

# Extension Connection

In this issue

May 2005 • University of Wyoming

Extension educator unlocks fears about money management for jail inmates 2

Range management school fosters communication, trust 6

CES tackles issues relating to booming coal-bed methane development 9

New CES program cooks up tasty, nutritious meals for people with diabetes 12

Small acreages pose big problems for Fremont County 15

Natrona County 4-H Project Expo big hit with youths, parents, and leaders 17

DNA technology finding new home on the range 20

CES leadership institutes take off in Lincoln County, across Wyoming 22

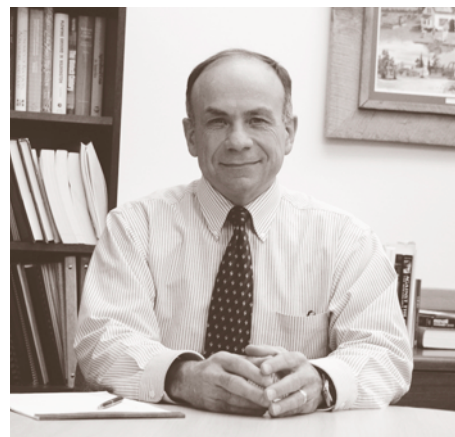
Replacing alfalfa with cool-season grass may lower ranch costs 25

This time of year is a busy one for me. It seems that I am out and about, crisscrossing the state nearly weekly in a University of Wyoming car. Sometimes I tire of the driving but never of the wonder I see and the awe I feel at being a part of such a wild and beautiful place. The flow of the seasons changes the look and the feel of our land. Though the cycle of change is less predictable than the changing seasons, much else about Wyoming is also changing.

Just like you, we in the UW Cooperative Extension Service are working hard to keep up with change. Each of the articles in this issue of *Extension Connection* highlight a new program effort responding to the needs of Wyoming people as their lives and contexts change. UW CES is organized into nine extension areas, and an article highlights a program in each area. I think you will find interesting the diversity of needs the highlighted programs represent, from new approaches to forage production, to coal-bed methane development issues, to diabetes education, to money management classes for prisoners. This is just a sampling of our work across the state.

Keeping pace with change is always challenging and occasionally exhausting. Sometimes when I look around I feel like the refrain in the Joni Mitchell song "Big Red Taxi." Mitchell repeats, "*They paved paradise and put in a parking lot.*" Regardless of how I feel, the world moves on. When I was younger, change and time seemed discrete and fragmented. I suppose it is age and experience, but now change and time seems more connected and flowing. I guess the philosopher Heraclitus had figured it out 2,500 years ago when he observed, "*You cannot step twice into the same river; other waters are continually flowing on. It is in changing that things find repose.*"

I hope you enjoy this issue of *Extension Connection*. If you have thoughts about the publication or other aspects of UW CES, please e-mail me at [glen@uwyo.edu](mailto:glen@uwyo.edu) or give me a call at (307) 766-5124.



Glen Whipple

# making a difference

## Extension educator unlocks fears about

*By Robert Waggener, Editor  
Office of Communications and Technology*

**T**hirteen inmates shuffle slowly into a Laramie County Detention Center meeting room. Their blaze orange jumpsuits and green tattoos contrast sharply to the stark white vinyl floors, concrete block walls, and tile ceiling.

The men are mostly in their 20s and 30s, but several are older. There are whites, blacks, Hispanics, and an American Indian. They are serving time for a variety of crimes, mostly related to drugs and alcohol.

“How many of you like money?” asks Phil Rosenlund, who wears the nametag “Volunteer No. 13.”

Everyone raises their hands.

“How many of you handle your money well?” he asks.

Only two respond.

“How many of you don’t handle money well?”

Eleven arms go up.



*One inmate reviews his math during a checkbook-balancing drill while extension educator Phil Rosenlund answers a question.*

Rosenlund, a University of Wyoming Cooperative Extension Service educator for Laramie, Goshen, and Platte counties, is in the Laramie County lockup today to teach an ongoing class on money management. It’s called “Your Dollars and \$en\$e.”

“Many of them basically have no money-management skills. Many of them have dropped out of school and have had a difficult time functioning in society. They’ve turned to going outside of the law just to get by, and if you do that, chances are you will get caught,” Rosenlund says.

That’s evident when these 13 inmates – a fraction of the record 279 men and women who were behind bars on this day in early April – started answering questions.

“What are some of the poorest choices you’ve made with money?” Rosenlund asks.

“Drugs, whatever,” an inmate quickly responds.

“Friends who don’t pay back,” a second notes.

“I got \$100,000 tied up in fines, lawyers, and bail bondsmen,” reports a third.

There’s a short pause before a fourth detainee blurts out, “Women!”

The group starts laughing, and then a number of comments are exchanged by the inmates before Rosenlund gets them back on track.

“While the idea of money management may seem difficult, it’s really not. It’s simply one more skill to be learned, just like we learn to write, read,



*Making a point, Phil Rosenlund talks about the importance of keeping out of debt and establishing a good credit rating.*

# money management for jail inmates

and perhaps drive a car. Believe it or not, no one is born with the skills to be a good money manager, but everyone can learn them,” he says.

Teaching money management to the inmates, however, won't be an easy task as evidenced by the outcome of the first test. It's clear few of the inmates know how to subtract numbers.

After talking about the difference between a savings account and a checking account, the educator gives each inmate a check ledger and a tiny, bendable ink pen (normal ballpoint pens and pencils aren't allowed for safety reasons).

Rosenlund asks the detainees to write “\$2,000” on the first blank of their ledgers. He then directs them to a handout, which instructs each participant to subtract a specific amount to cover expenses for the month ranging from groceries, gasoline, and a fitness center membership to house and car payments, utilities, and savings.

“You should pay yourself first,” urges Rosenlund, who explains that a savings account provides a safety net. “It can help keep you out of financial trouble.”

The inmates, who are in the class voluntarily, go to work trying to balance their checkbooks.

“I hate subtraction,” one quietly whispers to the men sitting next to him.



*Laramie County Detention Center inmates visit with University of Wyoming Cooperative Extension Service educator Phil Rosenlund about managing their money. This is one of several educational classes for detainees in the Cheyenne jail.*

Another hums the lyrics to Deep Purple's famous rock song, “Smoke on the Water.”

Several minutes later, Rosenlund asks the inmates to share their numbers, numbers that should be identical.

“\$594.29,” the first one answers.

“\$741.28.”

“\$641.29.”

“\$881.39.”

“\$365.24...”

“What about you?” Rosenlund asks.

“I got three different answers, but I think the last one's right,” the inmate responds.

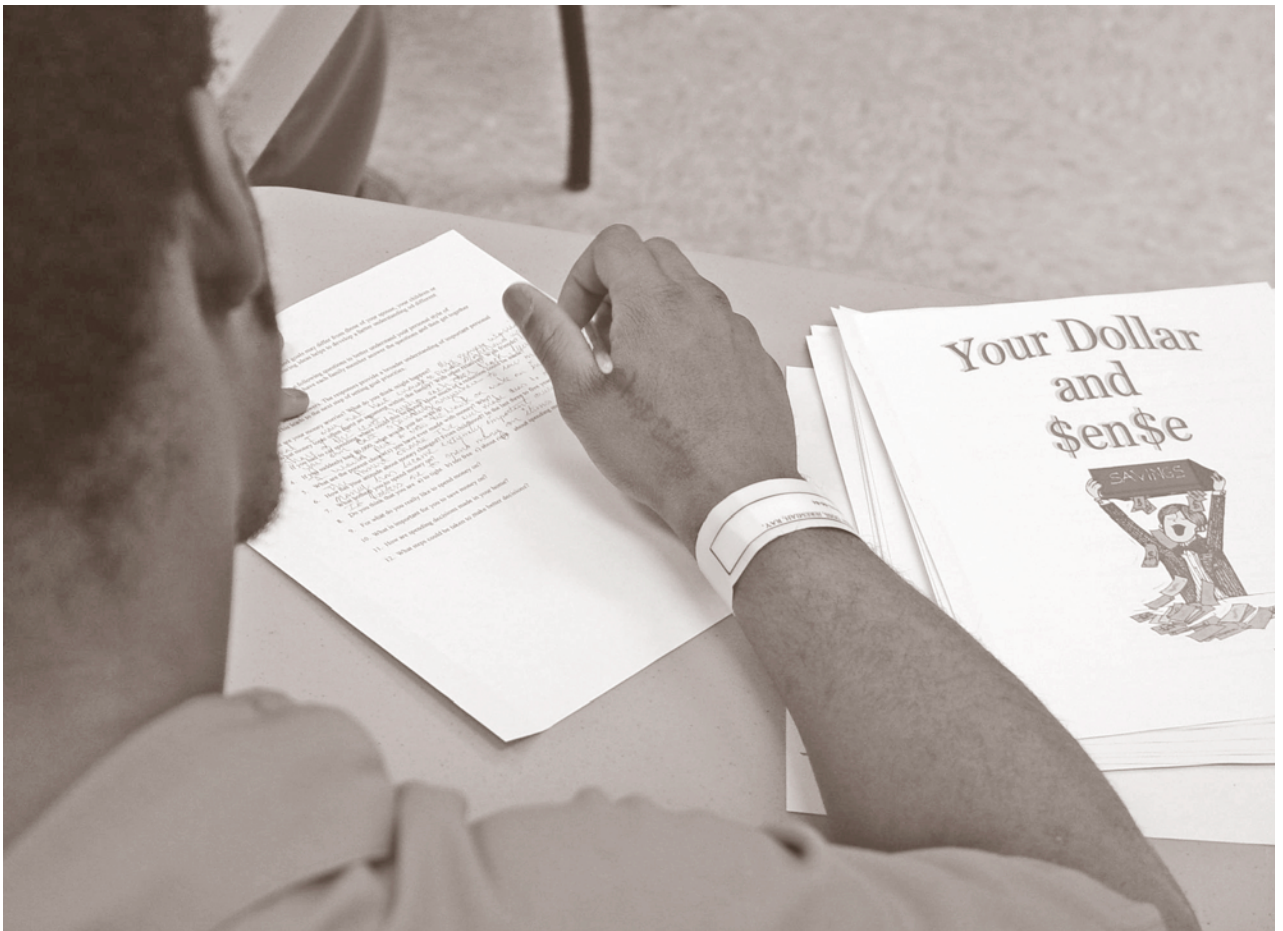
“And what about you?” the educator continues.

“I don't like being wrong so I didn't do it,” offers the man in a polite voice.

Rosenlund tells the group that not one number is the same, but he proudly states that one inmate did get the right answer. The same drill will be

challenge





*"Your Dollars and \$en\$e" helps inmates learn basic financial-management skills including goal setting. A detainee fills out a personal-assessment survey at the beginning of the class.*

repeated tomorrow, this time using calculators instead of doing the figuring longhand.

"At times the class can be frustrating, but you do the best you can with all of them," Rosenlund says after the session. "Many of them haven't picked up much to this point in their lives, and if I can help them learn one thing, the class will be a success."

Since teaching his first financial management course in the hoosegow last fall, Rosenlund has worked with thirty-four male inmates and fourteen females.

"The women do better at the check ledger drill. Half of them will generally get the right answer," Rosenlund says.

The extension educator previously taught similar courses to extension homemakers and single mothers in Laramie and Platte counties, and when Laramie County Sheriff Danny Glick learned of "Your Dollar and \$en\$e" he asked Rosenlund to consider instructing inmates.

"I thought it was a great idea because I believed this was a population that could really use some basic skills," Rosenlund says.

Marion Severson, one of two program directors at the Laramie County Detention Center, says she believes some of the inmates are benefiting.

"Many of them haven't worked very hard in the past to achieve something positive, but some of them are trying hard. We don't take big steps in here, we take little steps," she emphasizes.

Severson says the center tries to offer a variety of programming, including spiritual, musical, parenting, and basic life-management, which goes over skills like goal setting and anger management. Another class is designed strictly for females; its purpose is to help them live independently of negative male peer pressure upon their release.

"We also have a GED program, but many of them are afraid to participate because their reading skills are so low," says Severson, who adds that if a small percentage earn a general equivalency

real benefits



“I do believe that some of the inmates walk out of here with a feeling they can do better. Sometimes even a little thing can go a long ways. It’s a slow process, but in the long run every little bit helps.”

Marion Severson  
Program Director, Laramie County Detention Center

diploma or learn how to better handle financial matters, that’s a success.

“I do believe that some of the inmates walk out of here with a feeling they can do better. Sometimes even a little thing can go a long ways. It’s a slow process, but in the long run every little bit helps,” Severson says.

Rosenlund addresses other topics such as spending tips (for instance, taking cash to the grocery store instead of a credit card), the advantages and disadvantages of home ownership versus renting, the importance of establishing good credit, and knowing the difference between wants and needs.

There is a general consensus that if questions are asked during a presentation, a speaker is reaching his or her audience. If that’s the case, Rosenlund was reaching the inmates as he fielded dozens of questions from start to finish.

“How do I reestablish credit?”

“What if I’ve never borrowed money?”

“Can you get a credit card and not use it to establish credit?”

“Why not use cash instead of a check?”

Rosenlund answered most of the questions the best he could, offering such advice as “If you can eat it or wear it, don’t put it on a credit card.”

After explaining that the average American has incurred \$4,000 in debt, the educator faced more questions, but he didn’t answer all of them.

“I have \$2 million in hospital bills. What kind of bankruptcy should I file for?” a detainee asked.

“I’m not in a position to answer that one. It would be best to visit with an attorney or a financial adviser,” Rosenlund replied.

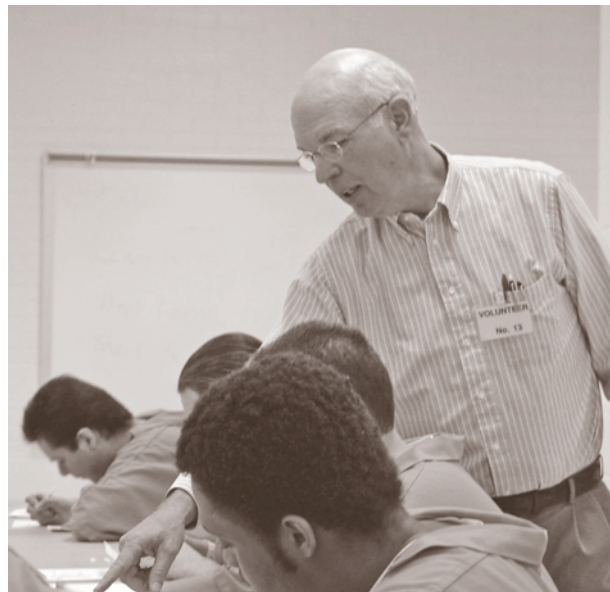
The discussion was lively, and most of the inmates seemed to enjoy themselves as they exchanged friendly jabs while sharing stories about financial successes and failures.

“We often live day to day, allowing the demands of the present to swallow up our money and time,” Rosenlund says. “We watch the money – and usually not enough of it – come in, and we watch it go out. We often feel we don’t have any control over it, so why should we worry about trying to manage it?”

The educator attempts to answer his own question.

“Because managing your money can help reduce the stresses in your life. It can help give you a plan to take care of unexpected events and expenses,” he says. “Most importantly, managing your money can help you meet the goals you’ve set and create the life you deserve.” 🍷

**On the Web:** <http://www.casperstartribune.net/articles/2004/10/10/news/business/4bcd9c42eedfbdf87256f280021017a.txt>



*“Volunteer No.13,” Extension Educator Phil Rosenlund, helps an inmate during a drill on how to balance a checkbook.*

# Range management school fosters

*By Robert Waggener, Editor  
Office of Communications and Technology*

Mutual trust, open communication, and Education are among the key ingredients to develop a successful rangeland management plan on public lands.

Ranchers and land managers generally agree that rangeland plans will disintegrate if trust breaks down or communication fails.

Recognizing a need to bring the stakeholders together, the Wyoming Section of the Society for Range Management organized rangeland management schools in Sheridan, Rawlins, Cokeville, Cody, Lander, and Upton in 2004 and early 2005. More than 200 people attended.

The University of Wyoming's Cooperative Extension Service and state and federal agencies sponsored the classes, which were deemed so successful that additional ones are being planned, including a more in-depth course in Sheridan this June.

"Wyoming Rangeland Management School 101 is helping ranchers and land managers in the area of conflict resolution. It puts participants on neutral ground and gives them a shared vocabulary," says one of the instructors, Zola Ryan, an extension educator for Carbon and Albany counties.

"There is conflict surrounding the use of public lands for grazing. Issues revolve around land management, recreation, and wildlife. Some people are questioning if grazing should even be allowed. With these classes, we are trying to get all of the stakeholders in one room and focus on the science of resource management, not emotions," Ryan says. "The meetings have been very cordial and very beneficial."

Rangeland 101 includes sessions on plant growth, time and timing of grazing, animal nutrition and behavior, rangeland monitoring, and applied grazing management.

"The ranchers and land managers are appreciating the information they are getting. At one of the classes, several ranchers met with one of the speakers and talked about the conflict they were facing and how some were opposed to grazing. Following the class, there were offers to get everyone together in a room and start the dialog," Ryan notes.

Among the teachers is Boulder cattle producer Joel Bousman, who was asked to discuss applied grazing management after successfully working with ranchers and representatives of the U.S. Forest Service (USFS) and the federal Bureau of Land Management (BLM) in western Wyoming to solve resource issues.

"I emphasize that it's important to have voluntary, cooperative permittee monitoring," stresses Bousman, whose first involvement in Rangeland 101 was in Sheridan.

"If it's voluntary, people want to participate. In Sheridan, the Bighorn National Forest established a mandatory program for the forest, and it fell flat on its face. The way it was set up, it did not promote



*Boulder livestock permittee Joel Bousman, center, runs a permanent photograph transect with the assistance of fellow permittees Susy Michnevich and Mark Jones.*

# communication

## communication, trust

trust and communication between the permittees and the agency,” Bousman says. “One of the main benefits of voluntary range monitoring is that you bring range conservationists and permittees together before the monitoring begins. They agree up front on what the objectives are and what kind of protocol will be established to achieve those objectives.”

They work together to locate monitoring transects and determine how plants, soils, and water will be monitored, Bousman continues.

“It’s critical that the entire process be done jointly. That way everyone is on the same page. They are all seeing the same thing at the same time. This builds trust, and trust goes a long way toward having a good working relationship between federal agencies and the stakeholders of the land.”

Another instructor is Jim Waggoner, extension livestock nutrition specialist in the College of Agriculture’s Department of Renewable Resources.

“There is potential for confusion and misunderstanding between the people who manage our resources and livestock permit holders, and we are trying to put everyone in a neutral setting and provide educational materials based on science, not personal feelings,” Waggoner says. “Presenting the latest science helps people make better management decisions.”

Rangeland 101 starts out with basic information about plant growth. Extension Educator Blaine Horn, who works in Johnson and Sheridan counties, teaches participants that for grasses to remain healthy and productive, they must have a sufficient amount of green-leaf tissue present throughout the growing season. This is necessary to produce energy for their above- and below-ground growth, for the development of basal buds for the following year’s tillers, and for reproduction.

“Proper management of grazing is necessary so that a sufficient level of green leaves is present throughout the growing season,” Horn says.



*Extension Educator Blaine Horn talks about plant growth during a Wyoming Rangeland Management School 101 class in Rawlins.*

UW Extension Range Specialist Paul Meiman, who is based in Lander, addresses the time and timing of grazing.

“The time of grazing refers to how long an area is exposed to grazing. Controlling the time can provide plants with opportunities to grow or regrow in the absence of grazing pressure,” Meiman says. “Timing of grazing refers to when grazing occurs in a given year. Effects of grazing on plants differ with the stage of the plant development.”

The nutrition and behavior portions of the course are taught by Waggoner and Tanya Daniels, an extension educator for Campbell, Crook, and Weston counties.

“The early spring grass is the most nutritious forage we have in Wyoming, but if you calve in January, February, or March you are missing that. All of the nutrients are coming out of the back of a pickup because you don’t have green grass yet, and that gets expensive,” Waggoner says. “When do the wild animals have their little ones? It corresponds to grass green up, so why are we doing anything different?”

Turning to behavior, he says, “We emphasize fitting the animal to the resource instead of fitting the resource to the animal. For example, cows with



# trust



*Livestock Nutrition  
Specialist Jim Waggoner*



*Extension Educator  
Zola Ryan*

young calves typically don't use real rough country, but a yearling will. Sheep will browse on plants other than grass while horses will travel longer distances for water. We're matching the animal to the range resource, which includes the soil, water, and plants. It all ties together."

Zola Ryan teams with Michelle Buzalsky, a range conservationist with the USFS in Cody, to teach range monitoring.

"We emphasize techniques that can be consistently applied and are easily learned. These techniques help permittees and range conservationists to track progress in order to meet objectives," Ryan notes.

Other instructors have included Eric Peterson, an extension educator serving Sublette, Lincoln, and Teton counties, and Joe Hicks, a USFS range conservationist in Cody who took the lead in developing the range school. "Joe was serving as president of the Wyoming Section of the Society for Range Management when he put out the call to members interested in participating in such a school," Ryan says.

Each school concludes with a session taught by grazing permittees on applied grazing management.

"Since we started joint monitoring programs, our working relationship with the Forest Service and BLM has improved dramatically," says Bousman, who is the president of the Silver Creek Grazing Association in western Wyoming, which started a

cooperative monitoring program with federal agencies. "I believe this school could similarly help other permittees and range conservationists in the state because it gives them tools to make better decisions. They are learning about grazing plans, watershed management, and rangeland monitoring."

Ryan adds, "There are a lot of grazing strategies out there, and by understanding what your plants are doing and what your animals need, you can design a plan to balance the needs of the plants and the animals."

Ryan says an additional 101 class, which will last one day and take place inside, will be offered this fall in Rawlins. Three- and five-day classes, which will be called 301 and 501, respectively, are also being planned, including a 301 school in Sheridan on June 15-17.


"In the 301 series, we'll be going out into the field to identify plants, measure vegetative cover, and learn monitoring techniques," Ryan notes. "In the 501 course, we'll give participants an actual ranch scenario and ask them to come up with a management plan based on what they have learned in the first two classes."

In addition to UW CES, other sponsors include the USFS, BLM, federal Natural Resources Conservation Service, and Wyoming Department of Agriculture. 🌿

**On the Web:** <http://uwacadweb.uwyo.edu/wysrm/>



*Jim Waggoner, an extension livestock nutrition specialist, discusses livestock nutrition and behavior during the rangeland 101 school in Rawlins.*

A black and white photograph of Robert Sorenson, a man wearing a cap and a jacket, standing in a vast, flat, arid landscape. He is looking towards the right, with his hand near his chin. In the background, there are low, rolling hills under a clear sky.

*Robert Sorenson, who ranches in the Spotted Horse area of Campbell County, shows tour participants an area of his ranch that was scheduled to be developed for coal-bed methane and the location for a proposed reservoir to hold CBM discharge water.*

# CES tackles issues relating to booming coal-bed methane development

*By Robert Waggener, Editor  
Office of Communications and Technology*

Tanya Daniels' introduction to coal-bed methane development in Campbell County was a baptism of fire, and the water in the baptismal wasn't always pure.

Coal-bed methane (CBM) activity was already well underway when Daniels became an area educator for the University of Wyoming's Cooperative Extension Service in 2001. Hundreds of CBM wells, noisy compressor stations, overhead electrical lines, dirt roads, pipelines, and water-discharge reservoirs dotted the arid countryside around Gillette.

Daniels immediately started getting calls from agricultural producers – in some cases not-so-happy ones – about how expelled water was affecting their rangelands and hay meadows. She quickly learned that millions of gallons of groundwater were being pumped to the surface annually in order to release trapped methane from coal seams.

Some of the water was suitable for plants, but much of it contained high levels of salts that were killing hay crops and native vegetation. Landowners expressed concerns to Daniels about how those discharges would affect plant communities in the years to come.

They also worried about water wells going dry and how CBM drilling could hurt the region's aquifer. Livestock operations were being impacted as were the habitats of wildlife and fish.

"We didn't have a handle on the issue then, and we still don't. There are a lot of unanswered questions, so coal-bed methane's demands on my

job are actually increasing," says Daniels, who spends about 10 to 20 percent of her time dealing with issues directly related to the booming industry.

Just how booming is it?

Since the 1990s, when CBM activity started in Wyoming's Powder River Basin, nearly 14,000 methane wells have been drilled in Campbell County, another 3,000 in Sheridan County, and just over 1,300 in Johnson County, according to the Wyoming Oil and Gas Conservation Commission.

The industry has brought new jobs and new money into the counties. It has financially benefited many ranchers. And it has contributed significantly to the state's tax coffers. But like other development, minuses have followed the pluses, and many of the ranchers who are reaping economic returns are also paying costs. Once enjoying peace, quiet, and



*Participants in a tour coordinated in part by the University of Wyoming Cooperative Extension Service study an irrigation system east of Gillette that uses coal-bed methane discharge water. The reservoir in the background contains water discharged from CBM wells.*



# cooperation

solitude, they are now sharing their land with drilling outfits, heavy equipment, and diesel-powered compressor stations.

And fears about CBM's impact on groundwater supplies continue to mount; especially considering a drop in the water table could have serious consequences on municipal supplies in northeast Wyoming.

Each gas well produces between five and twenty gallons of water per minute, according to researchers at Montana State University-Bozeman (MSU-Bozeman). That means the 18,000 wells now in production in Campbell, Sheridan, and Johnson counties are expelling more than 100 billion gallons of water annually. As a comparison, the cities of Gillette, Sheridan, and Buffalo combined use approximately 3.52 billion gallons annually.

"One elephant in our living-rooms that is being ignored by the regulatory agencies is how CBM could lower the aquifers. That is a big concern of mine, especially with this long-term drought," says Nancy Sorenson, who ranches 35 miles northwest of Gillette with her husband Robert. "On our private

and leased land they have drilled nearly 60 wells, and we're probably less developed than some of our neighbors," she says.

Among her neighbors are Don and Kathy Spellman, who raise cattle near the tiny community of Spotted Horse. "Six drilling companies have developed more than 100 wells on our ranch," Mr. Spellman says. "We've run the gamut when it comes to companies being responsible. We had one real good company, but we've had some lulus.

The development changes how you do things. You totally lose your privacy. Dust has become a serious problem. And our biggest concern is discharge water. Some of it has really soured the ground to the point where nothing will grow."

Drilling started on the Spellman place in 1998, and at first the couple didn't know where to turn for help. But as the development intensified, so did efforts by local, state, and federal agencies, conservation districts, environmental groups, universities, and even the CBM companies themselves to learn more about the impacts and how they could be mitigated.

Among the people Spellman turned to were Daniels and her colleagues.

"Tanya and CES have done a good job about getting us contacts at UW and MSU-Bozeman. They have put out valuable information and have started research projects," Spellman notes. "The university folks will talk to you and advise you on what you should do and shouldn't do when it comes to water, soils, and plants. I didn't even realize CES would get involved with this, but I'm glad they did. Tanya has been very good about getting information out to people and not taking sides."

In addition to disseminating information, Daniels helped organize field trips to impacted areas in Campbell County, and she co-organized a major conference earlier this year in Sheridan, a central site for the gathering since major CBM development is also occurring in that county as well as areas to the south in Johnson County and to the north in Montana.

About 120 people attended the conference, which was titled "The Art of Compromise." In addition to CES, other organizers included MSU-Bozeman and the Campbell County Conservation District. Among the speakers was Spellman.

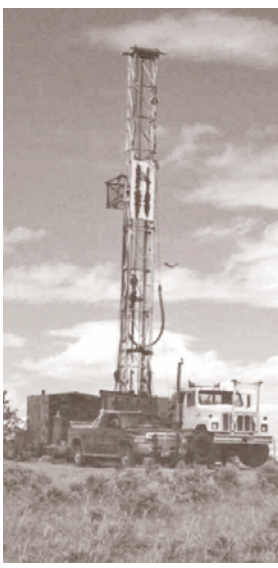
"I thought the conference went very well. We talked about how to cooperate with each other, and how to survive this development," he says.

Daniels adds, "People talked about what has worked and what hasn't. There are positive and negative impacts to CBM, and right now the science has not caught up with the development. CBM



*Fielding questions from the audience, participants in a coal-bed methane conference in Sheridan discuss the industry's impacts on landowners in northeastern Wyoming. One of the event's organizers was the Campbell County Cooperative Extension Service. Among the speakers were, from left, Williams Production Co. representative Randy Jespersen, Spotted Horse rancher Don Spellman, and Ucross Ranch Manager Mark Gordon. (Photo courtesy Mark Heinz, The Sheridan Press)*





*Thousands of wells have been drilled in northeastern Wyoming for coal-bed methane.*

started out fast and furious, and of course science takes time. We don't have the information we need to know about such things as applying groundwater to agricultural crops. And when we do get scientific information, it's not being quickly disseminated to

landowners so they can make proper decisions."

Sorenson says she wishes that some governmental agencies and educational institutions including UW and CES would have become more involved earlier in the process.

"Ranchers really want to know what a certain type of development will do to their ranch. They need information from sources like UW and CES before they start signing surface-use agreements," Sorenson notes. "The university and CES needed to get on the bandwagon a lot earlier than they did. For us and a lot of our neighbors the horse is out of the barn, but if the information they are now compiling helps other people, we are happy to see that."

Sorenson says she, too, dropped the ball, noting that once CES got involved in the issue in 2001, "We should have utilized them more than we did. We did participate in one of the tours Tanya helped organize, and we're also interested in the soil testing they are doing out here as well as the other information they are putting together."

Two years ago, Daniels launched a research project in an effort to develop guidelines for landowners on how to monitor the impacts of development.

"We have a manual in the rough draft phase which is being evaluated by landowners right now. Hopefully it will be published later on in the year with their suggested changes. Through this process, I have learned that monitoring CBM activities on private or public land can become a full-time job," Daniels emphasizes. "Where development is occurring, ranchers are spending much of their time

negotiating surface-lease agreements and monitoring road building, reservoir, pipeline, and power-line placement, water discharge, fencing, and effects on wildlife, livestock, and farming operations."

Another project involves the monitoring of soils, water, and forages on a ranch where heavy CBM activity has occurred. Involved in the research are Daniels, former Sheridan Research and Extension Center Director Roger Hybner, who is now with the federal Natural Resources Conservation Service in Montana, and researchers from UW, MSU-Bozeman, and Colorado State University. A CBM company is funding the project.

"We hope to start another project that will research what grass and alfalfa species will grow best with CBM discharge water. I have the funding; I just need to find the manpower," Daniels says.

Spellman says he looks forward to the results of the studies and adds that CES should stay on top of the issue. "I urge CES to continue putting out as much information as they can to help people, and get as many people involved as they can to protect the land and the resources." 🍷

**On the Web:** [waterquality.montana.edu/docs/methane/cbmfaq.shtml](http://waterquality.montana.edu/docs/methane/cbmfaq.shtml)



*Northeast Area Extension Educator Tanya Daniels measures the height of an alfalfa plant to show production. The field is being irrigated with discharge water from coal-bed methane wells. "We have one year of data, and we don't know if production decreases are due to the drought, CBM discharge water or both," Daniels says. "The drought has given weeds a chance to become established in some parts of the field."*



*Demonstrating how to make chicken "finger strips," Big Horn Basin Area Educator Phyllis Lewis teaches a lesson in Cody as part of the Dining with Diabetes program. (Photo courtesy Rob Densmore, Cody Enterprise)*

# New CES program cooks up tasty, nutritious

*By Robert Waggener, Editor  
Office of Communications and Technology*

**H**ow does spicy grilled chicken, four-bean salad, glazed carrots, double corn bread, and lemon cake sound for dinner?

Ask a person with diabetes, and he or she may respond: "It sounds absolutely delicious, but no thanks. I am trying to keep my blood sugar under control."

But a scrumptious dinner like that may find its way onto the tables of many persons with diabetes around the state thanks to a new program being initiated by the University of Wyoming's Cooperative Extension Service (CES) in partnership with diabetes educators throughout the state.

Called Dining with Diabetes in Wyoming, the program seeks to improve the health and lives of patients with diabetes through tasty recipes that are low in sugar and fat, and through nutrition education and physical activity. It's also designed to help the families of people with diabetes.

"We want to teach people how to eat better and how to have a healthier lifestyle. In addition to preparing tasty, healthy meals, each of our sessions will have a physical activity component," says one of the program team members, Phyllis Lewis, a nutrition and food safety extension educator for Big Horn, Hot Springs, Park, and Washakie counties.

"We're gung ho to get Dining with Diabetes going up here, and we're excited about making a positive difference in people's lives."



One of the participants in the Cody field test told Lewis and other facilitators that she didn't believe food prepared for people with diabetes would taste good.

"She was surprised when it did," says Lewis, who then described how facilitators made "fast" fruit salad, oven-fried parmesan chicken, baked sweet potato puffs, green beans with cranberries and nuts, and "poor-man" oatmeal cookies while the participants watched.

"They really appreciated being able to see how the meal was prepared and how they could reduce the fat and the sugar without sacrificing taste," Lewis adds with a smile.

Another team member, Suzy Pelican, a food and nutrition extension specialist with the College of Agriculture's Department of Family and Consumer Sciences, says, "We feel this program will complement existing services around Wyoming, not compete with them, and that our program can be an effective referral avenue for people to get clinical services. We're focusing on meal planning and food, and that's an area we in extension and our diabetes education partners statewide feel is a need."

recipes were altitude-adjusted and would also appeal to our Wyoming participants," Pelican says.

The pilot-test phase of the program started April 11 in Lander when the full five-class program got underway. Additional programs have also been initiated in Casper, Lusk, Rock Springs, and Worland, with plans in the works for Pinedale, Riverton, and on the Wind River Indian Reservation.

"During the program's pilot test, which is scheduled until the end of this year, it is anticipated that most teams will conduct at least one series of Dining with Diabetes classes," Pelican notes. "We want to provide needed education for the participants, but we



*Extension Specialist Suzy Pelican*

## meals for people with diabetes

"We're excited about making a positive difference in people's lives."

— Phyllis Lewis,  
UW Cooperative  
Extension Service  
educator

Late last year and early this year, five teams field-tested recipes and classes in Cody, Big Piney, Evanston, Fort Washakie, and Rock Springs.

"The field testing went very well. It was important to help us 'Wyomingize' the Dining with Diabetes program that was developed in West Virginia. We wanted to make sure the

also want direction from the participants and the facilitators on how we can make it stronger."

Betty Holmes, a registered dietitian and project director in the Department of Family and Consumer Sciences, led adaptation and development of all materials that are now being used in the classes. The lessons include: living well with diabetes; carbohydrates and sweeteners; fats and sodium; vitamins, minerals, and fiber; and physical activity and recipe demonstrations. At the end of the pilot test, data will be used to seek grants to help fund the statewide program.

"We hope to have this program in every county of Wyoming. We're starting with the counties that are excited about it, and we hope that excitement spreads to the other counties," says Lewis, who



# opportunities

credits Virginia Romero-Caron, an extension educator for Sweetwater and Uinta counties, with bringing Dining with Diabetes to Wyoming.

“Nina said we needed to be doing something for people with diabetes since the disease is so prevalent in Wyoming,” emphasizes Lewis, adding that Romero-Caron traveled to West Virginia to learn more about that state’s program.

Romero-Caron, who is a registered dietitian, was impressed enough that she wanted to “Wyomingize” West Virginia’s Dining with Diabetes. Extension educators from that state came to Wyoming to facilitate a training session in Casper.



*Area Extension Educator  
Phyllis Lewis*

Attending the November gathering were extension nutrition and food safety educators along with diabetes educators.

In addition to Lewis, Romero-Caron, and Pelican, other members of the CES team who completed the training were nutrition and food safety educators Peg Cullen, Patti Griffith, Vicki Hayman, Stella McKinstry, Christine

Pasley, and Denise Smith, Linda Melcher, director of the Cent\$ible Nutrition program, and Ruth Wilson, CES associate director. Pamela Henderson, a computer support specialist with CES’s Office of Communications and Technology, is assisting with data collection and evaluation.

Joining the CES team at the training were professional diabetes educators from Big Piney, Casper, Cody, Douglas, Evanston, Lander, Lovell, Powell, Rawlins, Riverton, Rock Springs, and Thermopolis. Virginia Wiles, a lay person with



diabetes, also attended and will participate in the pilot testing in Worland.

Field testing got underway in several Wyoming communities. Assisting with program development and funds was the Wyoming Department of Health’s Diabetes Prevention and Control Program (WDPCP).

“Our program funded five field-test sites at \$400 each, and we also contributed some of the educational materials used in the Dining with Diabetes curriculum,” says Wanda Webb, health systems specialist with the WDPCP in Cody.

“I attended the field testing in Cody, and what I noticed was different about this program than traditional diabetes education is that the participants are very involved. You can have a dietitian standing up and telling you, ‘This is what you should eat.’ But when you actually watch the recipes being prepared and then you get to taste them, that is much more interactive teaching,” Webb says.

“The participants are more likely to go home and try a recipe that they’ve already tasted and liked.” 🍴

**On the Web:** <http://www.wvu.edu/~exten/infores/pubs/fypubs/dinediab.pdf>

# Small acreages pose big problems for Fremont County

By Robert Waggener, Editor  
Office of Communications and Technology

**I**t was 1999, and concerns about Y2K ranked low on Ron Cunningham's priority list.

Cunningham, an educator for the University of Wyoming Cooperative Extension Service's Fremont County/Wind River Area, knew the rural population of the area was continuing to burgeon and so were the number of issues associated with these small-acreage "ranchettes" and "farmettes," as they became known.

Problems were being reported with overgrazing, erosion, weed infestations, failed septic systems, contaminated water wells, and disputes over irrigation water, to name a few.

As the problems mounted, so did the number of calls received by Cunningham and other staff members in the Fremont County and Wind River Indian Reservation CES offices as well as the Popo Agie and Lower Wind River conservation districts. And Cunningham knew the issue wasn't going to go away as approximately 40 percent of the county's population now lived in rural, non-incorporated areas, and the number of people moving to the country was increasing.

"Many of these people had no experience dealing with noxious weeds, fencing or irrigation disputes, feeding livestock, or building a yard and landscape from scratch," Cunningham says. "We identified this as a serious problem, and county and local governments had already been stretched to assist people on a one-on-one basis."

The following year, Cunningham and a team of extension educators and conservation district representatives began organizing the county's first-ever small-acreage seminar to help rural landowners. The first of what was to become an annual gathering took place in 2001.

"The seminars provide an important educational service. We always have them on a Saturday in early spring, right before the growing season begins. We want to help the rural



*Riverton's Doyle Ward, who runs a well-servicing business in Fremont County, discusses how to properly construct and maintain water wells during a seminar for the owners of small acreages.*

landowners improve their places and improve the county," Cunningham says.

The educator adds that it's difficult to measure the exact success of the seminars, but he believes people have walked away with valuable information they could use back home.

"They have given small-acreage landowners a better feel for managing their places, treating the land as a renewable resource. I believe the people are learning to be good stewards of the land, and they are learning to be good neighbors," says Cunningham, who helped organize the sessions with Milt Green, who worked as an extension educator on the Wind River Indian Reservation before transferring this year to the CES office in Natrona County.

Cunningham has found that many people moving from cities onto small acreages don't know how to manage their land properly. Some of the owners graze more animals than the land can support; others don't know how to control noxious weeds; and many know virtually nothing about Wyoming's water laws.

outreach



*This display on livestock care and ethics was one of several presented at a seminar intended to help the owners of small acreages deal with resource and animal issues.*

“Water goes through their property, and they assume they can use it,” he says. “There were disputes over water just because people didn’t know about water rights.”

At the same time, Fremont County was entering a serious three-year drought, which exacerbated the problems, he notes.

Cunningham says that rural residential development was also taxing Fremont County government, just like it was taxing governments around the state. “It seems like everywhere in Wyoming you drive, you see where people are moving to the country.”

A 2002 study by Roger Coupal, David “Tex” Taylor, and Don McLeod of the UW College of Agriculture’s Department of Agricultural and Applied Economics, found that while residential development does increase the tax base, this increase is offset by the increased costs of providing community services such as fire and police protection, roads, and busing to area schools.

In a bulletin titled *The Cost of Community Services for Rural Residential Development in Wyoming*, the three researchers found that on average, converting 35 acres of agricultural land to rural residential creates \$1.13 in county government and school expenses for every dollar in revenue.

“This does not include the value of wildlife habitat, water quality protection, maintenance of view sheds, and other benefits related to open space that could be added to these figures,” Coupal, Taylor, and McLeod wrote.

Cunningham says this was one more reason to organize seminars for those people seeking a rural lifestyle or looking for a vacation home.

The first event attracted 94 people, while between 40 and 55 attended subsequent sessions between 2002 and 2004.

Green taught participants how they could successfully run small numbers of livestock on small acreages while Cunningham led programs on weed identification and how to control the more noxious species including leafy spurge, spotted knapweed, and Canada thistle.

“Some of them have adapted good weed-management plans,” Cunningham says. “Evaluations from the participants showed that they learned how to recognize other resource issues, how to return the land to healthy and productive landscapes, and how to use good stewardship practices to keep the land healthy and productive.”

He adds, “Milt helped some of the landowners set up business plans to use their small acreages as a financial resource. There are many ways you can add revenue from small acreages such as running a small flock of sheep or a few purebred horses.”

Cunningham says the Fremont/Wind River CES offices this spring coordinated a workshop to help both city and rural residents with questions about trees, shrubs, lawns, and pesticides.

“This was an offshoot of the small-acreage seminars,” notes Cunningham, who adds that residents of Riverton and Lander were invited in addition to the rural folks because they all face similar issues when it comes to lawns and gardens.

Cunningham says a fifth small-acreage seminar will likely be organized in the future. “We are still seeing the same problems, but it’s because the number of our small acreages continues to expand. The demand is still heavy for information on everything from weeds to water wells to pastures to xeriscaping.” 🍷

**On the Web:** <http://www.uwyo.edu/CES/PUBS/B1133.pdf>



*Area Extension Educator  
Ron Cunningham*





*4-H members practice rabbit showmanship during the Natrona County 4-H Project Expo.*

## Natrona County 4-H Project Expo big hit with youths, parents, and leaders

*By Robert Waggener, Editor  
Office of Communications and Technology*

**S**porting an intent look, one boy “artfully” decorates a cake with white and sky blue frosting while two of his 4-H buddies watch curiously as the masterpiece takes shape.

A few steps away in the Natrona County Agriculture Resource Learning Center, several girls model clothes they constructed from wool, cotton, and polyester fabrics while another group discusses firearms and archery safety.

Across the hall, animals are the name of the game as kids learn about critters ranging from cats and dogs to hermit crabs and sugar gliders.

“What’s a sugar glider?” an inquisitive man asks.

It’s a small, arboreal marsupial that is found in the forests of Australia, as well as in Tasmania, New Guinea, and the neighboring islands of Indonesia, Natrona County 4-H leader Rose Jones responds.

“Sugar gliders are nocturnal animals and make

a lot of noise at night. They are not for me, but a lot of the kids like them,” she adds with a smile.

Sugar gliders, like many other small animals, have found themselves in the homes of 4-Hers who have taken on “pocket pets” as a project. And many of the critters, along with their 4-H owners, have found their way to an exciting program in Natrona County called 4-H Project Expo.

The expo, which has taken on the flavor of a county fair, is held the first Saturday of each month January through May, as well as a number of evenings throughout the year. Practically every 4-H project area is represented at the fair, from cake decorating and horsemanship to parliamentary procedure and record keeping.

“It’s been a sensational program,” says the chief coordinator, Colleen Campbell, a 4-H program associate in the Natrona County Cooperative Extension Service (CES) office. “The thing I am most proud of is the education that is taking place, the development of the kids, and their know-how.”



*Casper Mountain provides a backdrop as Suze and Rachel Oakes of the 4-Winds 4-H Club work together to trim a goat in preparation for a show.*

The expo, in essence, provides one-stop shopping. Instead of a parent taking a child to numerous different 4-H meetings and workshops in a month, they generally take them to one Saturday expo.

"It is working fabulous," says Jones, who runs clinics on raising poultry and cats as well as cake decorating. "Meeting once a month doesn't waste leaders' time, and it's also a lot easier on parents and 4-H members. It's usually only one Saturday a month, which means they don't have to give up a number of evenings throughout the month."

Jones adds, "The expos are convenient. Everybody marks them on their calendars. They all seem to look forward to the clinics."

And just as important, she continues, "The expos are raising project awareness. For instance, if a 4-Her is involved in only a beef or sheep project, they get to see many other projects on Expo Saturday. I was amazed with how kids flocked to the pocket pet clinics when they saw how fun the project looked. You won't believe some of the varieties the kids are bringing in: sugar gliders, parakeets, parrots, tarantulas, guinea pigs, and hermit crabs."

On average, Campbell says, 150 people attend each expo including 50 volunteer instructors.

"Some of the people who teach these clinics are local business owners, company representatives who sell feed or animal medical supplies, veterinarians, University of Wyoming professionals, and a lot of community volunteers, 4-H leaders, and even some of the kids who have gained a lot of experience in a particular project," Campbell notes.

Among the youths who are teaching clinics is Jones' daughter, Amanda. The Natrona County High School sophomore leads classes in poultry, rabbits, cats, and cake decorating.

"Amanda's involvement in 4-H has really helped build her confidence, especially with public speaking. Instructing classes and communicating face-to-face with judges has given her and other kids a leg up in communication," Jones says. "I had always wanted to be involved in 4-H when I was a girl, but I never had the opportunity. I wanted Amanda to be in 4-H so I got involved as a leader a year before she was eligible to join. It's been a great experience for both of us."

Jones says the 4-H Project Expo program has added to that experience. "It's working well for us right now. I believe it is boosting participation in 4-H and the various projects."

Campbell says the project was launched by the Natrona County CES office in January 2003.

"When I started in the office three summers ago, nearly 20 swine didn't make the minimum weights for the county fair. We had some upset kids, and that was my first week on the job. As a result of that, we started to launch some educational programs on animal feeding and selection. We offered workshops on beef, sheep, and swine, and those got so popular we added goats, rabbits, poultry, dogs, cats, and pocket pets," Campbell says.



*4-H Program Associate  
Colleen Campbell*

bright horizons



“We have worked with the young people on animal selection, housing, health care, feed rations, and how to show their animals. If they have a market animal, they learn about ultrasound results and how the data can be used to judge meat quality. They learn how to market animals for sale.”

Campbell adds, “We also touch on such things as show ethics, record keeping, showmanship, and dressing appropriately for a show.”

The success of the program continued to grow, and CES responded.

“We have added so many projects including entrepreneurship, shooting sports, entomology, baking, cake decorating, sewing, and parliamentary procedure. There’s vegetable, meat, and wool judging, fashion revue, and clothing selection. If there’s an interest, we’ll offer a class at the expos.”

4-Hers move from one project area to another every 45 minutes. At the March 5 expo, for example, classes on rabbits and swine started at 9 a.m. These were followed by beef, dairy goats, care of young lambs, and cat clinics at 9:45.

How to purchase and feed market goats, a clinic on sheep, and learning how to bake were next in line, and then there were additional classes on baking as well as meat judging.

Goats were the featured critter at noon, while clinics on how to sell livestock and how to identify various breeds of dogs started at 12:30.

The Natrona County 4-H Junior Leaders Club met at 1:15 p.m., and then came classes on cake decorating and pocket pets. Three other 4-H clubs held meetings during the day.

“Now, we’re constantly meeting goals in terms of raising animals because the nutrition and overall care are better, and training and showmanship skills have improved,” Campbell says. “We rarely see fair animals not making weight. And when animals



*Putting the final touches on a cake, 4-Her Gabriel Carlson, left, spreads frosting while a 4-H friend and his brother, Jeffrey, watch closely.*

don’t make weight, the kids now know the reasons why. They know their selection process may have had a flaw, that they didn’t feed as well as they should have, or maybe that there was some heat stress that could have been prevented.”

The expos continue to evolve.

“In the beginning, they were very formal, but the teachers and 4-H members now know what to expect.

We’re finding fewer parents

just dropping their kids off. Many of them are now staying and participating in the learning. We’re even seeing grandparents,” Campbell says.

“The expos are helping young people prepare for the county and state fairs, but beyond that they are gaining knowledge about a variety of subjects. By the time each expo is over, the kids have learned so much. And they are having fun, so much fun.” 🍪

**On the Web:** [http://www.uwyo.edu/CES/County\\_Info/Natrona/Natrona\\_Newsletter\\_Main.html](http://www.uwyo.edu/CES/County_Info/Natrona/Natrona_Newsletter_Main.html)



*Kelsey Knight of the City Dudes 4-H Club demonstrates horse-saddling safety.*

# DNA technology finding new home on

*By Robert Waggener, Editor  
Office of Communications and Technology*

Law officers and prosecuting attorneys for years have used DNA technology to put criminals behind bars.

That same technology is now finding a home on the open range as more ranchers are applying it to their cattle operations.

"Today, there are tests that predict carcass characteristics of offspring, coat color, and polled status. There are also tests that can assign a permanent and unique identity as well as identify parentage," says Bridger Feuz, an agriculture and natural resource assistant extension educator for

Uinta and Sweetwater counties.

"Tests in the near future will not only be able to predict an offspring's carcass characteristics, but they will also be able to predict an animal's genetic potential as it enters a feedlot."

Feuz is sharing this information with cattle producers in southwestern Wyoming. Earlier this year, he taught classes in Evanston, Lyman, and Farson.

"Out of the 25 or so people who attended, about 20 are interested in having more in-depth classes on the subject. I will definitely plan on doing that," he says.

DNA technology has been slow to take hold in Wyoming, but Feuz notes that a couple of Cowboy State ranches were among the first in the country to use DNA profiling. They include Beckton Stock Farm and Buffalo Creek Red Angus, two purebred Red

Angus operations located in Sheridan County.

Beckton, Buffalo Creek, and about 10 other ranches in Wyoming that raise purebred cattle are using DNA analysis to help determine parentage because they run multiple sires in pastures, Feuz says.

"Some of the pastures in Wyoming are so big it's hard for one bull to get the job done. This allows ranchers to take advantage of large-pasture situations by putting in multiple bulls, which reduces the risk of having open cows," he notes.

Gini Chase, who co-owns Buffalo Creek Red Angus with her husband, Jack, and their children, says, "We started using DNA to profile some of our sires and dams shortly after the technology became available, and it has worked well for us."

Chase says Buffalo Creek's cows generally have their calves unassisted on the range, and samples from some calves are taken, especially twins, to ensure parentage.

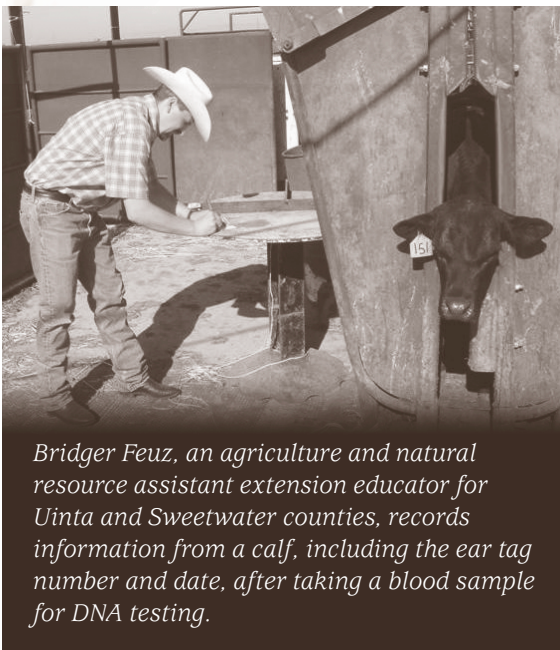
Feuz says the majority of DNA analysis takes place on purebred operations, though more commercial breeders are taking advantage of the technology.

"The value of DNA testing is limited for producers selling calves at weaning, since weaning weight is a trait that can be emphasized successfully without the use of DNA. But DNA profiling is a way to capture more value, through retained ownership, by improving the carcass quality genetics of your herd," he says.

Commercial ranchers interested in retaining ownership of their calves can take blood samples of each calf on a DNA sampling card. The cost is about \$1 per calf.



*Assistant Extension Educator  
Bridger Feuz*



*Bridger Feuz, an agriculture and natural resource assistant extension educator for Uinta and Sweetwater counties, records information from a calf, including the ear tag number and date, after taking a blood sample for DNA testing.*



# technology

## the range

“When they sell their calves through retained ownership, they can get carcass data back on those animals, and based on that data, they can learn which calves were responsible for premiums and which calves were responsible for discounts.”

Feuz says ranchers can then submit DNA samples taken from the top 10 percent of the premium calves and bottom 10 percent of the discounted calves for DNA testing. Tests are approximately \$20 to \$25 per calf.

“You would then match the tests back to the sires, which enables you to determine which sires produce the premium calves as well as the discounted ones. On many of the retained ownership programs now, grid marketing is in place. They will give ranchers premium prices depending on what the objectives of the particular program is – yield or quality of meat.

“I am not aware of anyone in Wyoming who has used this strategy, but I have personally worked with producers in Nebraska and Texas who have,” says Feuz, who previously worked for a company that researched and found new DNA genetic markers for desirable traits in cattle.

“One of the things that I learned when teaching the DNA classes in southwestern Wyoming is that some producers in this area desire more information on retained ownership,” he notes. Under this plan, a rancher retains ownership of his or her calves through the feedlot instead of selling the calves to a buyer at weaning time.

“If people are willing to manage their herds to specific targets, there can be more profit in retained ownership. The disadvantage is that you are extending your risk for a longer period of time,” Feuz stresses. “Unless commercial ranchers determine that retained ownership is a good strategy for them, DNA testing probably won’t be an important program to add.”

Feuz says a number of southwest Wyoming cattle producers expressed interest in retained

ownership, and that’s why he scheduled a class on the topic. He brought three industry experts to Lyman on March 31. “My objective is to work with producers. I want to help them increase the value in their herds and then to capture that value.”

Feuz says he touches on the future of DNA testing in his classes, and one of the exciting new developments is called bovine genome sequencing. “Private companies and university researchers are focusing on understanding genetic markers that affect certain traits in beef cattle. The potential to selectively and accurately breed cattle for specific traits such as improved meat yield or tenderness has been greatly enhanced with the release of the first draft of the bovine genome sequence,” Feuz says.

“Scientists say that this work, which is now available to researchers in public databases, will underpin cattle research for the next several decades.” 🐄

**On the Web:** <http://www.bcm.edu/pa/bovine-genome.htm>



*Bridger Feuz gently pricks this calf's ear with a needle to obtain a blood sample.*



*After pricking this calf's ear with a needle, Bridger Feuz presses a DNA sampling card to the ear to obtain a single drop of blood for DNA analysis.*

# CES leadership institutes take off

*By Robert Waggener, Editor  
Office of Communications and  
Technology*



When the idea of a Lincoln County leadership institute surfaced, some residents of the county were skeptical. They thought it would be better for the University of Wyoming Cooperative Extension

Service to organize an institute for southern Lincoln County including the towns of Kemmerer, Diamondville, and Cokeville, and a separate one for the northern portion of the county including Afton, Thayne, Alpine, and surrounding communities.

Mary Martin, an extension educator for Lincoln, Sublette, and Teton counties, worked a local steering committee made up of individuals from business, industry, and government. "It took me about a year of meetings to get the Lincoln County Leadership Institute (LCLI) up and running. We created a dedicated steering committee which worked hard to create a viable curriculum for the institute."

Local sponsors included the Cokeville Chamber of Commerce, Lincoln County, Lower Valley Energy, the Kemmerer/Diamondville Chamber of Commerce, PacifiCorp, Silver Star Communications, and the Star Valley Chamber of Commerce.

"We know that successful counties have effective bridges and bonds, bridges between their people, communities, and groups within the communities. There are many programs that deal with issues but not many programs that help people to develop the skills necessary to deal with these issues," Martin says.

LCLI was established in the fall of 2004 to provide an understanding of community issues and resources and to foster the development of leadership skills and abilities. The first of six full-day sessions was December 1, and it dealt with team building and leadership styles.

Other class topics included communication and conflict resolution, individual leadership assessment, critical thinking and effective problem solving, effective meeting management, and social responsibility. The twelve participants went through graduation ceremonies April 28. