

connect 2018

UW Extension's Connection with Wyoming

Plant sciences doctoral student Chloe Mattilo monitors a drone flying a route she programmed during the cheatgrass field day. Mattilo was demonstrating Unmanned Aerial Vehicles as tools to scout for invasive species. Page 13



UW

EXTENSION



Mary Kay Wardlaw



Kelly Crane

Our commitment remains strong during year of change

The hallmarks of successful extension work include being adaptable, resourceful, and positive in an ever-changing landscape. UW Extension continues to thrive in the presence of change in Wyoming communities and at the University of Wyoming.

We recently celebrated the careers of Glen Whipple and Frank Galey, who retired from UW Extension and UW's College of Agriculture and Natural Resources after providing visionary leadership for nearly two decades.

During this transition year, we are honored and humbled to provide administrative leadership for UW Extension. We join a team of outstanding extension educators, specialists, and administrative professionals unsurpassed in their commitment to serving Wyoming through community-based educational programs.

This issue of CONNECT highlights a few examples of how UW Extension is engaging with communities throughout Wyoming. We hope learning about these efforts will create more opportunities for us to serve youth and adults throughout the state.

Please be assured we welcome your input, questions, and feedback. You can reach us at (307) 766-5124 or kcrane1@uwyo.edu or wardlaw@uwyo.edu.

We hope you enjoy this issue of CONNECT and thank you for supporting UW Extension in your communities.

Kelly Crane, UWE Associate Director

Mary Kay Wardlaw, UWE Associate Director

"UW Extension continues to thrive in the presence of change in Wyoming communities and at the University of Wyoming."

connect

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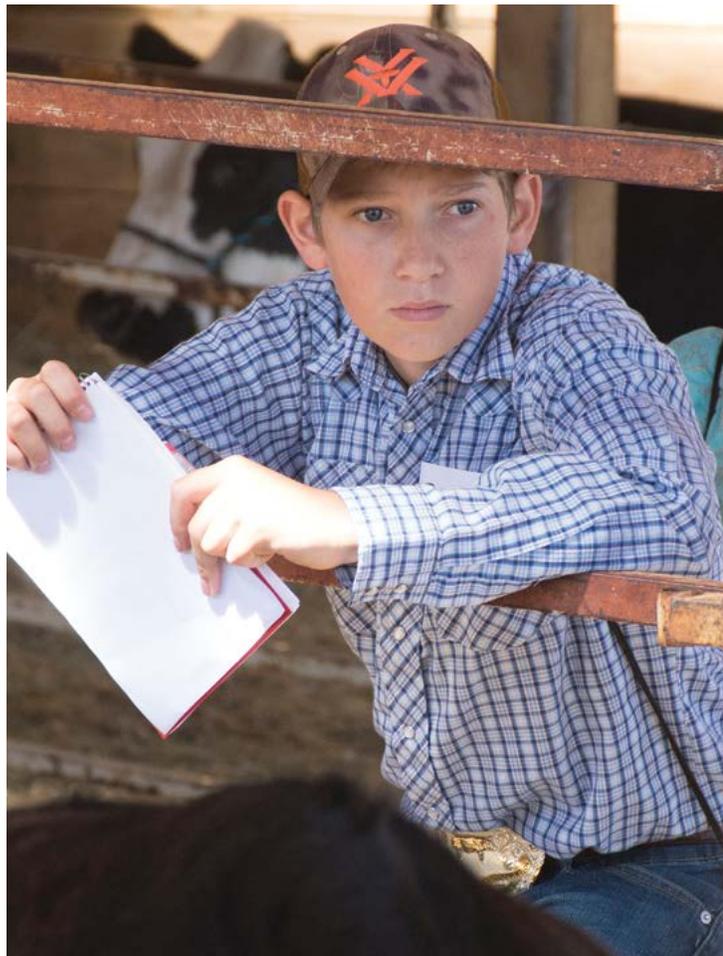


307

a great place to be



Boost livestock judging skills? CHECK.
Opportunities for college scholarships? YES!





Caylin Deniz of Laramie scrutinizes an animal during swine judging at Casper College.

A summer series of livestock judging camps designed to boost skills among 4-H'ers – and provide opportunities for scholarships to the state's four community colleges – culminated at the state fair when the top scorers in three divisions were recognized.

University of Wyoming livestock judging team coach Caleb Boardman presented 307 Livestock Judging Series certificates to five senior, five intermediate, and three junior participants.

4-H'ers could compete in twelve 307 Livestock Judging days and camps. They had to attend at least three and then compete at the Wyoming State Fair and Rodeo, notes Boardman.

“We are trying to give students interested in judging more opportunities to compete,” Boardman says. “The more experience you get, the better you will be.”

This summer's contests began at the Intermountain Clinic in Spanish Fort, Utah, and ended at the state fair. The new 307 series has fall contests at Laramie County Community College, Casper College, and UW, with camps starting again in March at Northwest College in Powell.

There are sports camps in summer, why not livestock judging camps?, asks Boardman, who notes the camps have aided student recruitment to UW.

“I don't want to take anything away from sports, but the majority of students from Wyoming, if they get scholarships, will be academic or agricultural scholarships,” he says. “If you look at the ag industry, UW Extension, and the college of agriculture, all of these students are working toward gaining a scholarship and being on a collegiate competition team.”

Extension educators and specialists, Wyoming community college instructors and department heads, and members of the UW livestock judging team joined in the program.

Camps at community colleges were three days; 4-H'ers attended two days of training then competed the final day. County events were one day.

Extension educators in the individual counties organized the camps, and UW livestock judging team members assisted, as did others from the community colleges.

“It's been fantastic,” says Boardman. “This is our second year doing it, and our numbers continue to grow.”

Boardman notes there were 51 senior 4-H'ers, 66 intermediate and 25 junior participants.

The training would not be possible without sponsors, he says. First Northern Bank was a main sponsor of \$2,500 to support all the contests.

Other sponsors were Casper College, Eastern Wyoming College, Northwest College, Laramie County Community College, Burch Livestock and Hay, Pickinpaugh Livestock, 3D Livestock, Custis Showpigs/ShowTec Feeds, M Lazy Heart Feed Division, On The Mark Feeds, and Sublette County 4-H.



This year's 307 Livestock Judging Series All-State Award recipients in their divisions and their counties were:

Juniors (ages 8-10) – Riley Lake, Albany; Emmy Hornecker, Natrona; Paiyzli Baker, Sublette.

Intermediate (ages 11-13) – Kymber Stinson, Albany; McKinly Hepp, Johnson; Emma Gonzalez, Laramie; Garrett Burkett, Brekken Hornecker, Natrona.

Seniors (ages 14-18) – Kemsley Gallegos, Alexis Lake, Saige Ward, Albany; Emma Mercer, Big Horn; Logan Mehling, Park.



Upper left:
Sage Romsa, front, of Natrona County, and Alexis Lake, and Ryder Senior, back, both of Albany County, participate in the 4-H 307 Livestock Judging camp at the Central Wyoming Fair and Rodeo in Casper.



Left:
Garrett Burkett of Casper and others in his division inspect sample livestock in the ring during the 307 judging at the Central Wyoming Fair and Rodeo.

Right:
4-H'er Anthony Barnes competes in a reasons competition at the Casper College Judging Camp this summer.





University of Wyoming Extension forage agroecologist Anowar Islam started the annual forage field days to help increase hay productivity across the state.

You probably have your own answer to

What was the most important invention of the last 2,000 years?

