

2017

connect

UW Extension's Connection with Wyoming

Cent\$ible Nutrition is sensible,
easy, and flavorful.
See story page 10



EXTENSION

I am delighted to present the 2017 issue of CONNECT and hope you enjoy exploring the University of Wyoming Extension work highlighted. Although unsettling because of the state's financial landscape, the year has been productive for extension's educators and specialists.

This issue of CONNECT showcases some of our most creative and innovative work. The "4-H teens tell all" article highlights the Pathways to Higher Education project, clearly demonstrating extension's claim "4-H is your first class at the University of Wyoming." The Real Foods article features a program to help people eat less processed food and more "real" foods.

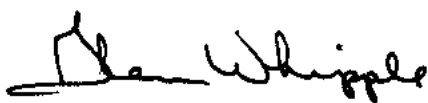
These programs are the two inaugural projects of the John P. Ellbogen Foundation Wyoming Community, Agriculture and Rural Living Project Fund, an endowment provided by the John P. Ellbogen Foundation to support innovative extension programming responsive to community-level needs. See how the fund began at bit.ly/ellbogenfund.

Perhaps more mundane but critical to Wyoming agricultural businesses is the pesticide applicator Worker Protection Standards education showcased in the "PowerPoint Pain" article. The "Financial U-Turn" story shares the work of a community development educator to help her community members have more peaceful and secure financial lives in the face of energy industry declines.

Obviously, I am very proud of our work and hope you will enjoy reading about these high-impact educational efforts.

Extension engagement is a conversation, so if you have a question, comment, or suggestion, please contact me and let's talk, glen@uwyo.edu or (307) 766-5124. I would appreciate hearing from you.

Sincerely,



"I am very proud of our work and hope you will enjoy reading about these high-impact educational efforts."

– Glen Whipple

connect

Vol. 7, No. 1, 2017

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*The University of Wyoming and the United States
Department of Agriculture cooperating.*

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Uinta County junior leaders (front row) Morgan Sanchez, Mishelle Frame, Torree Spatig, and (back row) Gavin Simmons, Ian Siegusmund, and Lukas Simmons guide the program's younger members.





4-H teens tell all

The animal science course that wakes them up, how working with kids pushes them, and why UW tops their list

“Zoonotic!” blurts Gavin Simmons as he and five other Uinta County high school students sit at a table in the wool building at the Hansen Livestock and Teaching Arena.

They’re gathered as an informal “expert panel” before this afternoon’s spring wool judging contest in Laramie to talk about what it means to be 4-H junior leaders and how they’re honing their animal production skills in a new University of Wyoming course for 4-H’ers, Introduction to Animal Science (ANSC 1009).

Zoonotic, Simmons explains, is a term for infectious diseases that can be passed from animals to humans. “We learn about diseases from the least to the most contagious, the symptoms, and transmission,” says Simmons. “It has definitely been eye-opening.”

“With animals, there is always more to learn,” says Lukas Simmons, who sits across from his brother. “At an AI (artificial insemination) workshop, we inserted the insemination rod into the cervix of a cow,” he says.

Field experiences are integral to the animal science course, which delivers content through a series of online modules, quizzes, worksheets, and lectures by UW animal science professors and other experts via Zoom conference calls.

“It’s like a video chat,” offers Morgan Sanchez. “We get to hear other people’s opinions and ask questions,” she says. “They guide us and help us stay on track.”

A junior in high school, Sanchez has worked more than a year in an Evanston veterinary clinic as a vet tech, sometimes assisting in surgeries.

ANSC 1009

Using What They Learn

Mishelle Frame explains her family didn't raise animals, and now she has a sheep breeding program. "We use what we learn to teach younger kids," she says. "Even if I feel drained after work and school, I get excited for this course."

"Yeah," agrees Torree Spatig. Joining 4-H and enrolling in Intro to Animal Science was a switch for Spatig also. Her first dedication was to Special Olympics,

which she did – and still does – as a way to support her two brothers with autism.

"When I joined 4-H, I rediscovered the passion I had for animals when I was little," she says. "We all work together," she stresses. "We can always go to our 4-H family."

"Like when Toree's first lamb got sore mouth," adds Sanchez.

Sore mouth is a highly contagious zoonotic disease that caused Spatig's lamb to develop open sores and scabs. Spatig and Frame treated it and got the condition cleared in time for county fair.

Junior leader Ian Siegusmund is a red-haired chicken breeder and hard-core fair competitor who commits every spare minute to memorizing weights, shapes, combs, colors and patterns of chicken breeds.

On the table in front of him lies the 408-page American Poultry Association American Standard of Perfection, hardcover edition, which he carries for reference. Not stopping at chickens, he studies ducks, turkeys, geese, rabbits – and wool judging.

Even he admits, "It's crazy to show a chicken."

Pathway to Higher Education

More than two dozen high school students from across the state have enrolled in ANSC 1009 since registration opened in September 2016.

"It's like an AP (Advanced Placement) course in animal science," says Johnathan Despain, state 4-H program coordinator.

The self-paced program offers one to four college credits, depending on how many sections the 4-H'er completes. Course lectures are presented in real time over three years, and regardless of where students start, they can complete all three years in succession. Lecture sections with discussions are recorded so students can access them as their schedules allow.



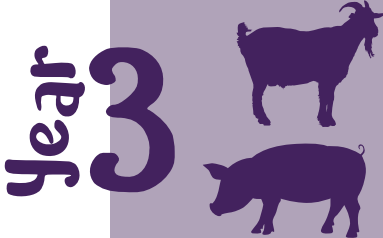
The team of 4-H educators and Department of Animal Science faculty members who conceived the Pathway to Higher Education program wanted to ramp up the 4-H experience, giving teens direct access to UW faculty and industry experts.

"We tell the instructors, 'This is a college course, don't teach down to them,'" says Despain.

Instructors include Warrie Means, associate professor in animal science, who helps students master the fundamentals of meat science as it relates to animal production.



Morgan Sanchez

					
Species	Beef • Poultry • Rabbit		Sheep • Horses		Goats • Swine
Nutrition	Balancing Rations		Digestion System		Feeds and Feeding
Selection and Evaluation	Anatomy		Industry Relationships		Live Animal Evaluation
Meat Science	Cuts: Wholesale and Retail		Harvesting		Fabrication and Product
Care and Prevention	Diseases		Vaccinations		Monitoring and Husbandry
Reproduction and Genetics	Reproduction		Genetics		Inheritability

4-H'ers in high school can enroll in Introduction to Animal Science (ANSC 1009) to gain practical livestock experience, an appreciation of the meat animal, dairy, poultry, and horse industries –and UW college credit.

In the first year, Means recruited colleague Caleb Boardman, whose expertise is livestock evaluation and selection, and graduate research assistant Colby Hales to teach livestock structure and conformation. Extension beef cattle specialist Steve Paisley taught ration balancing.

Dawn Sanchez, Uinta County Extension educator (also Morgan's mom), recognized their group needed an activity on poultry. Without waiting for that module

to come up, she organized a webinar with the Utah State University Extension poultry specialist.

She also brought renowned animal management specialist Temple Grandin from Colorado State University to speak with the 4-H'ers and give a public talk that attracted an audience of more than 200.

Dawn Sanchez, Means, and Despain were on the team that developed the ANSC 1009 curriculum over the past two years. Funding from the Ellbogen

Foundation provided the final push to take it live.

From Capstone to Cap and Gown

This is year one of the Pathway to Higher Education program. Depending on how many years or credits students pursue, they will convene on the University of Wyoming campus for one or more Department of Animal Science capstone learning experiences. Ultimately, they will submit their final portfolio for review and credit.

The portfolio is where students document their workshops and activities, reflecting on how they applied what they learned and used it to help others. The extension-sponsored AI workshop and the poultry webinar are examples.

“Inquiry-based learning is at the core of 4-H,” states Despain.

He sees the Introduction to Animal Science course as non-formal and formal education coming together. Students are immersed in an undergraduate course and earn university credit while still in high school. “They’re connecting with UW faculty members sooner,” Despain observes.

For UW, the opportunity is to recruit highly motivated students who pursue a variety of majors. Wyoming 4-H serves more than 6,900 youths ages 8 to 19, with 3,129 (45 percent) of them involved in livestock projects.

Of the Uinta County junior leaders, all but one say they plan

to enroll at UW straight out of high school. For the other, it’s community college first.

The Pathway to Higher Education model can be applied to other courses, says Despain. Subjects might include botany, engineering, and family and consumer science – all areas with a strong link to 4-H programming.

Despain says the new model has drawn the attention of five other universities and the U.S. Department of Agriculture.

Awards and Rewards

Lukas Simmons says, “When we take what we learn and work with kids, we start pulling for each other and it all kind of connects.”

Siegusmund adds, “The sky’s the limit when something sticks.”

Spatig, the 4-H’er who started out with the sore-mouth lamb, sums it up:

“We’d take this course even if we didn’t get college credit.”



Today, Ian Siegusmund is intent on the Uinta kids earning top places in their age divisions. He and the other junior leaders have been practicing with them for months. They’ve memorized wool color, crimp, condition, and estimated clean yield. This week, he says, they’ve practiced every day after school at the Crum Search and Rescue Building in Evanston.

Individual fleeces of Targhee, Rambouillet, and other breeds are heaped on folding tables in the meeting room of the sheep building. They’ve been pulled from plastic bags in the storage room and sprayed with insecticide, which overpowers the lanolin scent of the raw wool.

The day’s 4-H judges, who range from 8 to 18, stand two steps from each table, clipboards in hand. At the “Go” signal, they set to work inspecting for bits of vegetable matter and picking up whole fleeces to assess weight. They scribble notes. They wildly pluck out locks (called staples) to evaluate length and strength and

The team of 4-H educators and Department of Animal Science faculty members who conceived the Pathway to Higher Education program wanted to ramp up the 4-H experience, giving teens direct access to UW faculty and industry experts.



Fleeces

toss them to the floor. Volunteers with push brooms sweep away the wool litter.

At the command to stop, action ceases, and the youths circulate to the next table, perhaps to judge Columbia or Corriedale.

In the end, the Uinta County 4-H wool judges make a strong showing.

Uinta's seniors (ages 14-19) Lukas and Gavin Simmons and Morgan Sanchez, with teammate (and fellow ANSC 1009 student) Brooke Howard, earn second-place senior team.

In placings, where 4-H'ers "place" or rank the fleeces by quality, Frame takes fourth and Lukas Simmons third. Siegusmund earns first in grading.

Of the top ten overall senior individuals, Joree Spatig is ninth; Sanchez, fifth; Lukas Simmons, fourth; and Siegusmund, second.

The intermediate (ages 11-13) and junior (ages 8-10) teams both take third place, with siblings of Simmons and Sanchez earning first and sixth in overall junior individuals.



Lukas Simmons inspects one of 24 fleeces, evaluating them for qualities such as staple length, fiber diameter, and pounds of clean wool.



Anthony Jones likes what he sees, with Rhianna Castillo and Helynn Garcia, while their aunt, Ingrid Santana, mixes cookie dough during the Commodity Chef event in Cheyenne.

GOOD EATS,



EASY

Whoa cowboy! This is sensible nutrition?

Rollled oats, sunflower seeds, sliced almonds, chopped pecans, raisins, honey, cinnamon, and maple extract = Happy Crunch.

Or,

Flour, sugar, baking powder, salt, egg whites, non-fat milk, unsweetened apple sauce, shredded lemon peel, lemon juice, slivered almonds or walnuts = Lemon Bread.

Yes, it's Cent\$ible.

So is skillet beef stroganoff. As are pork with apples and raisins, orange chicken, coconut raisin cookies and fruit smoothies, which chefs dished out at a Commodity Chef event in Cheyenne.

The Cent\$ible Nutrition Program teaches families how to prepare economical and healthy meals through classes but also through special events in almost every county in Wyoming.

Christie Herron, Rachel Lavach, and Ingrid Santana cooked specialties for the Commodity Chef event in Cheyenne.

"CNP is a great way to teach families how to cook both cheaply and healthy," notes Lavach, finessing vegetables for her orange chicken dish she was preparing to put on a patiently waiting natural gas range.

The CNP classes opened doors to a variety of vegetables.

"I learned there are a lot of vegetables out there and a lot of us are stuck on peas, corn, and carrots," she says. "I learned how to efficiently cook home-style dishes but some things really off the charts, like pork and bean bread, sweet potato soup, and pumpkin chili."

Herron has taken CNP courses twice. She switched from using butter to olive oils, from heavy creams to using more of a roux with low-fat milk for dishes.

"It made me think a little more about what I was

using instead of going for more expensive things,” she recalls.

She took the course again following a car accident.

“I wanted the knowledge and to get back into the swing of things,” she says. “I’m always trying to use what’s in my pantry the best way I can. I try to cook unique. I try to use things differently than most people.”

CNP graduate Veronica Pohlman and her 8-year-old

daughter, Bella, squished eggs with a turkey and pork meat combination on their way to a Tuesday night meatball and spaghetti dinner in their Cheyenne apartment.

“CNP encourages you to make little changes at a time,” says Pohlman, a California native now all Wyoming. “I used to eat out a lot but I pay more attention to what I’m eating, lowering sodium. Making little changes add up to being healthier.”

She puts into practice food safety principles, is careful about labeling, and plans meals, freezing leftovers and using ingredients for other meals.

“We made lasagna last week, and the week before I made bread in a bag and made our own pizzas with our own dough,” she says. “We didn’t have any leftovers from that. Oh yeah, we did. We used the leftover dough to make cabbage burgers.”



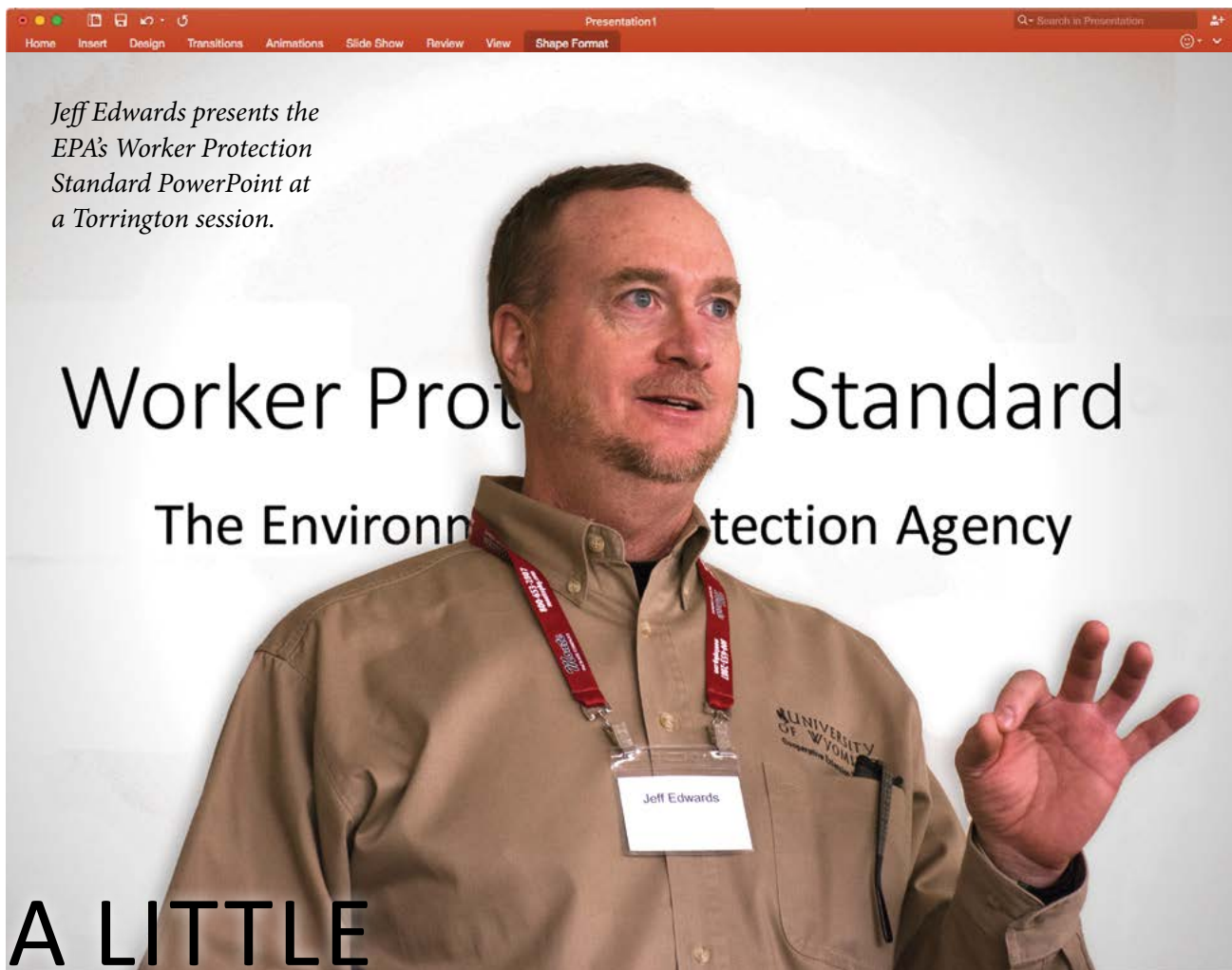
Cent\$ible Nutrition Program

WHAT IS CNP?

CNP is a free cooking and nutrition education program that can help people cook and eat better for less money. It reaches out to people using or eligible for SNAP benefits. To see if you can take the free lessons, go to <http://www.uwyo.edu/cnp/qualify/index.html>

CNP offers classes for adults and children. Adult classes are for groups or individuals. the curriculum has 17 hands-on lessons. Each lesson series includes eight of those lessons.

Recipes, cooking tips, safety, cooking resources, and MyPlate information is available www.uwyo.edu/cnp/cook/index.html.



A LITTLE

PowerPoint pain now

helps agribusinesses avoid pesticide penalties later

Commercial ag owners listen to EPA requirements for their workers' safety. One retired producer knows the potential dangers of thinking you're immune to pesticide perils.

It was classic death by PowerPoint, that mind-numbing death knell of word-riddled, black-and-white slides read word-for-word, throttling the minds of a captive audience.

The presentation was everything those who do so professionally are told NOT to do.

But Jeff Edwards' computer keys were tied. The Environmental Protection Agency commanded the Worker Protection Standard slide show it created and distributed not be altered in any way. So the 25 agricultural business owners politely sat through the presentation at a bank in Torrington right after a lunch hour (there WAS a break with coffee and other refreshments later to reenergize).

Edwards grabbed audience attention by describing why observing the regulations protecting agricultural workers in areas where pesticides



Cancer survivor Ron Kaufman of Torrington tells pesticide applicators to take all necessary precautions.

had been applied is important. That wake-up slap to the face was each violation noted by the EPA would draw a \$2,750 fine per worker per day involved. Ten workers per day every day the violation remained uncorrected would be \$27,750 per day.

Edwards told them a Colorado producer was fined \$250,000 because he failed to take a sign down after the re-entry time following a pesticide application.

That did get attention.

Serving Agribusiness Owners

Edwards is UW Extension's pesticide training coordinator, each year offering pesticide

training for commercial and private pesticide applicators.

This is the first year he's offered Worker Protection Standards sessions and wanted to give his first presentations to commercial ventures.

"We felt this audience was significantly underserved," says Edwards. "In our conversations with commercial entities, we realized they were not being informed about what their duties were regarding worker protection standards and believed we needed to reach out to them."

This WPS presentation was for any businessperson whose workers might be affected by any pesticide application.

Wyoming appears to be a big target flaring on the EPA's radar, perhaps for no other reason than the Cowboy State is the only state that does not have primacy in enforcement, which puts the EPA and not the Wyoming Department of Agriculture shouldering enforcement.

"The WDA just doesn't have the resources to take that on," Edwards says.

Edwards developed an hour-and-a-half preamble to ease the PowerPoint pain for those attending WPS sessions. His pre-session draws highlights from that inevitable EPA slideshow.

Better to have a death certificate list cause of death by

PowerPoint (not that that has ever REALLY happened) than death from pesticide exposure.

Knows the Dangers

Ron Kaufman of Torrington watched his father die of bladder cancer in 1988, caused, the doctors said, by pesticide exposure. Eleven years later, Kaufman's own alarm bells rang while he was at the Wyoming State Fair and Rodeo.

"I kind of knew the symptoms of bladder cancer," says Kaufman, a retired UW Extension educator. "I had the symptoms."

His operation was that fall, and his cancer treatment included live tuberculosis bacteria attacking tumors. He's had lots of surgeries since but was cancer-clear for nine years; then it returned. He's had six surgeries since, the most recent last September. "I have to be checked every three

months. I'm good now," he says.

Kaufman's condition came from years of exposure and, possibly, from a genetic sensitivity to the chemicals. Kaufman farmed during the lag between when certain pesticides were used and when their dangers became known.

"People did not fully understand how they would affect humans and the environment," says Edwards. "Producers would use their bare hands to stir the stuff. I think the training is now catching up with the younger guys so they recognize, 'Hey, I ought to be more careful.'"

The realization universities also needed to participate in WPS training prompted Edwards' efforts. The university's research and extension centers, which test and apply various pesticides, needed to comply.

"We started to talk about how to get folks trained and have it

make sense," says Edwards. He decided to create the presentation and give it to the commercial entities because they needed to see the information and to work out any bugs (we apologize) from the sessions.

Edwards has given the EPA slide show to those attending the Wyoming-Utah Farm Days in January, in Riverton and in Torrington, and several other locations late winter, early spring.

UW Extension Helps Expand Information

UW Extension educators are also attending training.

Blake Hauptman, based in Crook County, has attended three (yes, three) such PowerPoint presentations. He was at the Torrington session.

WPS has been around since the 1990s, but there's more of an emphasis now. Producers and agribusiness owners are taking note.

"I think their first reaction is they are a bit shocked by all the seemingly new responsibilities they have and frustrated because there are some gray areas," says Hauptman. "There seems to be in some regulations a challenge trying to figure out just exactly what you are supposed to do, and that's challenging as an educator, trying to dissect that regulation."

The hefty fines get people's attention, and Hauptman agrees the presentations could be more viewer-friendly.

"Maybe interaction with personal protective equipment,



Lori Schafer, assistant project coordinator at the James C. Hageman Sustainable Agriculture Research and Extension Center near Lingle, assisted instructor Jeff Edwards at trainings.



Extension educator Blake Hauptman attended three Worker Protection Standard sessions.

maybe some videos to incorporate into the presentations,” he says. “It’s a challenge.”

Still, the presentations help Edwards fine-tune his presentation delivery.

“We know we can’t get to every corner of the state,” Edwards notes. “If we spread the wealth to other educators, they can reach out to producers, and we are magnifying the impact.”

Kaufman’s Story

Kaufman was born in Morrill, Nebraska, attended UW, and taught in Wyoming and Nebraska schools, worked for Simplot in North Dakota, then returned to farm near Torrington and worked for UW Extension at the same time.

He had bare skin contact with pesticides, including breathing in Telone, which was used in the 1970s to kill insects when

planting sugarbeets and still is widely used for various crops. The fumigant was pumped into the ground.

“You smelled it because it turned into a gas when it hit the soil,” he recalls. “At that time, we weren’t concerned as much about chemical safety.”

He didn’t wear personal protective equipment, such as plastic gloves or masks. “We didn’t know the dangers at the time. We did get better in the 1980s and started using more protective gear,” he says.

When you’re young, you think you’re invincible, he adds.

“That was my biggest problem. You kind of knew the danger, but ‘it’s not going to hurt me,’ that kind of mentality,” he says.

Kaufman became very aware when his father developed cancer.

Now he’s even become sensitive to petroleum-based products,

“In our conversations with commercial entities, we realized they were not being informed about what their duties were regarding worker protection standards and believed we needed to reach out to them.”

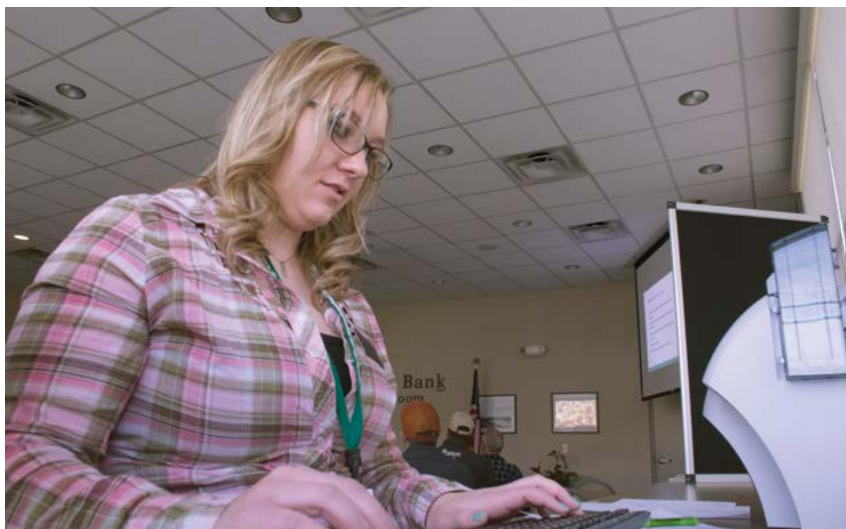
– Jeff Edwards
UW Extension pesticide safety coordinator

wearing gloves to fuel vehicles or when working with grease.

“It’s made me more careful, maybe to the extreme,” he says. “If I spill or slop fuel or fertilizer on my clothes, I hose them off



Scott McDonald, Wyoming Department of Agriculture fuel quality, pesticide licensing and registered service technicians program coordinator, at the Torrington presentation.



Kelcey Hart, office support and licensing specialist with the Wyoming Department of Agriculture, prints information to confirm attendance and completion of the training session.

outside and let the sun hit them for two or three days, then my wife washes those separate from any other clothing,” says Kaufman. “So I’m a little more careful than I used to be.”

Sunlight breaks down many pesticides.

Kaufman has seen homeowners applying herbicides in flip-flops and shorts. Kaufman has his safety list:

- Don’t wear shorts when spraying pesticides. Wear long pants.
- Don’t wear leather of any kind. No leather boots, gloves, hats.
- Wear rubber boots.
- Wear a long-sleeved shirt and a hat.

“Wear rubber gloves,” he says. “Any type of rubber glove is better than nothing.”

And always read the label on the chemical.

“I think my biggest point is to read the label, whether or not it’s a commercial agriculture chemical or for the garden. Half-lives are different for different chemicals. Find that out. With the internet, that’s pretty easy now.”

Not just agricultural producers and businesses need to know the regulations and precautions. Research of pesticides in Wyoming water wells shows urban water wells, and not rural water wells, showing the most detections (still below any EPA danger levels).

Kaufman advises visiting university websites, such as University of Wyoming, University of Nebraska, and Colorado State University, for pesticide safety information.

“They have leaflets and bulletins that have terrific information,” notes Kaufman. “People can call their extension agent to find out where to get those.”

PESTICIDE INFORMATION

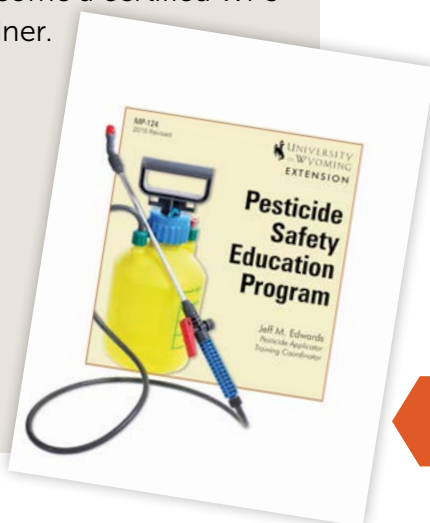
Pesticide safety education program

Go to bit.ly/wyopest-sheets for a list of pesticide safety education bulletins. To access the bulletins, copy the bulletin title and go to www.uwyo.edu/uwe and click on the Publications link. Type the title in the search field.

Worker Protection Standard information

The WPS was developed by the EPA to protect agricultural employees from the harmful effects of pesticides and their residues.

Go to bit.ly/wyowps for WPS information, including who must be trained and how to become a certified WPS trainer.





WYOMINGITES make the switch to

real FOOD



70% of the
average
American's diet
is made up of
processed food

What if you found out
food allergies were why you felt
exhausted?

What if you wanted to be
strong to run a half marathon?

Life stressful? Gaining
weight?

Want to give hamburger and
potatoes a break?

These are reasons participants
gave for signing up for the five-
week Real Food healthy eating
and cooking program in Lusk last
spring.

During the first session, they
divided into two teams, lined up
a variety of packaged foods from
least to most processed, and made
a few discoveries. For instance,
the label for a popular brand
of granola bar gives them 100
calories each – and 190 for the
package of two.

“The worst part,” admitted
Denise Smith, the UW Extension
nutrition and food safety ed-
ucator who led the class, “is I
grabbed a lot of these items from
my own cabinets!”

Over the next weeks the Lusk group learned more ways to distinguish whole foods from processed, how to avoid misleading packaging claims, decode ingredient lists and become avid label readers, plus how to plan menus, keep to a budget, and find locally sourced meat, eggs, and produce.

Every week they cooked – bright, fresh, colorful meals from the Real Food recipe collection. The first week featured veggie quesadillas made with sautéed squash, onions, peppers, and sweet potatoes, with homemade whole wheat tortillas, guacamole, and chilled berry-infused water.

Rick Bridge, a line supervisor with Niobrara Valley Electric, rolled out the whole-wheat tortillas in the kitchen of the county fair building.

“Don’t expect perfection like store-bought,” Smith told him. “These are homemade. They’re humble.”

Bridge attended with his wife, Martha, who heads Wyoming Child and Family Development in Lusk. They agreed it was time to buy a new set of frying pans.

“Yeah, now that they’re going to get used,” she quipped.

On a more serious note, she related, “We want to do more than sit home at night and watch a sitcom or read the tablets.” She and her husband planned to follow the example of their daughter and son-in-law, she said.

The heavily processed standard American diet is in need of an overhaul, says Karla Case, trained dietician and UW Extension nutrition and food safety educator who first developed the Real Food curriculum.

The problem, she says, is most people don’t know how to go about adopting a new approach to food they can enjoy for lifetime. She cites confusion in the media and on the internet about food, weight loss, and the latest fads.

“People are pulling away from the idea of diets,” she says. “Still, searching for solid, researched-based information on whole foods and healthy eating can be overwhelming.”

“The purpose of the Real Food program is to take away the confusion and frustration and give people the tools they need to plan, shop, cook, and eat foods that are minimally processed, nutrient-rich, easy to prepare, and delicious,” says Case.

Real Food classes have been a staple in Casper since Case began the program there in 2014. Would it work in other Wyoming communities?

“They are all so different, with different people and jobs, different priorities,” notes Case.

She and other UW Extension nutrition and food safety educators got the chance when the Ellbogen Foundation funded the



In the kitchen at the Niobrara County Fairgrounds, Karma Gaukel sautés vegetables for quesadilla filling.



Cheryl Lund, Lala Lamb, and Rick and Martha Bridge prepare the dough for whole wheat tortillas. Lund will use the fruit and pitcher to make berry-infused water.

team to tune up and pilot the Real Food program across the state.

Says foundation president Mary Ellbogen Garland, “Each day I wonder about the possibilities for a better Wyoming, and through the work of the foundation I have the opportunity to respond to the best of them.”

The Real Food lesson plans, activities, and recipe booklet were fine-tuned by the Nutrition and Food Safety team members and given a fresh graphic treatment in 2016. “We didn’t

know if it would be as successful in smaller communities,” says Case. Not only did classes fill, they often had wait lists. When Case offered the series again in Casper, one filled and she added a second.

In Lusk, Terry Chapman said he learned about Real Food at the Niobrara County Local Foods Expo. “I’m trying to learn to cook for the first time,” he said.

Cheryl Lund, an area rancher, said she was looking for some fun, different foods to eat.

The goal is to get people started preparing and eating more fresh fruits, vegetables, whole grains and local meat and eggs, says Smith. “Making your own granola, roasted vegetables, meatballs, and other recipes in class reinforces goals.”



By eight, the hot tortillas and fillings were set out with shredded cheese and sour cream. Plates were served and the room grew quiet.

Then from Martha Bridge:



WHAT IS REAL FOOD?

- Real food, or “whole food,” is food in its most natural state. The only processing is washing, cooking, and simple kitchen prep.
- These foods contain more naturally-occurring vitamins, fiber, and minerals than processed food.
- Includes fresh or frozen fruits and vegetables, 100% whole-grain products, and snacks such as dried fruit, seeds, nuts and popcorn.
- Includes dairy products and meats, such as pork, beef and chicken.
- Is locally sourced whenever possible.

HEALTH BENEFITS OF REAL FOOD

- Rich in phytochemicals and antioxidants from plants – powerful nutrients that protect cells against damage.
- Nutrient-rich, high-fiber with healthy fats.
- Low in calories, with the ability to make us feel full quicker.
- Contain combinations of nutrients that help to protect against cancer, high blood pressure, heart disease, and diabetes.

“These veggies – I just love them.”

“I’ve never cooked this way before,” said Lund.

By the end of week five the change was real. Participants reported drinking flavored waters at home, cooking at home, and weekend prep for weekday meals. Healthy oils were in. Soda and sugary fruit drinks, blind acceptance of package claims, baking mixes, and unlimited portion sizes were out.

“I absolutely LOVED this class,” wrote one new foodie. “I’m not an avid cook, because I’d never been taught or learned to cook, but now I look forward to it!”



Nutrition and food safety educator Denise Smith of Niobrara County (left) is assisted by Vicki Hayman, Weston County NFS educator, who teaches Real Food in Newcastle.



2016-2017

State of the Horse Report

UW Extension

4-H Equine Program

updated
expanded
energized

HORSES AND

Horses and riders are finding an outlet for their passion in the Wyoming 4-H Equine Program. For youths, 4-H offers hippology and horse judging contests, horsemanship and showmanship clinics, horse camp, and 4-H horse shows and competitions, including the fastest-growing competition class in the country, ranch riding.

Community members and University of Wyoming students find their niche as leaders, instructors, judges, advisers, and of course, parents who pull the trailers. These volunteers help 4-H keep its promise to empower youths working and learning in partnership with caring adults.

What's Big?

The state's first-ever Horse Judging Academy in Laramie April 1-2 attracted 64 youths, parents, leaders, and coaches, from third-grader to grandmother, ages 8 to over 60. Participants

*Logan Dykshorn
communicates
with her horse,
Clover, at the 2016
Horsemanship
and Showmanship
Clinic in Laramie.*

spent Saturday in a classroom in the Animal Science Building and put their knowledge to work on Sunday, evaluating horses at the Spur Ridge Equestrian Center. Use of that facility was donated by Mariah and James Osborne, parents of three 4-H'ers.

June through August is high season for the equine program. Horsemanship and showmanship clinics in Gillette, Thermopolis, Laramie, Riverton, and Torrington filled to capacity (15) in 2016. Jackson is scheduled for the first time along with three others in 2017. These one-day clinics feature showmanship in the morning and ranch riding in the afternoon.

"Showmanship is about communicating well with your horse to the judge," Jennifer Ingwerson-Niemann, 4-H equine specialist in the Department of Animal Science, told clinic participants last June in Laramie. Participants also heard such wisdom as "Whoa is the W word," "Sit deep in your saddle," and "Look where you want the horse to go."

For a more immersive experience, Horse Camp, the third weekend in June at the Wyoming State Fairgrounds in in Douglas, gives youths three full days of practical, hands-on training. Campers sharpen their horsemanship skills in areas such as rider position, reining, balance, turns, and patterns, with lots of one-on-one attention.

Skill-a-thons improve horse knowledge, and all the time-honored camp routines apply: life in the dorms, special programs, prizes, cafeteria food, and lights out. For 2016 and 2017, enrollment was upped from 75 to 80 campers. Typically, about a dozen 4-H leaders, parents, and volunteers lend a hand as camp instructors.

Later in June, the Wyoming state 4-H hippology contest and horse judging contest take place at Showcase Showdown. In 2017, the top senior horse judging team was offered their choice of three trips, all in October: Denver for the National Western Roundup; Oklahoma City for the Morgan Horse Association Judging Contest; or Columbus, Ohio, for the All American Quarter Horse Congress.

What's New?

The ranch riding competition class was introduced in 2016 to the Wyoming 4-H horse program. The class highlights the versatility, attitude, and movement of a working horse, with the emphasis on forward, free-flowing, and ground-covering movement at all gaits (walk, trot, and lope).

Ingwerson-Niemann explains, "An ideal ranch riding horse is one you could ride all day while doing ranch work."

According to the guidelines, judges look for relaxed, responsive horses with soft and cadenced gaits. The horse should make smooth and correct transitions, be soft in the bridle, and yield to contact.

In this class, riders are required to dress in western attire, and for tack, a good working



"Did you praise your horse?" UW intern Payton Gibson asks Kierra Osborne.

outfit is enough. Silver on bridles and saddles is discouraged. Hoof black, braided or banded manes, and tail extensions earn a competitor nothing but a zero score.

“Ranch riding fits the roots and culture of Wyoming,” says Ingwerson-Niemann. “And it’s really drawing more competitors to our program, especially the young men.”

Couldn’t do it Without Them

In early 2017, the Wyoming State 4-H Office put out a call for people to serve on the 4-H horse development committee.

Volunteers from across the state came forward. Parents, industry professionals, 4-H leaders, and UW Extension employees stepped up with a commitment to help strengthen, advise, and grow the Wyoming 4-H horse project. Johnathan Despain, state 4-H program coordinator,

and Sarah Torbert, state 4-H volunteer development specialist, and Ingwerson-Niemann provide statewide coordination and serve in advisory roles.

The first order of business for the committee will be to review the first complete revision of the Wyoming 4-H Equine Manual in almost 20 years. The new manual reflects advances in science and technology, especially in horse nutrition and healthcare. It provides the basis for a practical, science-based equine education and horsemanship skill improvement for all 4-H horse project participants.

Ingwerson-Niemann manages dual roles at the university. As a faculty member of the Department of Animal Science, she teaches courses, coaches the horse judging team, advises the ranch horse versatility team, and heads the university’s equine program.

“Look where you want to go. You’ve got to make the horse believe you want to go there.”

Jennifer Ingwerson-Niemann

As the UW Extension equine specialist, she heads the 4-H equine program and presents around the state on equine topics. In that role, she manages state contests, organizes and teaches at clinics and Horse Camp, and revises the 4-H equine manual and other program materials.

The equine program relies on a strong network of extension employees, 4-H professionals, and volunteers covering every county and the Wind River Indian Reservation.

At the state level, the 4-H coordinator of conference and marketing, manages registrations for scores of state events, including Horse Camp and Showcase Showdown.

Equine interns from the University of Wyoming serve as camp and clinic instructors, teaching everything from reining, ranch riding and showmanship, to dental care and horse blanketing.

Both 2016 interns, Payton Gibson from Dayton and Christa Avery from Laramie, grew up in the Wyoming 4-H program and now compete on the UW Ranch Horse Versatility Team. Gibson



Keeley Puls adjusts Chewie’s saddle. A morning of on-the-ground showmanship is followed by horsemanship in the afternoon.

is majoring in business and Avery in English education with a minor in psychology. The Department of Animal Science is working to add an equine science minor that will be available to all students.

UW Extension 4-H youth development educators coordinate with Ingwerson-Niemann, parents, and local volunteers to bring 4-H alive for thousands of Wyoming youths.

“4-H is the volunteers,” states Ingwerson-Niemann. “Without them, 4-H is not possible.”

More than a Horse

In the 4-H equine program, youths learn about breeds, colors, markings, anatomy, and gaits of horses. They learn skills to care for, groom, ride, show, and train horses and how to use tack and equipment and speak horse industry lingo. They become familiar with fundamentals of health, first aid, nutrition, and horse behavior.

Beyond this, says Ingwerson-Niemann, the program seeks to instill life skills in 4-H’ers, such as responsibility, critical thinking, and problem solving, and a sense of pride in their accomplishments.

“Horses teach you to put your horse and others before yourself,” says Ingwerson-Niemann. “On a cold, blowing day, a horse needs to be fed and cared for even when the 4-H’er would rather be warm inside.”

Youths who compete must learn to be gracious losers and gracious winners, she points out.

And the 4-H equine program teaches a bigger concept of self, she says — one that includes the horse, family, 4-H group members, and finally, the larger community.

After Lizzy Fox completed a clinic last June, her mother, Lorelei Fox, expressed a parent’s view:

“That’s what we needed – someone who was training the person, not the horse.”



Equine specialist Jenny Ingwerson-Niemann closes the clinic with Beyoncé and the equestrian version of musical chairs. “You are a fun group,” she says.

Financial U-turn

leads to money-wise advice for
cash-strapped residents
uppercut by energy industry dive



EXTENSION HELPS PROVIDE A CONSUMER GPS TO NAVIGATE PATH TO FINANCIAL PEACE

Michelle Pierce was unaware of the road she was travelling until she crested a mountain on her way from Washington to Wyoming and saw financial reckoning on the horizon.

Pierce, now a University of Wyoming Extension educator, was at the time teaching business classes at Campbell County High School and was returning from visiting her daughter in Washington.

She didn't know she was driving into a perfect financial-psychological storm. Before departing Washington, she saw the credit card charges online for her trip, about \$1,000. During the drive back, she was listening to the Dave Ramsey Show, a national call-in radio show based in Nashville, Tennessee, during which the host's driving point is get out of debt, stay out of debt, plan for emergencies, plan for the future, and offers listeners steps to do so.

His is the third-most listened to radio show in the nation, and one daily segment is the debt-free scream, when people come to the show's headquarters (or call in), talk about how they got into debt, how much debt they had, and how they got out of it. The

segment ends with their "We're debt free!" scream.

Ramsey offers listeners his financial steps, and Pierce heard them coming over that mountain.

"I'll never forget when he said (a couple) were high-income earners but were still broke," she says. "For some



Extension educator Michelle Pierce reason, coming up over a mountain, I had an epiphany."

The truth hit close. High-income earners, she and her husband were in debt about \$157,000 – pickups, a mortgage, her Harley, but mostly her \$80,000 in student loans.

The irony of teaching business classes and carrying such debt must have punched her financial reset button. "I felt like

we were in a very bad place financially," she recalls. "We needed to take hold."

She and her husband would call into the Dave Ramsey show four years later in Nashville and yell that debt-free scream to a national audience.

"My fear level went way down. My anxiety about my resources went down," she says. "I have a sense of freedom. When you have debt, that puts you in a vulnerable position to other people's decisions."

An Area Ill at Ease

Energy development is the center of the universe around which northeastern (and most of) Wyoming circles, and when the big equipment slowed and coal train numbers lessened, people either left the area or departed Wyoming to find jobs, stayed and tried to find other jobs, or tried make ends meet.

Some wielded financial sense to weather the financial storm. Adam Lara, who was a student of Pierce's in seventh grade, is one.

Lara had been kicked out of junior high, had returned to school, and, at 16, walked away from public school.



SLOW AND STEADY

Financial wisdom says to invest steadily over a long period of time. For example:

- If you were to invest \$200 and contributed \$400 a month for 30 years, and earn 8%, you would have \$454,781.
- A 10% return would total \$625,594
- A 6% return would generate \$334,210.

Source - <http://www.bankrate.com/calculators/retirement/roi-calculator.aspx>

“Adam never quite fit into the school structure,” says his mother, Naidene Williams, who as a single mom raised him, his brother, and sister. “He came to me at 16 and asked if he could quit school. My response was, ‘I don’t know what took you so long.’ School was always a struggle for him.”

On Mother’s Day that year, he told her he and his girlfriend were going to have a baby. So he and his girlfriend moved into a trailer. They had a budget, they planned out their meals for the week, they tagged a certain amount for bills, and put an amount into savings.

“I had never talked about finances,” she says about raising her children. “I was a single mom and didn’t have the money. I asked him, ‘Where did you get that (budgeting)?’ He said ‘My teacher, Mrs. Pierce.’”



Naidene Williams says her son put to use budgeting principles he learned from Pierce.

Today, he and now wife, Tanya, and young son, have their own house on a couple acres. They still plan out a budget, plan meals for the week, have a certain amount for bills, and put money into savings.

“They plan to have everything paid off soon,” says his mother. “They’re just budget savvy. I wish I had that. But you know what? Michelle teaching kids that life skill, that stuck with Adam.”

That pleases Pierce, that a student put to use something taught.

“Through the budgeting process, that changed his life,” Pierce says. “He was able to take a situation, a single parent, and change his whole life based upon him having the resources. He knows what they have coming in and going out, and they live within their means.”

Starting Again with Nothing

Robin Cook’s divorce nine years ago left her with nothing. She’s doing pretty well – now.

“I struggled for a couple years before I said, ‘OK. I need to be more responsible,’” she says. One day, she picked up a Dave Ramsey book. (UW Extension does not make endorsements. Ramsey is a theme in conversations with the interviewees.) He taught how to use an envelope system to ensure sticking to a budget and telling every dollar what to do.

She was delighted. “I had created my own envelope system that I had used for years,” she says.

Cook later took a fundamentals of budgeting class from Pierce then attended a planning for retirement class with her recently

retired mother. Cook showed Pierce the printouts she had been using, her own system.

“It was fun talking to her,” Cook says. “She told me ‘Even if you get one thing from my class and I from you, that’s awesome.’”

Robin is a huge saver now. Robin 10 years ago was not.

“I was a stay-at-home mom,” she recalls. “We weren’t making it paycheck to paycheck. Everything was being blown.”

She’s more disciplined now, and says talking with someone like Pierce, who asks how she is doing, helps keep her stay accountable.

“I didn’t have that back then,” she says. “My ex was not like that. We knew we were spending too much. Now, I know exactly where every dollar is going.”

Making Financial Concepts Work for You

The written budget kept the Pierces on track toward financial freedom. The budget was a tool to pay off student loans Pierce used to finish her undergraduate and then her master’s degree.

Pierce had another epiphany.

“I decided we are going to have every opportunity in the world to let compound interest work for us instead of against us,” she relates. “If we didn’t take the opportunity to do something about it, we would be like the rest of America. I didn’t want to be like that. I wanted to use my resources the wisest way possible.”

Pierce offers group classes and one-on-one conversations. Her toughest nut to crack, those who need her help the most but are hamstrung by low incomes, might be the single mothers (and occasional fathers) who utilize Early Head Start in Gillette.

Pierce had presented a session to staff members at the Childrens Developmental Services of Campbell County, so administrators were familiar with what she could provide clients.

Home visitor Heather Zahn works with many families below the poverty line. She’s called upon Pierce to provide budgeting help for her clients, and Pierce has also presented to the parent group.

Pierce provided information on buying a house, something Zahn says her clients were requesting.

“A couple of moms really found a lot of benefit in it and told me later it completely changed how they thought about buying a house,” says Zahn.

Another session – budgeting – showed parents the recommended percentages to spend on food, utilities, and savings.

“One client said the family lived paycheck to paycheck and did not have anything in savings,” says Zahn. “Michelle said to put 10 percent away for emergencies and then pay yourself first. Since then, the mom has been doing that. She said it’s the first time they’ve ever had any money.”

UW EXTENSION OFFERS MONEY MANAGER COACH COURSES

A train-the-trainer program to help community organizations teach members and clients basic money management is being offered through University of Wyoming Extension.

The Master Money Manager Coach program will be in various locations this year.

Instructors will train those attending to then teach individuals financial management skills.

The program is recommended for community organizations, nonprofits, and agencies that wish to help their clients better understand and manage their financial lives, says UW Extension educator Juliet Daniels, coordinator of the program.

Go to www.uwyo.edu/uwe/county-calendars.html to find events in your county.





Liberty Riley says she was impressed she was asked what financial information youths her age wanted to know.

I'm a young person and I'm already struggling. I don't want to be struggling for the rest of my life. I should figure this out while I'm young."

– Liberty Riley

Finances constant companion during walk through life

Unsound financial decisions cost plenty over a long period of time. Yet most people only receive a rudimentary exposure – compared to the other skills gained in academics – in public schools.

Ask Michelle Pierce if public schools provide adequate financial literacy.

"Absolutely not," she says. "STEM (science, technology, engineering, math) is foundational, but resource management is also foundational and is something we deal with from birth to death. We educate citizens on everything, from drugs to health care. Why would we not educate the general public on resource management?"

So people are left to flounder, she says, left looking for information, having to educate themselves.

Liberty Riley (she was born on the Fourth of July) was interning in the Campbell County

Extension Office earlier this year. A graduate of Arvada-Clearmont High School, she has taken classes from Pierce.

Riley learned the envelope system, in which an allotted amount of cash is placed in an envelope designated for a specific purpose. She also took a budgeting course.

Riley says Pierce was willing to ask someone young questions.

"I really thought it was cool she would ask me what people my age wanted to know," she says. "I thought that was awesome."

Riley attended Gillette College on scholarships and didn't take out student loans. She has withdrawn from college to figure out what she wants to study and how not to incur any college debt.

"My boyfriend wasn't as lucky as me," she says. "He's still paying off college loans."

She may not be learning in college, but she's learning in life.

"I need to learn how to save money, and I don't want to be financially in the toilet," Riley says. "I see a lot of adults struggling. You see that a lot. I'm a young person and I'm already struggling. I don't want to be struggling for the rest of my life. I should figure this out while I'm young."

UW Extension offers research-based information to residents, free, with no motive other than education.

"I'm passionate about helping everyone," says Pierce. "I don't have an agenda. I love showing them truths and strategies to use their money better."

It's also not about numbers, that people aren't good enough in math.

"Then accountants, math teachers, and accounting teachers would never be broke, but that's not the case," she says. "It's not a numbers problem. It's mostly about everyday behaviors."

Annual conference not only for manic

ORGANICS

but anyone – including traditional producers – interested in boosting financial returns

FOR the fourth consecutive year, commercial agricultural producers, gardeners, hobbyists, the inquisitive, and those just wanting to know more about organic farming were seated together at Laramie County Community College in Cheyenne.

The mix this February day differed from what might be seen when high-dollar, big-iron, this-is-how-we-do things commercial sugarbeet, corn, or soybean producers gather. Few gardeners or hobbyists would attend those, neither would others lacking lots of capital and access to land.

Wyoming's own joined others from Nebraska, Colorado, and Montana the first day, learning organic certification nuances. The second day, they heard farmers and livestock producers talking about their efforts and resource experts talking about organic weed control and soil health and other issues for those not using synthetic pesticides or fertilizers.

The conference always fosters lots of great discussion as people with many different perspectives join the conversation."

Jay Norton

Doing Without

Tillage, bare ground, and synthetic fertilizers damage soil health, and organic producers face a paradox: they rely heavily on tillage for weed control since they can't use herbicides.

"When you are committed to not using herbicides or synthetic fertilizers, it makes your job as a farmer in some ways a lot more challenging," says Caitlin Youngquist, a University of Wyoming Extension agriculture and horticulture educator based in the parched Big Horn Basin, where fields are made lush green

by irrigation canals feeding water.

She presented how to measure soil health and fertility in the lab and field and says the conference attendees seemed up for the challenge and using new tools and resources to manage soils and pests.

UW Extension soils specialist Jay Norton organizes the conference with help from graduate students and others. Second-year master's student Erin Rooney was in her second stint as assistant organizer.

Attendees have been diverse, she says.

"Jay does a good job in having producers who fit the identity of the people coming to and speaking at the conferences," she says.

They are not espousing how great organic is or how they're saving the earth, says Rooney. "That's in their minds but in a little more calmer way. What they are mainly focused on is organic as a livelihood."

High Plains harsh weather and poor soils challenge farmers

and make many defacto organic.

“Being organic certified allows the opportunity for them to make a little bit more money,” she says.

Norton says his motivation for investing more and more time and energy into this conference each year is organic farming really offers a valuable economic opportunity for Wyoming farmers.

“One wheat farmer who has recently converted to organic put it very simply. Conventional wheat prices don’t cover the costs of production,” says Norton.

“We don’t question or contemplate producers’ or consumers’ motivations, but we attempt to provide sound scientific and experienced-based information on agronomy, soils, marketing, and business aspects. We stay out of subjects like lifestyle decisions and arguments about the relative healthiness of organic versus non-organic, GMO versus non-GMO.”

Growing Interest

Norton says as interest in organic production grows,

farmers need a forum to learn and share production, marketing, and business-model approaches, regardless of their motivations for going organic.

The conference addresses production and marketing issues faced by larger-scale farmers who make a living from their organic farms.

“Everyone is welcome, of course, but the conference is about how to capitalize on the economic opportunity presented by organic production,” he notes.

Still, as the conference has grown, participation from a spectrum of growers has increased, from those with backyard gardens to 10,000-acre wheat farms.

“But participants can really focus on what they have in common – interest in economic sustainability of their farms – and not what they may not have in common – like personal beliefs about modern agriculture,” he says. “So the conference always fosters lots of great discussion as people with many different perspectives join the conversation.”



Master’s student Erin Rooney twice organized the organic growers conference and presented her research.

FOR MORE INFORMATION

Questions about the conference or organic growing? Comments? Jay Norton welcomes your input. Contact him at (307) 766-5082, office, or (307) 760-5781, cell, or at jnorton4@uwyo.edu.



*Extension soil specialist
Jay Norton*

Working with Farmers the Reason

Rooney's research examines phosphorous recycling in calciferous soils, subject of her poster at the conference.

She has worked closely with several farmers.

"Going out into their fields and being able to tell them what we are finding out so far and hearing their concerns and what they want to try, that's really where what I'm doing is applied and where it gets its importance," she notes.

Several producers visited with her at her research poster. Some live in an area where they are getting good results with cover crops or cover crop rotations, and some live in an area where they are applying phosphorous and seeing differences.

"Being able to actually interact with farmers, talk to them about what I'm doing and hearing what they are doing is probably the most important thing I've done in the past few years and informed what I'm researching and how I approach what I'm doing," she notes.

Rooney plans to apply for a Congressional Science Fellowship after receiving her degree. Following interviews in Congress, Fellows choose a congressional office – personal or committee staff – where they wish to serve. They are expected to be capable of handling varied assignments, both technical and non-technical.

HERE'S A MENU

OF TOPICS FROM THIS YEAR'S CONFERENCE

Dryland Organic Grain Production
Ron Rabou, Rabou Farms, Albin

**Organic Livestock:
Regenerative, Organic
and Resilient Family Farming**
Keri Schilthuis, Fort Causeway Farm, Lovell

Irrigated Organic Production,
Wyatt Barnes, Red Wagon Farms,
Boulder, Colorado

**Is Organic Farming
Environmentally Friendly?**
Ben Bowell, Organic Specialist, West
National Technology Support Center,
USDA-NRCS, Portland, Oregon

Organic No-Till: Is it Possible?
Patrick Carr, Central Ag Research Center,
Montana State University

**Colorado State University Organic
Specialty Crops Research
and Organic Transition Strategies**
Mark E. Uchanski, CSU

**Measuring Soil Health and Fertility
in the Lab and Field**
Caitlin Youngquist,
University of Wyoming Extension

**Adding a Community Supported
Agriculture Venture**
Cole Ehmke, UW Extension

Effective Marketing on the Web
Justin Johnson, Digital Director, West Edge

Research posters at 2017 conference



UW graduate student Mavis Badu

Does the Surrounding Landscape Affect Alfalfa Weevil Densities?

Presenter: Makenzie Pellissier,
University of Wyoming

The composition of landscapes surrounding crop fields can influence the abundance of pests and beneficial insects in those fields. For this project we analyzed landscapes surrounding alfalfa fields in southeastern Wyoming to determine if landscape composition was associated with alfalfa weevil infestations.

Cropping System Effects on Wind Erosion Potential

Presenter: Cassandra Schnarr,
Colorado State University

Farm management choices can have long-term implications for soil. In this study involving three sites in eastern Colorado we examined how the intensity of crop rotations can affect dry soil aggregate size and stability. Our results point to the importance of crop residues and the influence of soil clay content in aggregation.

Reduction of Soil Salinity by Cover Crops in Dryland Organic Winter Wheat Fallow

Presenter: Mavis Badu,
University of Wyoming

High soil salinity is a major threat to seedling emergence and growth in drylands and could reduce yields by 50%. Cover crops may be a good remedy to reduce soil salinity when planted before wheat. Four compost rates and inorganic fertilizer were compared, in addition to cover crop and fallow treatments. Cover crops were found to significantly reduce electrical connectivity (EC), thus reducing soil salinity. Study will be repeated in 2017 and 2018 to validate results.

Groundwater Use and Management in Eastern Laramie County

Presenters: Kaila Willis, Kristi Hansen, Dannele Peck, and Shannon Glendenning, University of Wyoming

Groundwater levels under portions of eastern Laramie County are dropping. What should be done, if anything, to relieve pressure on the aquifer from existing demands? We

present possible goals and strategies for achieving them, as explored by the Laramie County Control Area Steering Committee in 2015-6.

Way Too Early Results of High-Carbon Char

Presenters: Dr. Cody Creech and Travis Orrell, University of Nebraska

High-carbon char added to agricultural soils can improve soil physical, chemical, and biological processes. Results from the first year of multiple experiments show no negative impact on crop yields. It is anticipated that yield increases will occur in several years as documented in prior literature.

Effects of Cover Crops and Compost on Phosphorus Availability and Wheat Yield in Calcareous Soils

Presenter: Erin Rooney,
University of Wyoming

Phosphorus is largely unavailable in calcareous soils. Can cover crops solubilize this recalcitrant phosphorus? Can a one-time high-rate application of compost increase available phosphorus? Phosphorus cycling and wheat biomass findings are reported.

CONFERENCE INVIGORATES ORGANIC GROWERS

Keri and Kevin Schilthuis and their four children live in an area of the Big Horn Basin laden with heavy, blue bentonite soil.

Eons of deteriorating volcanic ash formed the clay, which absorbs great amounts of water. Their 80-acre place has been called the Blue 80 by some, the Blue Goo by others.

Crazy by others.

They bought their place, officially called Fort Causeway, on eBay in 2007, moving from Indiana, although Keri is from Colorado and Kevin from Canada.

“Organic is a bad word where we are,” says Keri, asked to present information about their farming and sheep production operation at the conference. “We were laughed at, made fun of, and some people were downright angry we had the gall to be organic.”

The Cheyenne conference was rejuvenating for her. People asked questions after her presentation and while visiting her booth.

“It’s always exciting and encouraging to be around people who have the same mindset, the desire to think outside the box, and the willingness to take the extra step toward certification,” she



Keri Schilthuis

says. “It’s helpful for us. Where we are, you start to think ‘Maybe I am crazy. Everybody around you thinks you are. Maybe I am!’”

Fort Causeway is having its 10th anniversary, and Keri says they’re seeing results.

“By that I mean we are seeing our soils turn around from very poor soil to very fertile soil, and that can help us increase our bottom line and increase profitability,” she says.

They’ve increased stocking rates to finishing out 1,000 head of sheep on around 100 acres.

“It’s fantastic being able to do that,” says Keri. “The profits will come in time. We’re at a

break-even with small profitability right now but success in that we have soil now versus before when we didn’t.”

She and her husband have side operations connected to their farm that help boost income.

A University of Wyoming Extension educator based in Washakie County, which is nestled in the Big Horn Basin, observed that those attending organic meetings tend to be interested in not only soil management, but the biological side of production.

“I enjoy events like this because people who attend are hungry for new ideas and information, and also eager to share what they know,” says Caitlin Youngquist, who spoke to conference attendees about “Measuring soil health and fertility in the lab and field.”

She offers a unique perspective. Youngquist has one foot in big-iron, commercial agriculture and the other in organics.

She was raised, if you will, organic. The two modes have tugged at her.

“It’s good now that I can handle it,” Youngquist says. “It was hard when younger, but I feel it’s of benefit to me now.”

Her childhood was genetic



Extension educator Caitlin Youngquist

modified organisms (GMOs) were bad, organic is better, natural is better, and she says she values the perspective gained from where she is working now.

“Things are more shaded and nuanced than when I was younger, in the world I grew up in,” says Youngquist. “It’s a fun challenge. Regardless of your production system, organic or conventional, large or small, commodity or specialty, healthy soils are perhaps the great unifying factor.”

Even as a scientist, she says, she tends to balance what Simplot and John Deere say is needed for farming with what Mother Nature says is needed.

“I see both perspectives and try to balance that with my science background and answer (organic) questions,” she says. “I think it allows me to relate to a large range of people.”