



2017

EXTENSION IMPACTS



The University of Wyoming Extension provides research-based, lifelong learning for the people of Wyoming.

We believe people have the ability and power to enlarge their lives and plan for their future. Extension education is both research-based — an extension of the University of Wyoming — and results-oriented.

University of Wyoming Extension delivers Range Management, Agriculture and Horticulture, Nutrition and Food Safety, Community Development, 4-H Youth Development, Cent\$ible Nutrition, and Master Gardener programs in communities throughout the state. In 2014-15, UW Extension educators taught or facilitated 7,730 educational programs and reached 213,712 adults and youth.

If you want to learn more about any of these UW Extension programs or a program not included here, contact your county office or educator or Director Glen Whipple at (307) 766-5124 or glen@uwyo.edu. Thank you from the staff of the University of Wyoming Extension.



About Extension Impacts 2017

All UW Extension educators and specialists gather input from stakeholders to ensure their educational programs are relevant to the lives of Wyoming citizens. In 2016, extension employees submitted 100 impact statements, which highlighted some of those educational programs and formed the basis for reporting to the USDA National Institute of Food and Agriculture. The 11 impact statements in Extension Impacts 2017 are presented as a snapshot of the work of UW Extension.

INSIDE



2

Influencing
Change
in Range
Resource
Management

4

Riparian
Monitoring
Equips Ranch
Managers

6

Dining with
Diabetes
Supports
Eating for
Health

8

Leadership
Jackson
Hole Builds
Community
Leaders

10

Cent\$ible
Nutrition
Reaches Adults
and Youth

12

Workforce-
Ready 4-H
Collaboration
Prepares Youth
for Jobs

14

Horticulture 101
Educates Park
County
to Grow

16

Changing
Behaviors
of Pesticide
Applicators

18

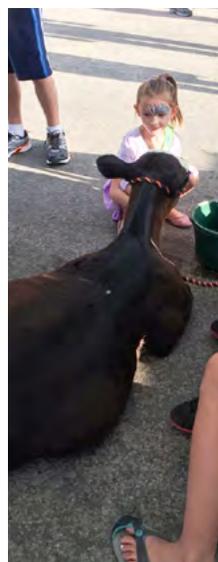
Artificial
Insemination
School in Big
Horn County

20

Using Farmers
Markets
to Highlight
Local
Agriculture

21

Ellbogen
Supports Real
Food and
Pathways to
Higher Ed



Influencing Change

IN WYOMING RANGE RESOURCE MANAGEMENT



Day 1: Participants learn to calculate forage available using grazing sticks to measure grass height.



Day 2: Participants estimate how much forage cattle have consumed in a 24-hour period.

Situation

Rangelands comprise more than 80% of Wyoming's land base, which means sustainable rangeland management equates to economic stability in many parts of the state. The overarching goal of UW Extension programming for rangeland resource management is to sustain or improve rangeland health and ranch profitability in Wyoming.

Traditionally, Wyoming ranchers graze livestock on upland rangelands from late spring through early fall while forage is mechanically harvested on the productive irrigated hay meadows. The harvested forage is fed to livestock during the late fall, winter, and early spring. The cost of rolling that forage into bales has increased significantly in the last 20 years, coinciding with increased fuel, machinery, and overhead costs.

Management-intensive grazing is the art and science of moving livestock through a pasture using short grazing periods at a high stocking density. This can improve the harvest efficiency of grazing livestock and the productive capacity of the grassland.

To effect change in the way livestock are managed on Wyoming's rangelands, two four-day grazing schools were held in Glenrock. The schools provided ranchers with hands-on experience using management-intensive grazing on irrigated meadows and higher-producing rangelands that are typically harvested for hay. Twenty-nine individuals participated in the grazing school in May 2014, and 21 individuals participated in the June 2016 grazing school.

Impact

Through the grazing schools, participants learned the basics of management-intensive grazing, how to incorporate management-intensive grazing into their grazing plans, and how to use the tools needed for successful grazing. In the post evaluation, 100% of the participants reported an increase in knowledge about the topics covered in the class. Participants reported gaining the most knowledge by taking pasture inventories and learning about fencing materials.

Participants were also asked to estimate the profitability of their operations if learned concepts were applied. Participants indicated they would save an average of \$30 per animal as a result of attending the workshop. Because participants reported the number of livestock they managed, it can be extrapolated that the workshops could save producers approximately \$419,000. In addition, participants reported the number of acres owned or managed. From this, we can infer that the University of Wyoming Extension influenced approximately 260,000 acres across Wyoming and surrounding states through the management-intensive grazing schools.

Ashley Garrelts

UW Extension Educator
Range Management
Converse, Natrona, Niobrara Counties
(307) 358-2417
ashleyg@uwyo.edu

Riparian Monitoring

EQUIPS RANCH MANAGERS
TO MEET FEDERAL STANDARDS



Participants in the riparian monitoring workshop in Daniel.

Situation

Ranchers who hold public land grazing permits are required to meet prescribed standards of landscape health on the allotments they use. On the other side, U.S. Forest Service and Bureau of Land Management rangeland management specialists work within their policy frameworks to identify monitoring methods to ensure prescribed standards are met.

The goal is to control overuse of public rangelands; but for ranch managers, understanding the methods and rationale used to make decisions is a challenge. In recent years, riparian (river or stream bank) monitoring has become increasingly important in guiding how allotments are managed. If, for example, certain conditions are not met near streams and waterways, a grazing permittee could be required to move to a different pasture or vacate an allotment altogether, either of which could have grave consequences. Thus, the need to know when, how, and why these management decisions are carried out is pressing.

Professional experience and careful research formed the basis of a riparian monitoring workshop hosted by UW Extension and Sublette County Conservation District. The UW Extension range educator presented the bank alteration monitoring method and the origin and use of the bank alteration guideline. Other speakers reinforced the value of permittee monitoring and presented research on how different stream systems respond to grazing pressure.

Following a session that introduced landowners and permittees to management and monitoring

methods specific to different types of stream systems, participants discussed the benefits and importance of cooperative and proactive monitoring.

In the afternoon, participants practiced monitoring techniques in the field and asked further questions about how to implement their own monitoring efforts, how to better engage with agency range staff, and when to seek professional technical assistance.

Impact

Of the 13 riparian monitoring workshop participants, 9 completed the post evaluation. All of the respondents reported increased knowledge about bank alteration and how it is applied. They reported an 81% increase in understanding of riparian systems and a 95% increase in understanding of what they could do to monitor riparian areas. When asked about key concepts they learned from the workshop, participants cited “how to properly monitor riparian areas” as most important.

As a result of the workshop, participants are better equipped to implement riparian monitoring programs on private lands, and ranch managers are better prepared to navigate the intricacies of federal land grazing and riparian health guidelines.

Glenn Owings

UW Extension Educator
Range Management
Sublette, Lincoln, Uinta, Sweetwater, Teton Counties
(307) 307-4380
gowings@uwyo.edu

DINING WITH

Diabetes

SUPPORTS EATING FOR HEALTH



Situation

Seven percent of adults in the United States have been diagnosed with diabetes. Rates of diabetes in northwest Wyoming are even higher: 9.6% in Fremont County (including the Wind River Indian Reservation) and 11% in Hot Springs County.

Diabetes is a serious disease – in 2015, it was the seventh-highest cause of death in the U.S. Left uncontrolled, diabetes can lead to complications, including high blood pressure, heart disease, stroke, kidney disease, and foot complications that can lead to amputations. Diabetes is also costly, as one in five healthcare dollars in the U.S. is spent caring for people with diabetes.

To reduce the burden of diabetes, the Dining with Diabetes in Wyoming program aims to help people manage diabetes.

Dining with Diabetes is a five-session program that combines education on diabetes self-care with recipe demonstrations, food tasting, and nutrition information. Participants complete questionnaires at the beginning of the first class (pre), at the end of the fourth class (post), and at the beginning of the fifth class. Follow-up is conducted four to six months after the fourth class. The program is coordinated statewide through University of Wyoming Extension and the Department of Family and Consumer Sciences.

In each county, Dining with Diabetes in Wyoming is provided through a partnership between the local UW Extension Nutrition and Food Safety educator and a registered dietitian, registered nurse, or certified diabetes educator. The program is provided through a partnership with Fremont County Public Health in Fremont County, Indian Health Service on the Wind River Indian Reservation, and Hot Springs County Public Health in Hot Springs County. In addition, kitchen and classroom space for the classes was donated by the Riverton Senior Citizens and Community Service Center, Ethete Senior Center, Wind River Tribal College, and Big Horn Federal Savings Bank.

Programs took place in each of the three communities between February and May, 2016. An average of seven

participants completed each program. Class sessions are Living Well with Diabetes; Carbohydrates, Fats and Sodium; Putting It All Together; and the post-program reunion.

Impact

In the four-to-six-month follow-up evaluation, participants reported the following changes in knowledge and behavior:

- 80% of participants could correctly identify which food raises blood sugar levels the most (in the pre-test, only 36% answered correctly).
- 72% of participants could correctly identify how much of their plate should be non-starchy vegetables according to the plate method (in the pre-test, only 24% answered correctly).
- Participants' average fruit and vegetable consumption increased from four days per week to six days per week.
- Participants' average sugary beverage consumption decreased from "sometimes" to "never."
- 100% of participants reported eating smaller portions.
- 72% of participants reported being physically active on a daily basis.

Participants shared feedback that they learned portion control and the plate method for a balanced diet and how to limit carbs for meals and snacks. Said one participant, "I think it was an excellent program and a good review, especially to consider all the items on food labels, not just calories and carbs."

Laura Balis

UW Extension Educator
Nutrition and Food Safety
Fremont, Washakie, Park, Hot Springs,
Big Horn Counties
(307) 332-2363
lbalis@uwyo.edu

Phyllis Lewis

UW Extension Educator
Nutrition and Food Safety
Fremont, Washakie, Park, Hot Springs,
Big Horn Counties
(307) 347-3431
pblewis@uwyo.edu

Leadership Jackson Hole



Lower Valley Energy hosts a session in their boardroom on energy and the environment.

Situation

Community leaders, by virtue of the positions they've taken within their community, are often called upon to address dramatic and unpredictable issues affected by decisions made on the regional, national and international stage. If communities are to create a high quality of life locally to compete successfully within the global, social, political and economic realities, they must invest in the development of their citizens.

Since 2005, Leadership Jackson Hole has been a major UW Extension program in Teton County. Leadership Jackson Hole is conducted monthly, September through May, and utilizes the EVOLVE model (Extension Volunteer Organization for Leadership, Vitality and Enterprise). EVOLVE provides civic education to foster an understanding of the processes of community decision making; to increase knowledge of the community, its structures, history, conditions and issues; and to develop skills such as problem solving, working with groups, dealing with conflict and collaboration.

The curriculum is a blend of issues, theory, and skills, plus board visits and public hearings, and a trip to the Wyoming state legislative session. Community-based experiences include on-site visits with various businesses, organizations and agencies to learn about their vision, mission, leadership, history, long-term goals, challenges, funding, and the benefits of doing business in Teton County.

Fifty-two applications were received for the 2015–16 Leadership Jackson Hole, and 25 individuals were selected to participate.

Impact

A group project is a component of the EVOLVE model. It is designed to allow the group to select a community need and to develop a project or program to address the need. This Leadership Jackson Hole class identified "Take a Seat JH," a community project that enables businesses and individuals to provide benches around Jackson Hole.

Twenty-four participants completed the course requirements. A Google survey conducted six months after the completion of the 2015–16 program yielded the following results:

- 93% of the participants reported Leadership Jackson Hole enabled them to build and enhance relationships within their businesses and organizations.
- 100% reported participating in Leadership Jackson Hole encouraged them to build and enhance relationships within the community.
- 79% reported taking on leadership roles since participating in Leadership Jackson Hole.
- 100% indicated Leadership Jackson Hole increased their understanding of issues, economics, and resources in Jackson Hole.

Participants made the following statements when asked how Leadership Jackson Hole impacted their leadership skills:

"I'm more confident and have better communication skills."

"I have better knowledge of the community resources and the issues impacting our community."

"I have applied lessons presented directly into my management practice"

"LJH helped open my eyes to the integrated ways a community must live together in order to be successful. It helped me gain perspective on sectors of the economy, government, and social networks to which I would never have had access. It opened my eyes to the collaborative nature of community leadership, and how my actions impact my world as a whole."

"I think of my time in Leadership Jackson Hole as one of the greatest experiences I've had in Jackson Hole, and I'm deeply grateful for the opportunity to have joined such a community."

Mary M. Martin

UW Extension Educator

Community Development Education

Teton, Sublette, Lincoln, Uinta, Sweetwater Counties
(307) 733-3087

mmmartin@uwyo.edu

Cent\$ible Nutrition Program

REACHES ADULTS AND YOUTH

BACKGROUND: LOW-INCOME IN WYOMING

26%
of residents are at
185% of poverty level¹

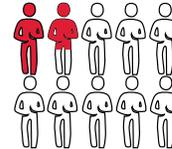


this is the Cent\$ible
Nutrition Program's
target audience

13%
of Wyoming households
are food insecure²



17%
of youth in Wyoming
are food insecure³



APPROACH: HOW THE CENT\$IBLE NUTRITION PROGRAM WORKS

The Cent\$ible Nutrition Program (CNP) provides free nutrition education to Wyoming's low-income families and individuals. CNP also partners with local agencies and organizations to create positive changes to improve the health of communities across Wyoming. CNP is funded by the Supplemental Nutrition Assistance Program Education (SNAP-Ed) and the Expanded Food and Nutrition Program (EFNEP).



Direct Education

CNP teaches adults and youth, covering each county in Wyoming

Adults

take a series of 6–8 lessons to graduate from the class

Youth

grades 2–4 take a series of 5 lessons



Indirect Education

CNP reaches thousands of people every month through marketing efforts

Newsletters

6 newsletters published annually

Mass media

TV, radio, and newspapers

Educational events

health fairs and farmers markets



Policy, System & Environmental Changes

called PSEs, these efforts work to make the healthy choice the easy choice for everyone

Local food

increasing access to healthy local food through work with farmers markets, community gardens, and local food producers

Written agreements

with local partners and agencies

Partnerships

with local agencies, schools, farmers markets, food producers, and other organizations

INPUTS: ROLE OF THE CENT\$IBLE NUTRITION PROGRAM

26 
nutrition
educators

8 
core hands-on
cooking and
nutrition lessons



508 one-time nutrition lessons
339 adult lesson series
67 youth lesson series

377 
partnerships
across the state

IMPACTS: ADULTS


1,818
 graduates
 averaging
8
 lessons
 in **7**
 sessions
 totaling
12,804
 adult teaching
 contacts

Graduate Outcomes


42%
 increased fruit
 consumption


36%
 increased
 physical activity

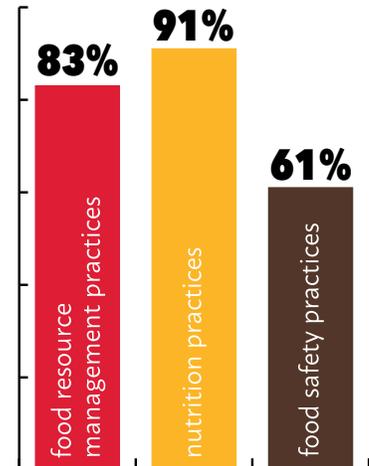

\$40.20
 average savings
 per month


43%
 increased
 vegetable
 consumption


40%
 decreased soda
 consumption


41%
 increased
 cooking at home

Increase in Core Areas

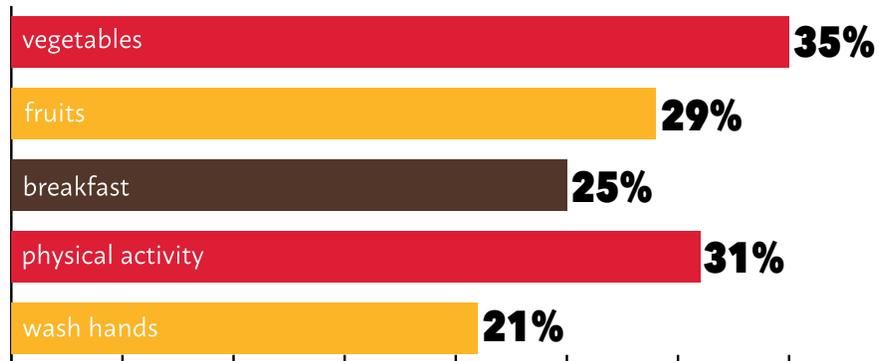


IMPACTS: YOUTH


3,201
 graduates
 completing **5+**
 lessons
 in

69% of qualifying
 schools

Increase in Core Areas for Youth Grades 3-5



Data for the *Grazing with Marty* and *Munching Through Wyoming History* curricula

IMPACTS: INDIRECT EDUCATION


47,664
 contacts



179,433
 English newsletters
12,418
 Spanish newsletters



31,975
 average newsletters
 distributed per issue



5,810 website
 visits



104 likes

IMPACTS: POLICY, SYSTEM & ENVIRONMENTAL CHANGES


15
 written
 agreements


25
 farmers markets and
 local food activities


112
 healthy eating and physical activity
 changes adopted by communities

REFERENCES

¹ https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15_5YR/S1701/04,00000US56

² <http://frac.org/wp-content/uploads/2010/07/wy.pdf>

³ http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2014/WY_AllCounties_CDs_CFI_2014.pdf

Statistics rounded for clarity. Images from Vecteezy.com.

CNP Impacts for October 1, 2015 – September 30, 2016

Mindy Meuli

UW Extension

Director, Cent\$ible

Nutrition Program

(307) 766-5181

mmeuli1@uwyo.edu

Workforce-Ready

4-H COLLABORATION PREPARES YOUTH FOR JOBS



Sublette County business leaders and "Ready for the Workforce" participants gather for an end-of-year barbecue celebration.

Situation

According to the Wyoming Department of Education, only 44% of high school students describe themselves as meaningfully engaged in high school and only half of 16- to 24-year-olds had a job in 2011. These are levels that have not been seen since the Great Depression.

Educators and communities recognize that workforce readiness is critical to lifelong earning potential and, ultimately, the overall strength of our nation. A recent statewide stakeholder input survey conducted by the Wyoming 4-H program indicates both intrapersonal (soft skills) and job/trade skills make up about 44% of what respondents feel is not being addressed by youth-serving agencies. What's more, employment and lack of skills were identified by 26% of respondents as a significant emerging issue facing our youth.

In response, representatives of University of Wyoming Extension 4-H, Sublette Chamber of Commerce, Sublette Board of Cooperative Educational Services, and Sublette Economic Resource Council collaborated to develop "Ready for the Workforce," a skill training program for high-school-age youth. Funds were acquired to provide educational programming and a partial stipend to each student who completed an internship program. The Sublette Chamber found businesses willing to mentor students through hands-on internships and to match funds for the student stipends.

Funds were secured for 15 youth to participate, and 13 businesses committed to providing internships. Participating businesses included opportunities in engineering, food service, range management, recreation and fitness, lodging, insurance, tourism, museum, social services and youth development. Two additional businesses that were either handling proprietary information or could not provide internships for youth under 18 participated by donating funds. Twenty-one applications were received, and the top 15 were selected for interviews with the business or organization they ranked highest on their area of career interest.

In May, the following five workforce skill educational programs were provided for participants:

- True Colors—Understanding your Personality to Build Capacity in the Workplace (UW Extension)
- Customer Service (UW Extension)
- Business Etiquette (SERC)
- Communication—Application and Interview Skills (SERC)
- Civil Rights and Conflict Resolution (Judge Curt Haws, Circuit Court of the Ninth Judicial District).

Participants were required to attend at least four of the five programs prior to beginning the 40-hour internship with their business match.

Impact

All 15 program participants completed the program and were awarded a \$500 stipend. When asked before their internships, all youth either agreed or strongly agreed the information in the program would be beneficial as they applied for jobs, and they would recommend the program to others. Upon completion of the internships, youth indicated the experience was very valuable in terms of feeling more confident about entering the workforce, and four youths indicated their practical internship experience helped them better understand their career options.

Participating businesses also indicated they felt the program was a great way to connect youth with professionals in the community and to explore potential career opportunities. All of the businesses indicated they would participate again and provided ideas to engage even more businesses.

Robin Schamber

UW Extension Educator
4-H Educator and County Coordinator
Sublette County
(307) 367-4380
rschambe@uwyo.edu

Horticulture 101

EDUCATES PARK COUNTY TO GROW



Park County Master Gardener Bob Prchal demonstrates proper pruning of fruit trees.

Situation

Horticultural crops encompass vegetables, fruits, nuts, herbs, flowers, turf, and ornamental trees and shrubs. Every year, the University of Wyoming Extension employees in the Park County offices consult with clients on a range of horticulture issues. Most questions focus on plant identification, plant health, best management practices, and how plants grow and develop.

Wyoming's short growing season, cold winters, low annual moisture, and other climatic conditions make it a difficult state in which to grow horticultural crops. And many Park County residents have moved from other states that have higher annual precipitation and more fertile soils. The difficulty is compounded when residents lack basic knowledge of horticulture, which is the art, science, technology, and business of growing plants.

To address this lack of education and assist clientele to be more successful with their horticultural endeavors, a Horticulture 101 course has been offered in Park County for the past two years. The course is conducted over eight weeks and provides a minimum of 40 hours of hands-on instruction in climate, soils, fertilizers and composting, vegetable production, season extension, fruit trees and small fruit, lawn care, tree care, introduction to botany, plant identification, plant diseases, herbaceous and woody ornamentals, entomology, weed management, and integrated pest management.

Twenty-six people have completed the Horticulture 101 Course. To evaluate program success, participants completed a pre- and post-course evaluation, which consisted of a 100-question quiz and a written evaluation at the end of each class. In addition, participants were emailed a follow-up survey six weeks after the



Horticulture 101 participants gather in the greenhouse for a session on plant propagation.

program to assess how course information is being used and its impact.

Impact

In 2015 and 2016, the average post-course evaluation increased by 27% and 29% respectively over the pre-course evaluation. The evaluations indicated that participants increased their comfort with the horticulture topics by an average of 1.74, increased their ability to make educated decisions for their need by an average of 1.65, and increased their ability to describe the important aspects of the topics by an average of 1.60.

In the six-week follow-up, seven participants (25%) indicated they had used more than 50% of the course materials. All responding participants stated they have implemented changes in their horticultural practices. Examples include the following:

- They started a compost pile.
- They changed management of house plants.
- They changed their management of soil preparation.

Jeremiah Vardiman

UW Extension Educator
Agriculture and Horticulture
Fremont, Hot Springs, Washakie,
Big Horn, and Park Counties
(307) 754-8836
jvardima@uwyo.edu

Changing Behaviors

OF LICENSED AND SEASONAL
PESTICIDE APPLICATORS



A participant learns how to calibrate application equipment with the help of workshop leader Jeff Edwards.

Situation

Carelessness or lack of proper pesticide application training can lead to human and environmental harm. Approximately 6,000 commercial applicators are licensed in Wyoming, and about five percent (300) are new to the industry each year. The University of Wyoming Pesticide Safety Education Program strives to prepare individuals to be safe, licensed applicators of pesticides.

Each December, applicators are invited to attend a one-week program designed to assist them in obtaining their commercial applicators license. The course is an intensive cooperative effort between the Wyoming Department of Agriculture and the University of Wyoming. The overview not only prepares new applicators for their exams, it is also designed to change their behavior and make them safer and more conscientious. To receive the pesticide applicators license, individuals must pass the core exam and at least one of the 32 category exams with a score of 70% or better.

A one-day intensive pesticide applicator training and testing was designed to meet the needs of seasonal workers hired by Wyoming Weed and Pest who also apply commercial pesticides. The goal of the training was to familiarize participants with safe pesticide handling procedures in the field; provide information to help them reduce exposure to themselves, their families, and the environment; and to give them an opportunity to gain a commercial applicators license. Participants from 15 counties participated in four trainings conducted in Worland, Buffalo, Newcastle, and Wheatland.

Impact

Sixty-six individuals participated in this year's week-long training session. Data gathered through the exit survey suggest the information on safely applying

pesticides changes the behavior of the majority of participants. For example, after the training 98% of respondents indicated they would be more likely to apply pesticides correctly. This "more likely to" trend by the majority of program participants occurs in all questions about the safe handling and use of pesticides.

Participants made the following statements about how they would change their behavior:

"I will read the label."

"I will pay more attention to calibration of equipment."

"I am much more likely to follow PPE (personal protective equipment) requirements."

"I will respect and use pesticides in a better, more responsible way."

Seventy percent of the respondents reported they will be "more likely" to contact the University of Wyoming Pesticide Safety Education program coordinator and staff if they have questions concerning the safe use of pesticides.

The one-day intensive pesticide applicator training and testing attracted 106 participants, and the core exam pass rate for the Wyoming Weed and Pest seasonal workers was 73%. Upon completion of the training, participants are more likely to adopt safe use practices and have greater respect for pesticides. This, in turn, reduces the risk of human and environmental harm.

Jeff Edwards
UW Extension Specialist
Pesticide Coordinator
(307) 837-2956
jedward4@uwyo.edu

UW EXTENSION OFFERS

Artificial Insemination School

IN BIG HORN COUNTY

Situation

Artificial insemination (AI) has been available to cattle producers for decades, and by utilizing the technique of AI, cattle producers can improve efficiency in many aspects in their operations. Still, only 5% of all beef cattle females are bred via AI and just 13% of operations utilize the technique at all. A 2011 USDA survey indicated the top reasons producers are reluctant to adopt the practice are labor, time, and difficulty of the process.

University of Wyoming Extension educators and specialists collaborated with industry professionals and the Wyoming state veterinarian's office to create an AI school in northern Wyoming that met classroom standards for licensed certification. The classroom portion of the program was hosted in the Big Horn County Extension office outside Greybull. The Flitner Ranch hosted the "hands-on" session of the program in their livestock barn facilities and feedlot.

The three-day course educated beef producers on the AI technique, as well as herd management principles that translate into a successful AI program. Topics such

as herd nutrition, herd health, body condition scoring, heat detection, equipment usage and handling, selecting estrus synchronization protocols, and reproductive anatomy and physiology were discussed.

Day 1 included an introduction to cattle AI with instructional videos of the procedure and practice with "hands-on" teaching aids prior to palpation of live cattle. Each participant was able to palpate a life-sized Breed'n Betsy teaching dummy equipped with a replica of the female cow reproductive system. Harvested reproductive tracts from slaughtered cows were also available for participants to practice passing insemination rods through the reproductive tract. Following classroom instruction, live cattle were loaded into the palpation chutes, and participants were able to palpate and attempt the technique.

Day 2 focused on cattle management associated with breeding season and included key considerations on investing in cattle genetics and purchasing semen, the importance of quality nutrition, how the female's body condition affects her reproductive cycle, effective heat detection, and how to be successful with insemination

timing. Following classroom discussion and questions, participants practiced what they had learned with teaching aids and a new set of live cattle.

Day 3 covered more complex topics of heifer development and using estrus synchronization programs. Selecting replacement heifers and managing reproductive hormones were discussed, along with the many estrus synchronization protocols available and how to determine which protocol to apply. The last class consisted of more intense live cattle palpation. To pass the class and receive a completion certificate, participants were required to successfully pass an insemination rod through the cervix of the live heifer and be verified by an instructor.

Impact

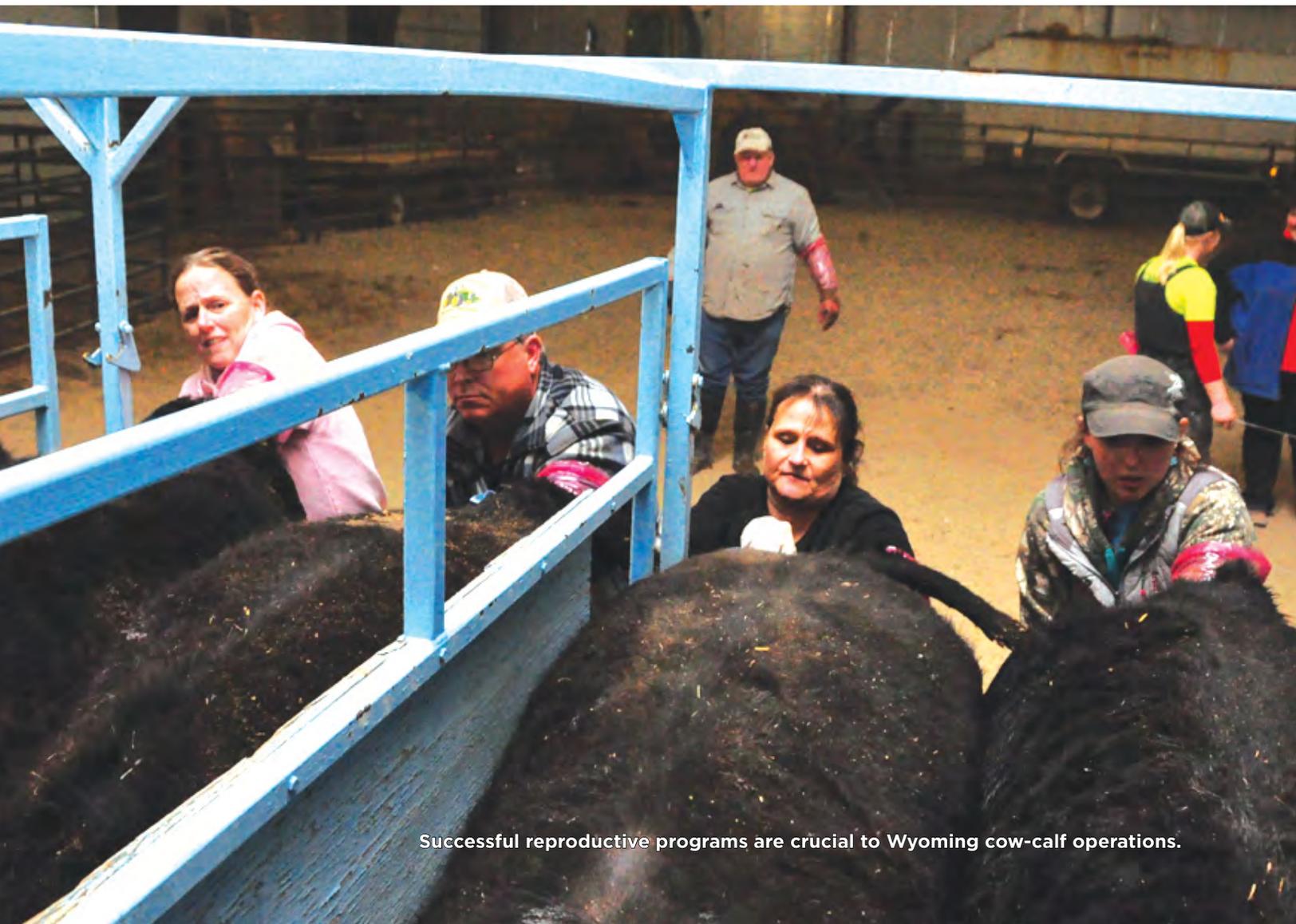
Through the AI school, participants learned how a successful reproductive program is crucial to the long-term financial sustainability of cow-calf operations

regardless of the level of AI application they choose to implement.

The Greybull AI School had a 100% pass rate by its participants. Ranch owners indicated they plan to use AI to improve the reproductive management of their own herds as soon as possible. Other participants intend to use their new skills in a cattle operation where they are employed. Several participants noted the effectiveness of the hands-on learning opportunities, and one participant wrote, “The most helpful aspect was learning in the classroom and then going and learning out at the barn with the heifers.”

Chance Marshall

UW Extension Educator
Agriculture and Horticulture
Fremont, Hot Springs, Washakie,
Big Horn, and Park Counties
(307) 332-2363
cmarsha1@uwyo.edu



Successful reproductive programs are crucial to Wyoming cow-calf operations.

Local Agriculture

USING FARMERS MARKETS TO HIGHLIGHT LOCAL AGRICULTURE

Situation

Agriculturists have dramatically improved their farming practices in recent decades. Whereas the United States could feed only 25 people from one acre of farmland in 1920, it can now feed more than 150. Recently, however, agriculturists have been getting a lot of negative publicity about some of the practices that have made them so successful today.

Sheridan County 4-H members and leaders were asked to help educate youth about 4-H and safe agricultural practices during the local Farmers Market in Sheridan. Members and adult leaders in each 4-H club created hands-on activities that youth could participate in while parents shopped. Youth who participated in the activities at the farmers market left with a tangible

item that promoted local agriculture and encouraged them to become local agriculturalists themselves.

Impact

The Farmers Market project was introduced three years ago, and each summer between 40 and 100 youth have participated in the weekly activities. Youth from Sheridan County learned about safe agriculture practices from their peers in the 4-H program.

Parents and youth who participated in the activities shared these comments:

“We had a great time learning about bum calves and how you can show them at county fair.”

—A parent who attended a bum calf feeding

“I had no idea a sugar beet looked like that and that they grew in Wyoming.”

—Sara, age 10

“Growing vegetables is really fun!”

—Carson, age 7

4-H members in Sheridan County also increased their leadership skills by being involved in the Farmers Market project. They learned how to plan and conduct an activity for community members, and they experienced the value of giving back to their local community.

Liz Shaffer

UW Extension Educator
4-H and Youth Development
Sheridan County
(307) 674-2980
lshaffe1@uwyo.edu



4-H'ers bring the farm to
Sheridan farmers markets.

Ellbogen Grants

SUPPORT INITIATIVES IN 2016 & BEYOND

In 2016, the Ellbogen Foundation supported the creation of two new UW Extension programs, Real Food Wyoming and Pathways to Higher Education, which are expected to produce long-lasting benefits for their participants.

The Pathways to Higher Education program draws on the rich history of the 4-H program, integrating real-life, hands-on animal science education with 4-H members' project experiences with beef, poultry, rabbits, sheep, horses, goats, and swine.

The Wyoming 4-H program serves more than 6,900 youths ages 8 to 18, with 3,129 (45%) of those involved in livestock projects. The Pathways to Higher Education program allows 4-H members in high school to enroll in a college course, 4-H Animal Science (ANSCI 1009), at the University of Wyoming to earn one to four credits.

For each animal species, 4-H'ers learn selection and evaluation, nutrition, care and disease prevention, reproduction and genetics, and meat science. Online learning modules and classroom work reinforce the firsthand experience of 4-H work and livestock projects.

The multi-year, sequential course culminates with a capstone learning experience on campus presented by the Department of Animal Science and submission of a portfolio of learning.

The Real Food program is a five-week series that

includes activities, cooking, and a lively curriculum covering these "Real Food" topics:

- What makes foods "whole" or "processed" and how to tell the difference.
- How packaging encourages shoppers to buy and how to spot misleading statements.
- Nutrition basics, the importance of nutrients, and what healthy eating really means.
- Detailed discussion of the nutrition label and ingredient list.
- How to plan menus, shop for minimally processed ingredients, and keep within a budget.
- How to locate local food producers and their importance to communities.

Participants make their own tortillas, granola, roasted vegetables, smoothies, meatballs, and a variety of other recipes in class, using fresh fruits and vegetables, whole grains, local meat and eggs, and fresh herbs. The Extension Nutrition and Food Safety team was trained in 2016, and the program will be piloted in 2017 in Douglas, Wheatland, Lusk, Newcastle, Sundance, and Sheridan.

Pathways to Higher Education

Dawn Sanchez

UW Extension Educator
4-H and Youth Development
Uinta County
(307) 783-0570
dasanchez@unitacounty.com

Robin Schamber

UW Extension Educator
4-H and Youth Development
Sublette County
(307) 367-4380
rschambe@uwyo.edu

Real Food

Karla Case

UW Extension Educator
Nutrition and Food Safety
Natrona County
(307) 235-9400
kcase@natronacounty-wy.gov



Department 3354
1000 E. University Ave.
Laramie, WY 82071

UW Extension gets knowledge out in words — and pictures.

The Extension Communications and Technology team works with University of Wyoming College of Agriculture and Natural Resources faculty members and UW Extension to prepare magazines, educational bulletins, videos, and websites and provide educational technology support to maximize effectiveness. To receive specific publications and college news, contact Tana Stith at (307) 766-3559 or tana@uwyo.edu.

Issued in furtherance of extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Glen Whipple, director, University of Wyoming Extension, University of Wyoming, Laramie, Wyoming 82071.

Persons seeking admission, employment, or access to programs of the University of Wyoming shall be considered without regard to race, color, religion, sex, national origin, disability, age, political belief, veteran status, sexual orientation, and marital or familial status. Persons with disabilities who require alternative means for communication or program information (Braille, large print, audiotape, etc.) should contact their local UW Extension office. To file a complaint, write to the UW Employment Practices/Affirmative Action Office, University of Wyoming, Department 3434, 1000 E. University Avenue, Laramie, WY 82071.

