (garbanzo beans), lentils and other dry beans are gaining ground as producers see the benefits of cover crops and value-added agricultural opportunities. Trucks and trains hauling grain dominate the Pondera County plains.

Schools, medical care and retirement homes are also important economic contributors in Pondera County. The Pondera Medical Center is the largest employer and serves a multi-county area with an economic impact of over $12 million.

Pondera County has four 4-H clubs with 90 youth and 28 leaders. Top 4-H projects include beef, swine, shooting sports, sewing, and horse. Fundraising and Marias Fair sponsors generously support the activities of the 4-H members and leaders.

The MSU Extension Pondera County office has two Extension Agents, Wendy Wedum and Adriane Good, who provide leadership in agriculture, family and consumer science, and the 4-H youth development program.
Nitrate Testing Makes Sense

Many Montana producers rely on supplemental forage (baled hay) during the winter and early spring months to feed their livestock. It is the primary source of nutrition for ruminants. Testing forage for nitrates is important for livestock health.

As plants grow, they take up nitrogen in the form of nitrate from the soil and convert the nitrate to protein. Plants growing in stressful growing conditions such as a drought, prolonged cool temperatures, high levels of soil nitrate or soil mineral deficiencies develop toxic levels of nitrate. When there is too much nitrate in the roots, the plant cannot convert it into protein. This extra nitrate stays in the plant and may cause animals to get sick if too much nitrate-rich forage is eaten.

Chronic nitrate poisoning may cause low weight gain, low milk production, abortion of calves and in the worst case scenario, death of the animal. Many producers come to MSU Extension to test the nitrate levels in forage before cutting the hay or turning animals out in the pasture to graze. Knowing the nitrate levels in the forage is important to winter feeding strategies.

There are three ways to test for nitrate levels, the quick test, the strip test and laboratory testing. The quick test shows if high levels of nitrate are in the plant, but does not show the concentration. In the strip test, the plant sample is ground to a fine powder and soaked in water. After 30 minutes a test strip is dipped in the water. In the next minute the test strip may change color to show the presence of nitrates. The darker the color, the higher the concentration. The color is compared to a color scale to determine the nitrate level. Laboratory testing provides an accurate measure of the nitrate levels, but is also costly for producers.

MSU Extension completed approximately 50 tests in 2017. One producer requested three of his forages be lab tested. The laboratory results confirmed the accuracy of the test strips and saved producers over $700 while the cost to the Extension was about $30.

Community Service: Works of Heart

Volunteers are often the heart of a community. The Pondera County Extension Homemakers and four 4-H Clubs are exceptional examples of willing hands and generous hearts that create a positive impact on our communities in Pondera County. In total, these five organizations have had a combined financial impact of over $5,000 annually.

Pondera County 4-H members are active throughout the county. They donated over 300 pounds of food to the food bank, over $3,000 to the food bank, bathroom fund, and horse committee. 4-H volunteers and youth donated over 1,500 hours of time. This resulted in rebuilt horse stalls and new bathrooms with showers at the Marias Fairgrounds, holiday cocoa and cookies delivered to homebound residents in Valier, litter pick-ups along the highway, and provided food for residents who are struggling to make ends meet.
Annually, the Pondera Extension Homemakers raise money through Turkey Bingo to support a $400 scholarship, a $500 donation to the Food Pantry, and donations to CASA/GAL, which are spousal abuse and caring for kids programs. A holiday donation drive provides another $500-700 which benefits the residents at the Pondera Medical Center (PMC) Extended Care. The 50-60 PMC residents are given gifts, an annual Christmas party with their families, a summer diner’s club and periodic outings during the year. These social activities provide residents with meaningful activities, keep them socially engaged and contribute to their overall well-being.

People who do community service are often the unsung heroes in small communities. 4-H members who help learn valuable skills in creative thinking, decision making, budgeting, communications, and caring for others. People who make financial contributions have given generously over the years because they recognize their donations are well-steward and are given back to their home community, creating lasting impacts.

### Overnight Horse Camp

Equestrians from Glacier, Liberty, Pondera and Toole County met for an intensive two-day horse camp in early June 2017. A dozen volunteers shared their expertise on topics such as equine first aid, nutrition, grooming, horsemanship, trail, roping, hands-free riding, and tack care with 17 4-H members. There were also crafts, horse games and an evening movie for everyone to enjoy.

Camps with a defined focus, like the 4-H horse project, bring 4-H members together to learn as a team. Working in small groups, these youth had an opportunity to learn under the watchful eye of experienced volunteers in a safe place to learn things that are out of their comfort zone. As an overnight camp, 4-H members also learn responsibility and how to manage themselves while learning how to train their horse.

**Hands in the air - learning how to balance yourself and give your horse leg cues is important for riders.**

**Pondera Extension Homemakers fill trays with cookies for the Pondera Medical Center Christmas party.**
ABOVE: Roping - Gotcha! A 4-H member shows her skills roping the dummy calf.
RIGHT: This cowgirl is deep in thought coiling up her rope at the end of the roping workshop.

All photos by Wendy Wedum