A Princeton University professor has his, and UW Extension's forage specialist seeks to bolster Wyoming production

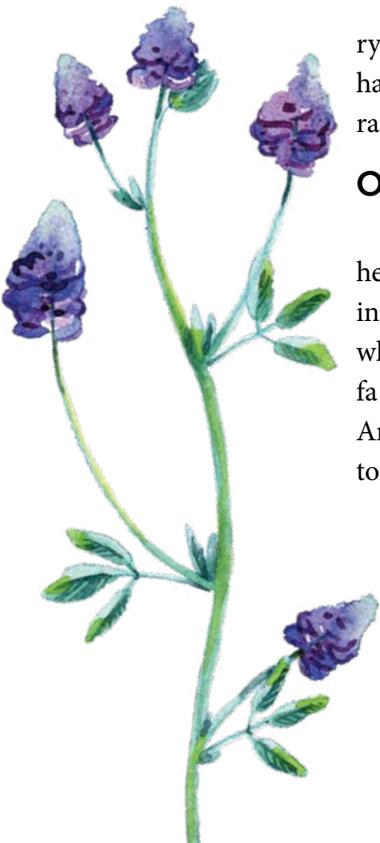
You have probably driven past what retired physicist Freeman Dyson (known for his work in quantum electrodynamics), professor at the Institute for Advanced Study at Princeton University, says was the most important invention of the last 2,000 years.

Alfalfa.

Ancient civilizations depended upon animals, and animal husbandry depended upon grazing. At some point, says Dyson, someone invented hay, which could be cut and stored, enabling civilizations to leap mountain ranges, traverse continents, and cross seas.

Origins

The alfalfa extension forage specialist Anowar Islam works with has a heritage stretching back to the Middle East and its horses. Alfalfa originating from southwest Asia (*Medicago sativa*) has the familiar purple blooms, while yellow alfalfa (*Medicago falcata*) originates from Asia Minor. Alfalfa then traveled to Spain, whose explorers and traders brought it to the Americas, with its use migrating to the southwestern U.S. and eventually to the Intermountain West.



Some alfalfa may have been growing in the eastern U.S. but not until its introduction into California during the gold rush of 1849-1852 did it establish and grow to today's status. Alfalfa is one of the few crops that moved from west to east across America.

Wyoming Hay Tradition

Islam joined the University of Wyoming in 2008 (he had offers from two other universities while at the Noble Foundation in Oklahoma). He was drawn by the state's hay heritage and saw its harsh growing environment as a challenge.

What bothered Islam, and still does, is Wyoming forage productivity hasn't increased much the past several decades despite advances in alfalfa breeding and knowledge. Arizona, with its several crop cuttings a season, tops national alfalfa production in tons per acre with 8.4. Wyoming is No. 17 with 2.9 tons per acre. The national average is 3.2 tons per acre.

Wyoming producers harvested 2.2 tons per acre in 1968.

Many factors probably contribute to the stale growth, says Islam, including soil fertility, pests, diseases, and management.

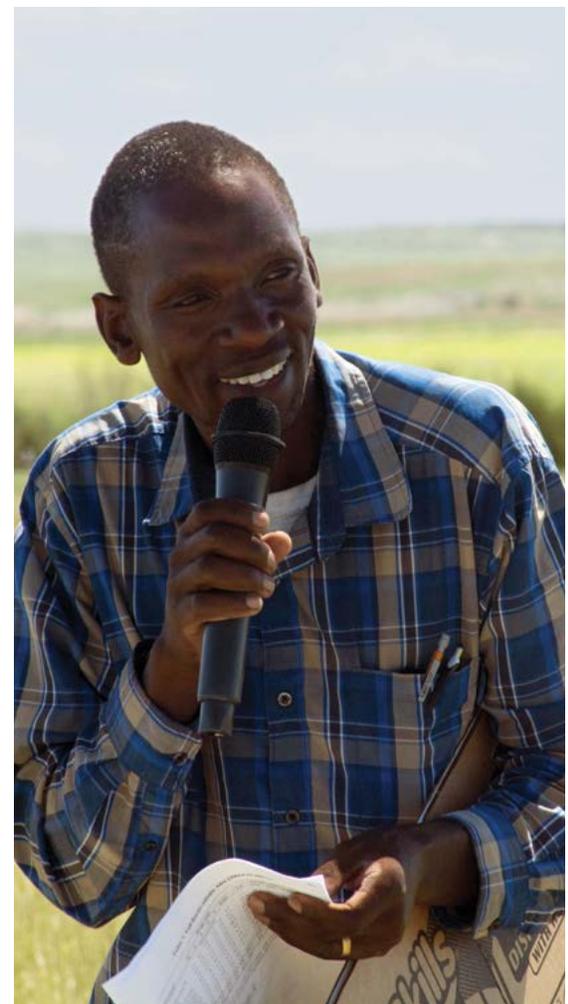
Livestock is the state's number one commodity, but animals have to be fed. Islam wanted to find ways to move Wyoming's production rate closer to the national rate and created the first forage field day in 2013. That first near Lander was in collaboration with the Wyoming Business Council.



Above:
The James C. Hageman Sustainable Agriculture Research and Extension Center near Lingle hosted this year's forage field day. UW Extension beef cattle specialist Steve Paisley is the center's interim director.

Right:
Ph.D. student Dennis Ashilenje has a number of ongoing forage production studies at the James C. Hageman Sustainable Agriculture Research and Extension Center.

Next page, top:
Andrew Kniss is the professor of weed science in the College of Agriculture and Natural Resources. His areas of research include the non-target impacts of weed management and new herbicide uses.





“We asked producers what they were interested in and what their challenges were,” he says. “We can’t address every one at the same time, so we picked up to three challenges and, based on that, select a location.”

Producer interests guide speaker selection.

Raising Wyoming Production

Time will tell whether or not his efforts are effective, but he says he receives more calls each year about forage. He cites as an example of field day benefits a beginning farmer who has attended every field day since Lander.

The producer contacted Islam shortly before this year’s field day near Lingle. “He thanked me for my recommendations,” says Islam. “He said he had had no experience with alfalfa (when attending that first field day) and how to produce

grass and forages. He had a small farm and he worried if he was not successful in establishing the forage, he would lose all his money and fold.”

He didn’t.

Islam says this year’s specific challenges were from southeastern Wyoming producers: how to maintain alfalfa stand productivity after several years and how to maintain a 50-50 alfalfa-grass ratio.

This year’s forage field day was at the James C. Hageman Sustainable Agriculture Research and Extension Center. More than 138 registered.

“They wanted to learn how they could improve their productivity. Especially after five or six years, their productivity was getting lower,” notes Islam. “Or they would start with a grass-legume mix, and after two or three years the fields were either all grass or all alfalfa.”

WYOMING CHAMPION DYNASTIES

If there could be dynasties in world hay competition like those in professional football – Wyoming could claim Super Bowl titles.

Hardrock Farms of Wheatland, operated by David and Teri Hinman, are perennial champions and repeated as grand champion in the commercial hay division of the 2017 World Forage Analysis Superbowl. Five other Wyoming producers were in the top 20: Lazy 2K Livestock of Wheatland (3); Rooster Ranch of Casper (5); Cox & Fisher, Powell, (8); 5-5 Angus, Douglas, (9); and RAC Farming Inc. of Lingle (17).

There’s more. Lazy 2K (operated by Kellie Hinman, daughter of David and Teri Hinman) was named grand champion in the grass hay category. 5-5 Angus was ninth.

In 2016, Lazy 2K was second in the commercial hay division to Hardrock Farms.

Forage producers enter their highest quality forages in seven different categories in the Superbowl competition, which takes place during the World Dairy Expo in Madison, Wisconsin. More than 70,000 usually attend the annual event.



Those attending the 2018 forage field day toured research facilities at the James C. Hageman Sustainable Agriculture Research and Extension Center.

One crop choked out the other, says Islam. The 50-50 grass to legume mixture helps reduce chances of bloat in livestock.

“They asked how can they maintain the proper ratio so they can freely graze the area without any bloat worry,” Islam says.

Islam has conducted grass-legume studies at the Sheridan Research and Extension Center and has published results in *Grass-legume mixtures improve*

forage yield, quality, stand persistence. Results are from three growing seasons. The free bulletin, B-1309.1, is available by going to www.uwyo.edu/uwe and clicking on the Find a Publication link and typing the title or bulletin number.

Producers also wanted to know how to either rejuvenate stands or craft a crop rotation to fit their goals.

Islam advises producers not to plant new alfalfa in old fields. Established alfalfa plants release a compound into the soil that reduces germination and growth of new alfalfa seedlings, a process known as autotoxicity. Crops such as oats, wheat, or barley could follow alfalfa, taking advantage of the nitrogen fixed into the soil by alfalfa and breaking any disease cycle and not wrestling autotoxicity.

Increase Productivity

Timing of cultural practices can contribute to variable production, says Islam. Even a half a ton

lost per acre in one year grows to 2.5 tons lost after five seasons.

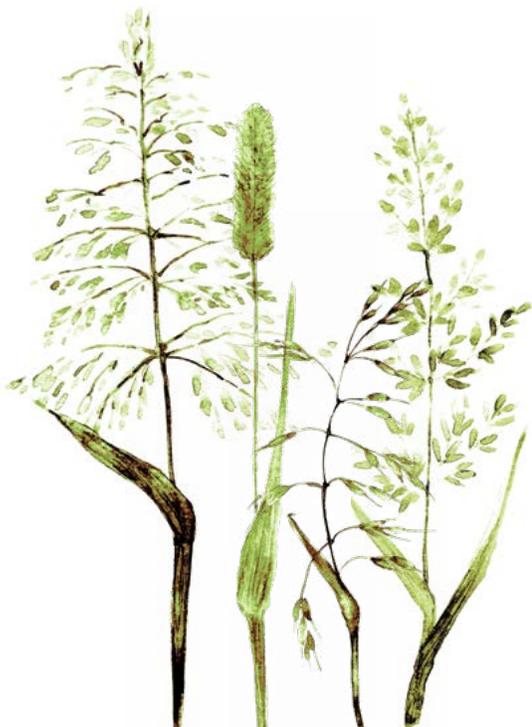
“If you don’t cut at the right time and if you don’t allow it to rejuvenate at the right time, then that year-after-year will affect your yield,” he says.

Alfalfa growth comes from the crown, and allowing at least three to four weeks’ growth before the killing frost allows the plant to store carbohydrates.

“If you cut before the killing frost, that will damage the plant every year, and it will not have enough food to overwinter, and next spring your stand will be thinner,” he says.

Alfalfa not managed well will decline.

“That’s the message I’m trying to give,” Islam says. “If you don’t do things at the right time, that will really affect the stand over time. Not in a single year, but year after year.”



Solution remains elusive for landowners undergoing cheatgrass assault

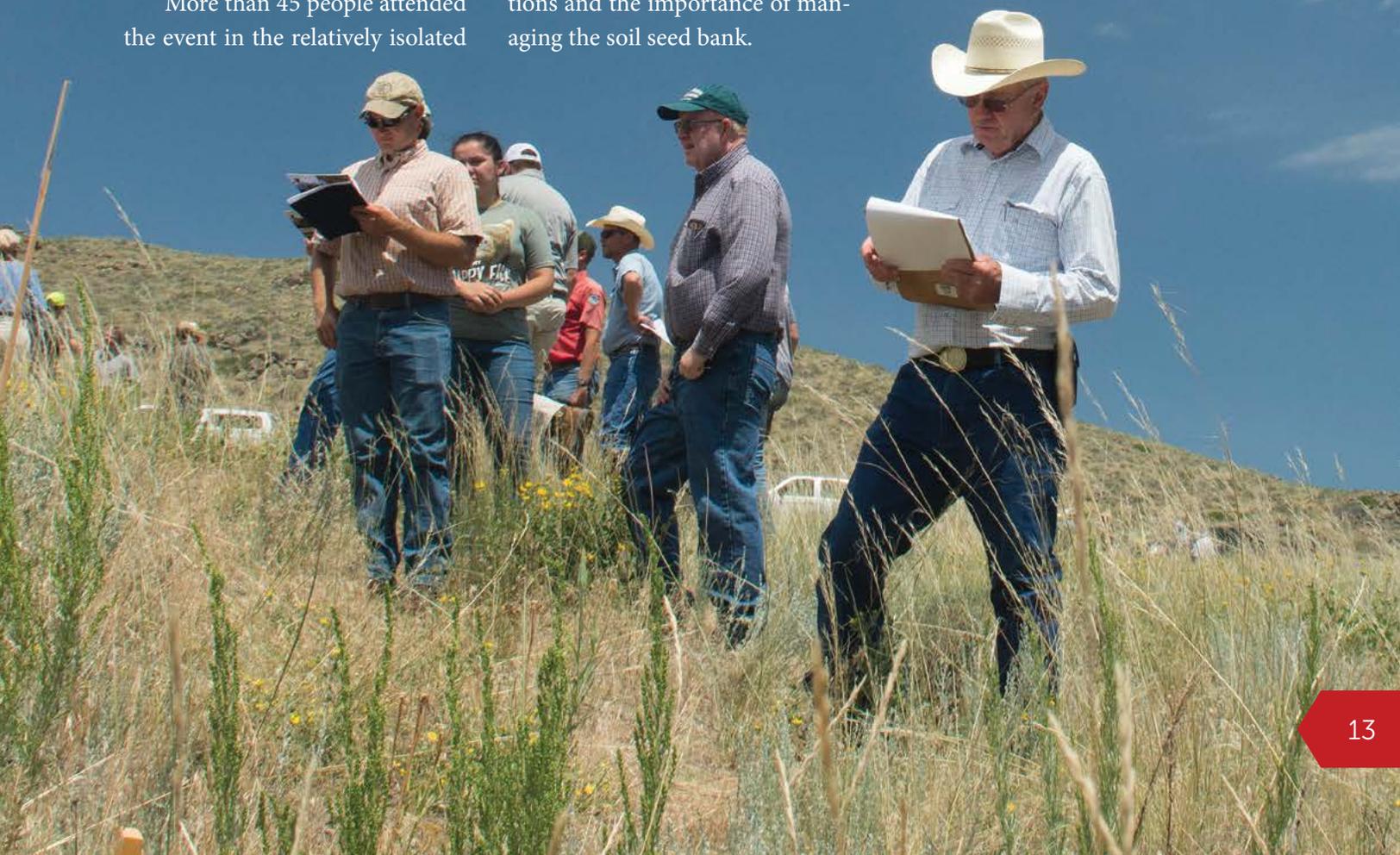
Fearsome cheatgrass taking over land can generate enough horror to cause landowners to reach for silver bullets.

But there are no silver bullets for cheatgrass, University of Wyoming Extension specialist Dan Tekiela told those attending the summer cheatgrass management field day in Sybille Canyon.

More than 45 people attended the event in the relatively isolated

Tom Thorne/Beth Williams Wildlife Habitat Management Area between Laramie and Wheatland, representing producers, government agencies and the herbicide industry.

Pickups and SUVs parked near the herbicide test plots, the attendees having heard Tekiela earlier discuss management options and the importance of managing the soil seed bank.





UW Extension invasive plant ecologist Dan Tekiela discusses the types of herbicides in his cheatgrass research.

They saw results – or lack – of herbicide trials in a heavily cheatgrass-infested area, which the Wyoming Game and Fish Department and state lands had treated more than a decade ago.

The cheatgrass shrugged off the earlier treatments and returned, and agency representatives wanted to see what alternatives could eradicate, or at least lessen, the cheatgrass.

Cheatgrass a Problem for Everyone

Tekiela partnered with them on the project and wasn't perplexed at the higher-than-thought turnout to the isolated area, because cheatgrass isn't selective – everyone has a problem with it.

Researchers across the nation are studying the invasive grass.

“It's the poster child of invasion in the West,” he says. “People are scrambling for information, but we don't have the silver bullet.”

There will likely never be a one-size-fits-all solution, but Tekiela had specific takeaway messages during the day.

He fields lots of bioherbicide questions for cheatgrass control.

“If you Google bioherbicides and cheatgrass, the top 10 stories that may come up are popular press articles that say such and such new bioherbicide is great,” he says. “Then, the scientist in me looks and sees there is no research on this. The takeaway is to be a little bit skeptical and really seek out

reliable resources, such as universities, on how to manage what you are trying to do.”

His test plots were examples of using research-based information. The test plots showed the effects of herbicides and bioherbicides targeted for cheatgrass control.

There can be other viable tools, he said, such as Integrated Pest Management techniques.

Managing the seed bank is another takeaway message. Tekiela said giving the resident plant community a chance to repopulate and managing seed banks are his goals when confronting invasive plants.

Research has shown once a seed bank becomes established, the likelihood of eradicating cheatgrass or any other invasive plant species is unlikely.

Controlling cheatgrass early before it becomes a problem is best, “But people don't respond to things until there is a problem and don't know how to deal with it anymore,” Tekiela says.

Precautions can Prevent Costly Problems

Tekiela promotes the “Play, Clean, Go,” recommendations, a movement whose partners include weed and pest districts, state and federal agencies and departments, and even school districts. The program urges removal of plant material from boots, pets, and vehicles and cleaning equipment before entering and leaving areas.

Tekiela cited a northern Colorado producer he had met with

about leafy spurge spreading across that region. The producer told Tekiela he was advised years ago to clean his equipment before moving from location to location.

“He said things that were not there then are now, and the only way they could have gotten there is because he moved them in his practices,” says Tekiela. “He devalued his land. That’s why prevention is so critical. That’s what really motivates me to push that message.”

Still, producers with thousands of acres of cheatgrass on rangelands are struggling to solve the already-established cheatgrass assault.



Richard Lee, right, of the Denver BLM office, and Bruce Lawson, mine development and reclamation manager with Black Hills Bentonite, review results from the cheatgrass study.

“We had people (at the field day) with less than 5 acres and they have the problem and there was one person who has thousands of acres,” he says. “I deal with people in that spectrum of land ownership day in and day out.”

The examples may seem different, but Tekiela believes there are similarities in the challenges and solutions.

“It’s not all herbicides,” he says. “I tried to convey the point prevention is incredibly important, and I think everybody was responsive to that, from those with small acreages to huge ranches.”



UW plant sciences student Chloe Mattilo shows how the drone flies a programmed route and can be used to scout for invasive plants.

Enough-winter-we're- event offers cabin

Popular event
focuses on
backyard
growing season,
vendor offerings

Even the snow-tipped Wind River Mountains that watch over Lander seemed to bend and peak over their foothills to the east at this harbinger of spring, this annual Garden Expo that draws 1,500 in a community of 8,000.

Spring had come on the calendar weeks before the April event, but snow and cold would come and go several weeks more, teasing the Lander valley with warm, spring-feeling days then dousing residents with reality every so often, the snow cautioning residents

not to get too carried away just yet in backyards.

Spring fever can be strong. Eileen Miller traversed the trade show that day in the Lander Valley High School auxiliary gym, her red stroller carrying her oxygen and cradling a newly purchased houseplant. The noise of many voices bounced around the gym's cement walls and polished wood floor.

No way was the 83-year-old staying indoors this day.

"I need to get out. I need to get some fresh air and see people," she says.

Miller of Lander does a little bit of gardening but adds she can't get outside too much. She has lots of indoor plants and attends the expo even though the focus is gardening and outdoor living.

"I like the exhibits, I like the educational classes. I enjoy everything, and every thing I see I want," she says and laughs.

She continued weaving her stroller, oxygen bottle, and houseplant sitting on the seat, around people and past booths on the crowded gym floor.



A giant American flag presided over the vendor show.

antsy-for- fever cure

spring

Small Beginning, Big Growth

The seventh annual Garden Expo grew from meager beginnings to now draw people from beyond Lander and Fremont County from Washakie County and even Rock Springs, about 120 miles to the southwest over South Pass.

The University of Wyoming Extension and Popo Agie Conservation District partnered several years ago to present small-acreage weekend events through the UW Extension Barnyards and Backyards program (The correct pronunciation of Popo Agie throws the uninformed. It's "Puh POZE Yuh").

The singular events would draw about 100 people, notes Dave Morneau, conservation technician with the district.

The first expo at the community center then drew 500.

"We thought, 'This is going to work,'" he says.

Vendors benefitted from exposure to the foot traffic as attendance increased and the expo grew.

"We were surprised when we went over the 1,000 mark and that held for three or four years, and now we are right about at the

1,500 mark," says Morneau.

Planning and coordination from the Fremont County Extension Office and the Master Gardener volunteers is extremely important. Many extension specialists present land resource and gardening-related information at workshops during the day.

Conservation district manager Kelsey Beck stood at the expo entrance with rangeland management specialist Mandi Hirsch, greeting those taking advantage of

the day and handing out programs.

No clouds blocked the sun or dropped snow.

"This is a staple to look forward to," says Beck. "It's springtime, and people are itching to get outside, and this is something to kick off our summer activities."

Beck is looking to grow the expo by expanding vendors and bringing in more local businesses involved with the topics.

"We cater to the backyard, outdoor living theme and gardening," she says. "I think one thing that has made us a success is sticking to that, so it's not outside those boundaries."

There is that other idea she has.

"My goal is to have a hot air balloon someday," she says, pointing to a clear area to the west that could be the staging area.

"But we'll settle down on that," she adds, smiling, but looking really eager.

Sponsorships Provide Funds

Increased sponsorships and people who want to be involved have removed any dependence upon Barnyards and Backyards



funding. “Which is fantastic,” says Beck. “But we still want to partner with extension. This is a huge asset, a huge partnership they help us with.”

Extension folks shoulder a lot to help produce the show each year. They help with its production or are speakers during the educational sessions.

Most of the 1,500 attendees wind their way through the trade show, but the nine workshops during the day averaged about 45 people each. Sessions included growing grapes in Wyoming, managing weeds around backyards and barnyards, caring for young trees, marketing a farmers market business, bird watching, planting perennials for pollinators, curing ailing soil, tricks for growing vegetables, and cover crops in the garden.

Vendors and a trade show targeting gardeners and outdoor living and sessions offering gardening and outdoor activity insights seems to hit the Lander Valley’s sweet spot.

Conservation district chair Tim Wilson credits the popularity to an evolving alternative agriculture, a farmers market relationship, and an implement dealer connection.

“Lander is just a pretty unique, diverse community,” he says, holding a clicker at the expo gate and counting people as they entered. The clicker was pushing 1,440 by early afternoon.

Respond to Horticulture, Small-Acreage Needs

The district’s mission is focused on a much bigger stage than



Fremont County Master Gardener Maria Sage and Chance Marshall, University of Wyoming Extension educator. Volunteers with UW Extension are a vital part of planning, coordinating, and presenting the annual garden show.

Fremont County backyards and gardens. The district and events like extension’s Fremont County Farm and Ranch Days each February in Riverton address big agriculture.

“I think this was a niche that needed to be filled,” he says. “This is just a great community event that draws people together. And the workshops and keynote address have been really a big part of it.”

Happy vendors help, too. They participate if they can make money. A change in Wyoming statutes also has helped bring in more diversity. Wilson says there were no food products only a few years ago. The Wyoming Food Freedom Act changed that. There are artists and implement dealers.

The vendors, customers, and those attending the workshops are exposed to the Popo Agie district, which operates on a mill levy.

“You need that community support to keep that going,” says Wilson. “And this is something that keeps our name in front of people in what we think is important. We think our mission is important. We don’t exist just to exist. We serve the community and do some good projects.”

The expo ended at about 3 p.m. Judging whether or not the event was successful is challenging, he says. The expo provides the public information about district projects and activities. “Which is a little more of a mystery than what we’d like it to be,” he says.

Beck has no hesitation judging success.

“The big thing for us is this clicker,” she says. “Seeing how many bodies walk through the doors. Another is our workshop evaluations, getting that feedback. We really do take that to heart.”

LIFT

Extension program blends nutrition information and exercise to help keep luster in later years

SOMETIMES, THOSE GOLDEN YEARS JUST AREN'T

Whoever created the phrase “the golden years” in 1959 is (if still alive) probably marveling at the irony 59 years later.

They probably can't get out of their assisted living room chair without help.

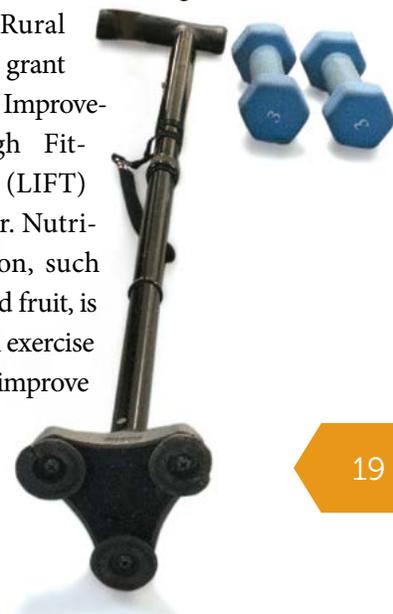
That phrase helped entice retirees to buy houses in the middle of the Arizona desert in the nation's first large-scale retirement. It worked; more than 100,000 flocked to tour Sun City's model homes that first weekend.

The golden years are more a time of rust for many seniors; joints and sore muscles complain, diseases attack the body.

“When you are older, it sucks if you aren't in shape,” says Patti Griffith of Pavillion. “I can't emphasize enough how important it is to keep active. Because getting old hurts, and it's even worse if you don't have at least a certain degree of fitness. This is not really the golden years.”

“Somebody lied to us,” she says, and laughs.

Extension educators through an Ellbogen Communities, Agriculture, and Rural Living Project grant offered Lifelong Improvements Through Fitness Together (LIFT) classes this year. Nutrition information, such as vegetables and fruit, is blended with an exercise program to improve





The social aspect to Life-long Improvements through Fitness Together is an important element. Above, Shirley Knight.

that condition Griffith is talking about above.

Exercise specialist Samantha Hardin in the Virginia Cooperative Extension developed LIFT, says Laura Balis, extension educator in Fremont County who oversees classes with educator Julie Balzan in Platte County.

The programs are focused on those 65 and older in communities with less than 2,500 people.

Community Fits Program Requirements

Pavillion, population 236, northwest of Riverton, fits.

On a mild day in March, 10 people who fit the requirements drove their vehicles to the Wind River Recreation building, chatting with each other as they went

inside and retrieved metal folding chairs that would be their partners for the class.

Wyoming 133 north off Highway 26 leads to Pavilion, about 26 miles or so from Riverton. Drivers are on their own if they want to continue. They'll eventually end up running into Shotgun Butte Road, which can lead you to points really out there.

"You have to come to Pavilion. You can't go through Pavilion," says Griffith, a retired UW Extension educator. "There just isn't anything here that would offer (activities), so it's been a good thing for the community."

The twice-a-week class erases a 50-mile roundtrip for the women if it were offered in Riverton.

The metal chairs are set in a wide circle, and the women retrieve weights to use (one set has "daily burn" in letters), stretch, and then work legs and arms.

"I had an ankle replacement 20 years ago," says Beverly Herman. "It was getting so that when I was getting up from a chair, I was using my hands. Now, with this, we learned a special way I can do it, and I don't need to use my hands since we started this in February. I've become more mobile."

She better be. She had a wedding date in April. Her husband died two years ago after 38 years of marriage, and her future spouse lost his wife two years ago after 40 years of marriage. He is still working, and they hunt and fish.



Funding for the Lifelong Improvements Through Fitness Together (LIFT) program is made possible by the Communities, Agriculture, and Rural Living Project through the John P. Ellbogen Foundation.



Dora Gordon and Pat Johnson stretch between exercises.

Social Element Instrumental

Balis says improving functional fitness and social connectiveness are LIFT goals.

Deb Palmer joined the class for the sociality, “And just because I do it better with other people. I tend to stay with it more,” she says. She wants to stay limber and as active as possible.

“My most difficult day was today,” she says. “I’m just coming off two weeks of the flu. I’m kind of beat right now, but it was important to come back.”

The social aspect is important; the women are more apt to continue the exercises, and the social connections are good for the mind and body, says Balis.

Shirley Knight tried exercising at home, “But then something always comes up, and I end up doing other things and don’t get back to it. At least this is 45 minutes or so twice a week.”

She participates for balance and flexibility.

Participation is easier and more enjoyable in a class setting, says Dora Gordon.

“Being with the other ladies is an essential part of the exercise group,” she says.

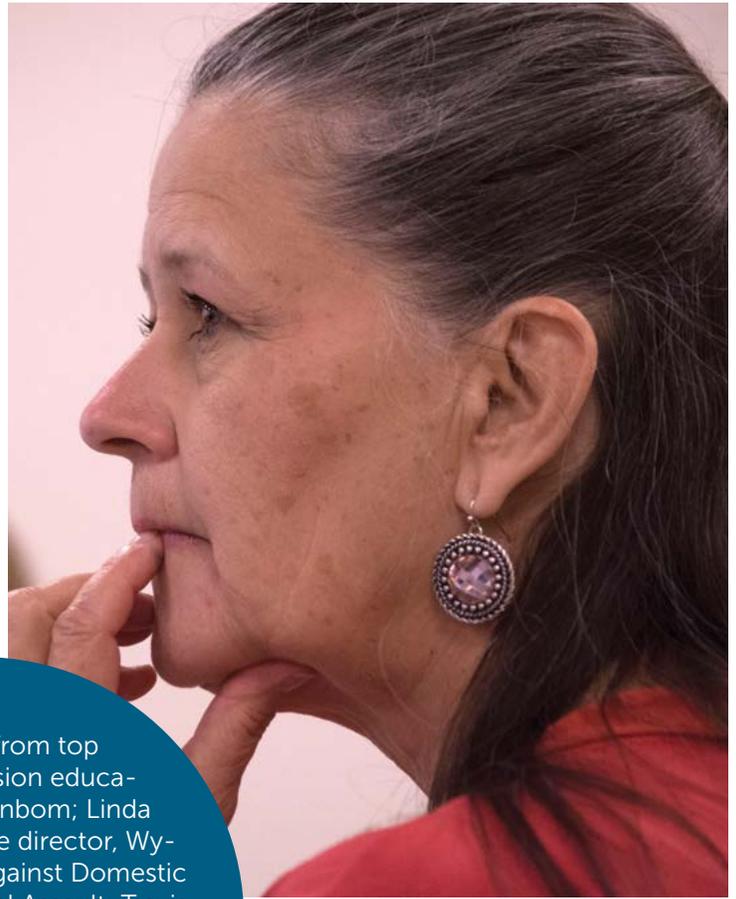
Gordon is spending the year with her son’s family.

She has osteoarthritis, and her doctor recommended some type of weight-bearing exercises. The exercises strengthen the muscle support, which, at least a little, alleviates the stress on joints.

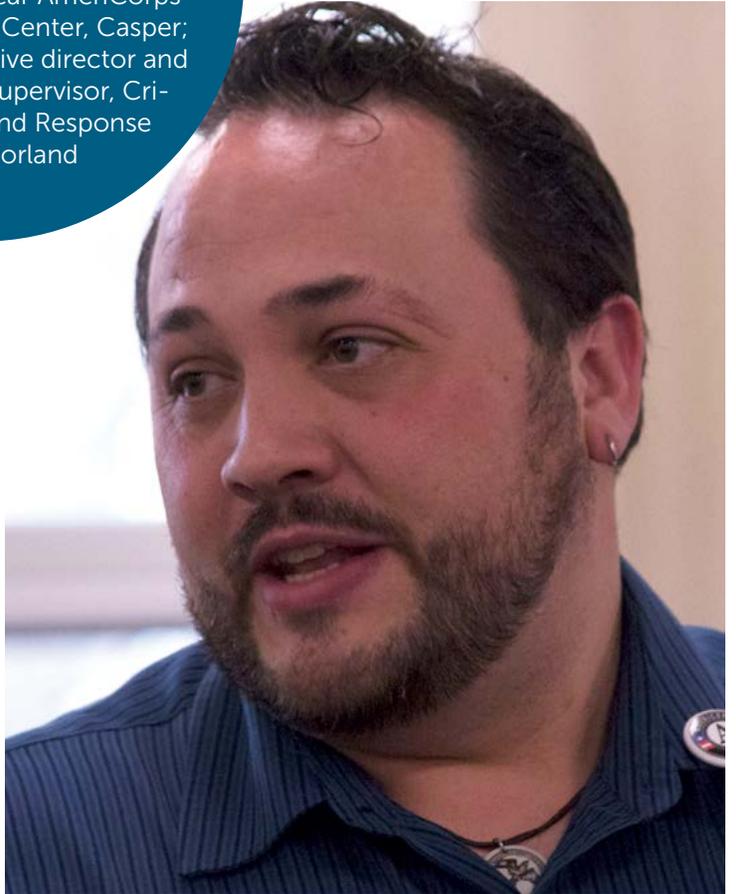
“It’s been very good for me,” she says. “I had trouble getting up and down from a chair because of my knees, and I can do it now. I still have some pain, naturally, but it has strengthened my knees and muscles.”

Exercise and socializing is needed to keep the mind and body active. Her mind does not feel like the age of her body, she says.

“But you do get a little more limited in what you can do. You’ve already put in the hardworking years,” Gordon says. “To make the remaining years good, I want to keep active, and socializing is a big part of that. You don’t want to become someone who just shuts themselves off from the world.”



Clockwise from top left, UW Extension educator Hannah Swanbom; Linda Hawkins, associate director, Wyoming Coalition Against Domestic Violence and Sexual Assault; Travis Groves, second-year AmeriCorps member, Self Help Center, Casper; Karina Rice, executive director and AmeriCorps site supervisor, Crisis Prevention and Response Center, Worland



Educator builds virtual leadership course with Wyoming AmeriCorps program

First of its kind, program provides flexible participation across state's broad landscape

Trish Worley has memorable quips sprinkled in a conversation about why the Wyoming Coalition Against Domestic Violence and Sexual Assault AmeriCorps program teamed with University of Wyoming Extension to provide a virtual leadership program for her AmeriCorps members spread across the state.

There are leadership quips like:

“Never doubt that a small group of thoughtful, concerned citizens can change the world. Indeed it is the only thing that ever has.” – Margaret Mead

And now Worley:

“A good leader is someone who has passion about something, they have a vision, are very focused on accomplishing that vision, and the way they go about it is infectious.”

A Needed Change

Worley herself wasn't always so. Maybe that helped fuel why she

sought a way to build leadership within her AmeriCorps members at the Wyoming Coalition Against Domestic Violence and Sexual Assault (www.wyomingdvsa.org).

Worley says she had fallen into the safety net of a dreary and uninspiring job after earning her psychology degree at the University of Wyoming. With the absence of a mentor and few opportunities to develop after graduating from college, she says she doubted herself and had little confidence to do the things she wanted.

“It didn't feel like anyone believed in me,” she says. “I didn't feel like I had a voice, that I could be a change maker.”

Worley came across an opportunity to serve as an AmeriCorps member with the Wyoming Coalition Against Domestic Violence and Sexual Assault (WCADVSA) while still working full-time. During this time, she found inspiration and passion she had been lacking.

Worley blossomed under the guidance of her AmeriCorps supervisor.

“She believed in me. She pushed me to do things outside my comfort zone,” Worley recalls. “She helped build my confidence, and she gave me the opportunity to take on leadership roles.”

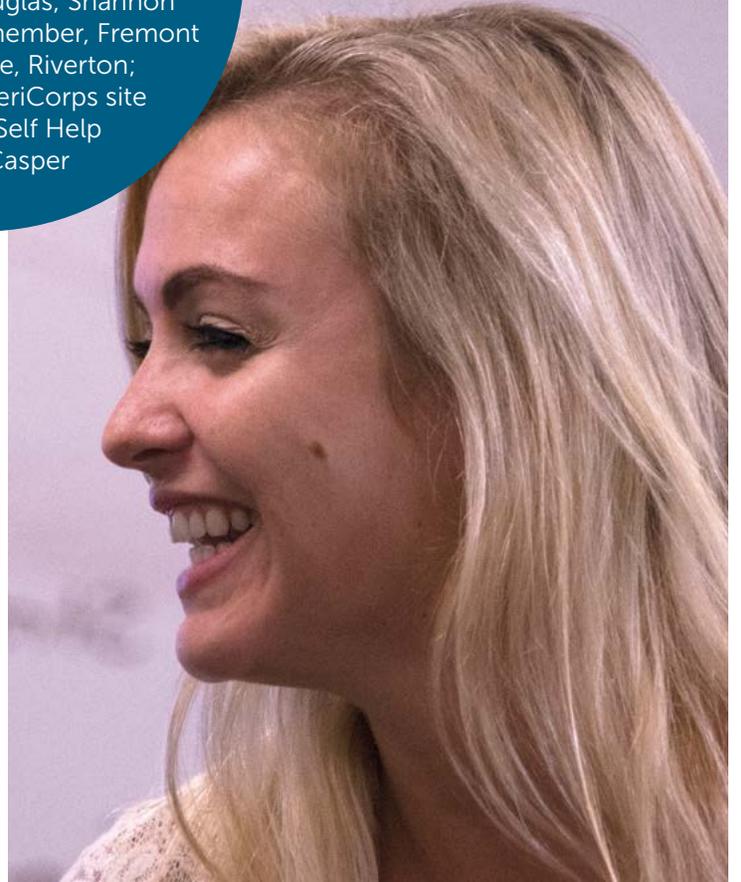
Worley says AmeriCorps (bit.ly/seeamericorps) gave her the courage to leave the job she'd known for 14 years to pursue a passion. She joined the WCADVSA as a staff member in 2011, then became AmeriCorps program director in 2014, having come full circle from member to director.

Program an Option to Existing In-person Course

UW Extension's community development educators offer leadership institutes (bit.ly/wyoleadme) across Wyoming, all face-to-face programs. This leadership program, offered by Hannah



Clockwise,
 from top left, Sydney
 Montgomery, AmeriCorps
 member, Crisis Prevention
 and Response Center, Worland;
 Maria Walker, executive director and
 AmeriCorps site supervisor, Converse
 Hope Center, Douglas; Shannon
 Juve, AmeriCorps member, Fremont
 County Alliance, Riverton;
 Alana Ham, AmeriCorps site
 supervisor, Self Help
 Center, Casper



Swanbom based in Natrona County, was the first offered live online. The AmeriCorps members met three hours monthly for five months, ending in a face-to-face meeting during the group's training conference in Casper this past May. The members offered their thoughts on leadership, including their community involvement activities, a requirement set by Swanbom.

The journey to that ending activity started a couple years ago when an AmeriCorps member from Converse County asked Worley if she could participate in the Converse County Leadership Institute.

"I had never heard of it," says Worley. "She told me a little bit about it, and I said, "Yes. Fine. Do it."

"A good leader is someone who has passion about something, they have a vision, are very focused on accomplishing that vision, and the way they go about it is infectious."

—Trisha Worley

The member then kept talking excitedly about the institute. Worley noticed the confidence boost, but "What I remember most is she was terrified about having to give that (end) presentation," she says. "She didn't know if she would even finish the course because of it. And then, after she did it, she was like, 'Oh my gosh, it was so amazing.'"

Worley got Swanbom's contact information – then let it rest for about a year. When the two did meet at a coffee shop in Casper to talk about what form the virtual model might take, "What resonated with me was the opportunity to get people connected, involved, and empowered," says Worley.

Good Option, but There are Challenges

A virtual institute enables participation across distances but did come with reservations. Richelle Balcazar from the Converse Hope Center in Douglas had participated in online presentations; for her, something far from memorable.

"It was death by PowerPoint," she recalls. "We usually watched something recorded months earlier. That was weird and boring. This wasn't like that. Hannah had us do assignments, like talk to leaders in our community. No one had asked me to do that before. That let me start seeing correlations between what leaders do in their everyday lives that are different."

Swanbom took extension's traditional leadership institute

Free courses bolster personal development

UW Extension offers free online training to boost professional development. Most of the courses are subject specific, and most are self-paced.

Some of the courses are Wyoming Board Member Training, Community Development – Making Hope Happen, and Wyoming TaxFacts.

The courses are at bit.ly/UWecourses.

back to the planning board, tinkering to incorporate themes from the face-to-face institutes. The end result was monthly, three-hour sessions that, she says upon reflection, were too long and that she will retool for next time.

"I totally understand that," Swanbom says. "I think there are some things we are not going to be able to get around. It's virtual, and we will be on screens longer than what most are comfortable with. We will continue to work on new ways to keep the class engaging and interactive."

Swanbom and Worley will eye meeting lengths and frequency while planning the next class.

There were technical issues, too. Some offices did not have fast enough internet service. Webcams in offices brought confidentiality issues: participants did not want clients who had come into their offices seen.

The virtual institute shortened the traditional leadership course from six to five months and surveys afterward had mostly positive comments, with most stating they enjoyed the class and were glad to be part of it.

“No one said it was a waste of time,” says Swanbom. “I always tell my leadership institute participants that you get out of it what you put into it. I hope everyone got something out of the class.”

Participants say Program Meaningful

The strength-finding session was most meaningful for Sydney Montgomery of the Crisis Prevention and Response Center in Worland.

“It is always helpful to understand one’s strengths and how they can be applied in different situations,” she says. Reading the book “The Trust Edge” and Swanbom’s follow-up questions were also helpful.

“I was able to get a sense of how leadership should work and how it can be implemented in various scenarios,” she says,

Balcazar found community leaders were very active in their towns, and she was struck by instruction during the training on providing feedback.

Leaders she interviewed said providing appropriate feedback – good and bad – is one of the hardest things to do.

“I’ve already started putting the feedback tools into practice

when working with clients and other workers. It’s incredible to see the difference,” she says.

She’s also used them with her daughter, chronically late for school. They were never late once Balcazar had the feedback tools in her toolbox.

Tweaks for Next Time

Worley says there was pushback on her making the course mandatory. She says not preparing participants adequately for what the course would look like and the time demand may have created that.

Still, the course made participants get out into their communities in some way. Many stretched their comfort zones by attending government board meetings for the first time or interviewing community leaders.

The “connect with people component” and empowerment resonated with Worley for her members.

AmeriCorps works to build the capacity of individual members and mold them as leaders.

“Part of my hope is to build confidence early on,” she says. “They’re young in their leadership abilities. My hope is they will walk away feeling like they are leaders and they do have a voice in issues they are passionate about.”

Worley says she wants to partner again with UW Extension to offer her members the opportunity to participate in the leadership institute.

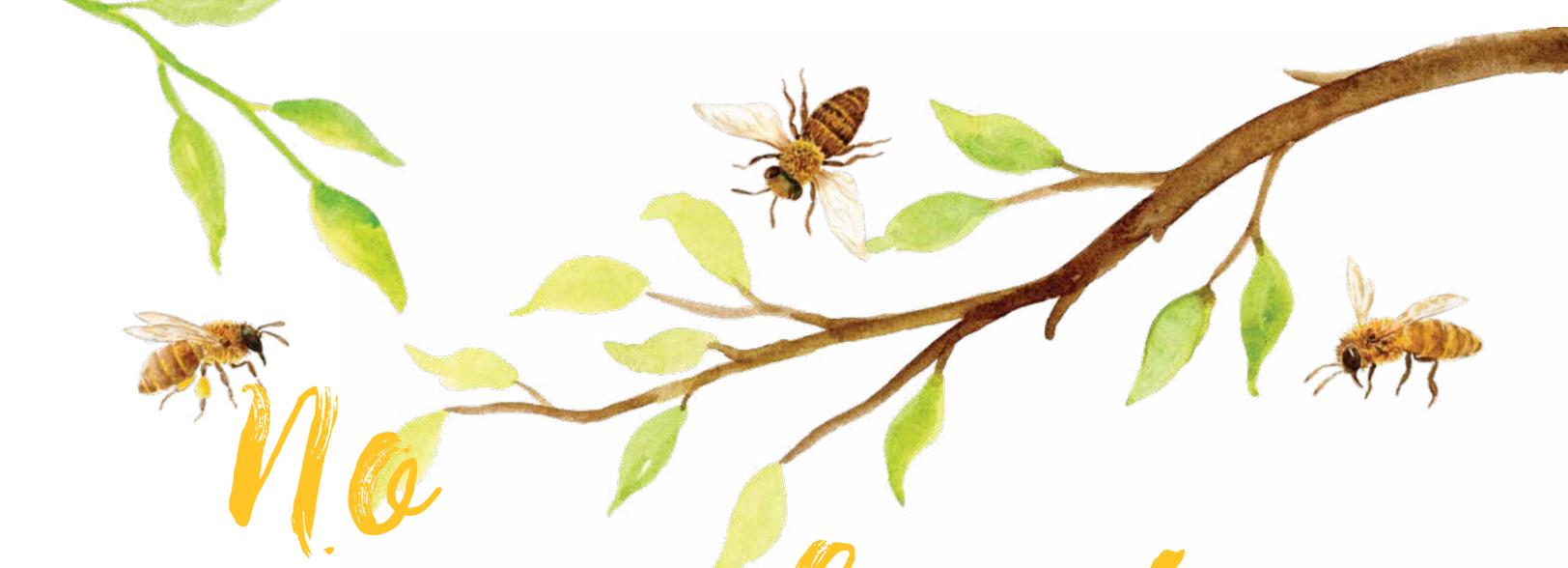
Hopes leadership creates social change

Leadership can create a vision for employees to move their organization forward, but AmeriCorps hopes the effects will be felt on a much broader scale.

“There is the organizational piece and also the individual piece,” says Worley. “Social change. We are wanting to inspire, to create opportunities for members to develop so they can become part of the bigger picture.”

Having a voice in the community is part of that, she says.

“I would say this is about fostering and developing leaders who can create social change, to prevent (interpersonal violence) before it happens,” says Worley. “That’s where the leadership piece comes in.”



No grumpy bees here

Dive into the hive with Wyoming's first 4-H beekeepers

The bees are happy, says Callie Taylor. The sun is warm, they survived winter. From the bottoms of the classic American Langstroth hives, worker bees exit and return from the flowers, trees, shrubs, and fields around Lusk.

"We don't know exactly where they go," she says. "But we can see the pollen. Usually, it's yellow. If it's from thistles, it's purple. If it's from trees, it's whitish. Maybe they go to our Grandma's house."

At a small storage shed at the Niobrara Fairgrounds, Callie, age 11, and

brothers Collin, 13, and Cody, 15, and 4-H educator Kellie Chichester pull on white bee suits and gloves. This is the state's first on-site 4-H beekeeping project.

"I feel like an astronaut," says Collin through the mesh as he pulls the attached hat over his head.

The late-May inspection is the second since the bees became active in February. To open the boxes in winter would expose the honey bees to temperatures that could kill a colony working to keep their

queen at 90 degrees. For the two winter checks, they instead lifted the boxes to gauge the health of the colonies by weight.

Today, the trilling of meadowlarks accompanies the thrum of cicadas as the three 4-H'ers and Chichester head through a field at the southwest corner of the fairgrounds. In the distance rise the iconic Rawhide Buttes.

The walk is not long, but the road to beekeeping has taken some twists. Cody started with Chichester in March 2017 after they attended Wyoming Bee College. Cheyenne beekeeper David



Lewis donated a hive and a package of bees (3 to 5 pounds of adult bees with a mated queen). To this they added a second hive.

“There was not a lot blooming early last year,” Chichester recalls. Because Wyoming open range doesn’t provide enough food for honey bee survival, flowering crops, yards, and gardens are essential.

René Sollars of Laramie walked Cody and Chichester through their first inspection in May. Then a July inspection revealed a hive with no queen.

“After doing some research and visiting with our mentors, we added a frame of brood and eggs from the other hive weekly until we saw queen cells develop and confirmed a queen was present.”

In October, when they lost queen number two, the best chance for the bees to overwinter was to combine the hives. They placed two sheets of newspaper over the box and frames of the strong hive and cut slits into it so the scents could intermingle. The queenless hive was then set on top of the paper. Within three days, the two hives had become one.

“In late October, we did the test for mites, we wished them the best, tucked them in for the winter, and waited,” Chichester says.

Little Livestock

Cody lifts the cinderblock from a hive, opens the lid, and uses the hive tool to pry apart the hanging frames stuck together by propolis or “bee glue.” Each frame includes a plastic foundation of



hexagonal cells where worker bees, drones, and a queen carry out the inside work of a thriving honey bee metropolis.

Says Cody, “It’s nice when you pick up a frame full of bees, because you know you’re taking good care of them.”

The team scans for capped cells, which indicate fresh eggs, and larvae in various stages of development. They check for signs of disease and watch for the queen. Without her to lay the eggs, the colony will die.

“There she is!” Callie calls out. The queen is recognizable by her longer body – about twice as long as the others. They close the lid,





The 4-H Beekeepers

Clockwise from top left:

Collin Taylor checks a frame teeming with healthy bees.

Callie Taylor says the bees tend to be grumpy in the fall when food resources are less and the hive must be defended against invaders who would steal the honey.

Callie, who has never been stung, is conducting her first inspection.

"They don't know about her yet," quips Collin, left, who was stung three times one day when a bee got inside his suit.

Cody Taylor, who attended Wyoming Bee College in 2017, says, "We learn as we keep working on the project."

4-H educator Kellie Chichester, left, and the Taylor kids with the Niobrara County 4-H bees



return the cinderblock, and move to the next hive.

Cody, Collin, and Callie are ranch kids who spent the morning giving shots and trailing cattle to summer pasture. Between them, bees are in a mix of 4-H projects that include pigs and goats, a horse, heifer, and calf.

Extension provides 4-H'ers a way to experience the animal science and fun of beekeeping, says Chichester. The costs are not inconsiderable – more than \$100 for a bee suit and \$270 for a hive of bees – but Chichester hopes the project will become self-sustaining.

Last year's two hives produced about 50 pounds of honey. "In terms of unit cost of livestock, each tiny bee gives a pretty decent return," she says. With five hives this year, expectations are high for the product Callie calls "our town blend."

The team is keenly aware of the potential downside. According to the Bee Informed Partnership, beekeepers in the U.S. lost more than 40 percent of managed

colonies in 2017-18. Hive collapse was caused by starvation, stress, heat, cold, and disease, especially parasitic varroa mites and American foulbrood, a bacterial disease.

Scott Schell, UW Extension entomology specialist, says neglectful hobbyists can do more harm than good, as they promote diseases other bee yards must fend off with antibiotics or sub-lethal doses of pesticides.

"People jump in, fail, and give up," says Sollars.

A Degree in Bees

A source for learning all things bees and pollinators in general, is Wyoming Bee College, which has brought national and regional experts to Cheyenne every March since 2014. The UW Extension-led event in 2018 brought together more than 360 participants, instructors, vendors, and volunteers.

"The conference has evolved," says dean of bees, Laramie County Extension horticulturalist Catherine Wissner. "Participants have steered it toward an animal husbandry approach."

Among returning presenters in 2018 was David Lewis, who taught courses on selecting honey bees, hive styles, and what to do if a hive has two queens.

Lewis says the average age of beekeepers in the United States is 57, and he applauds Chichester's initiative. "Kellie was the real sparkplug for the Lusk 4-H demonstration hive," he says. "She gathered the interested 4-H kids,

got the extension workbooks, secured funding, and attended the bee college." This spring, Johnson County 4-H added hives at their fairgrounds.

Lewis sees a place for bees in the economic mix for Wyoming farms and ranches. Wyoming Bee College includes presentations and workshops on ways to go beyond honey for added income.

Callie plans to make lip balm. Cody wants to start his own beekeeping enterprise next year.

"It's a world. Everyone has a role."

According to Lewis, beekeeping attracts the kind of people who were fascinated by ant farms as kids. "Bees are innately fascinating because they are social animals," he says. "Plus, you get honey!"

The Niobrara 4-H'ers are planning to spread the sweetness with demonstrations on wax-making and extracting and cooking with honey. Chichester says she hopes to grow a pollinator garden at the fairgrounds and purchase a clear-sided observation hive to give a greater glimpse into the lives of honey bees.

Up the hill, Callie, Collin, and Cody's dad appears with their little brother. The team has checked all but one hive, the tallest one. "We'll save that behemoth for later," Chichester declares.

As they head back, Collin sums up the appeal of bees. "It's a world. Everyone has a role."





The Mentors

Clockwise from top left:

Chichester demonstrates honey extraction at a state 4-H event in Laramie.

Johnson County 4-H educator Jim Dawson says she was instrumental in getting their beekeeping project started.

4-H educator and Laramie County horticulturalist Catherine Wissner started Wyoming Bee College in Cheyenne in 2014. Tuition is free for Bee Buddies ages 7 to 15.

Cheyenne beekeeper David Lewis first attended bee college when his wife registered, then couldn't attend. His first bees froze to death in a September snow storm. Now, he leads a support group for beginning beekeepers.

Laramie beekeeper René Sollars says, "Bees have given me a greater appreciation for the marvelous and spectacular things critters can do."



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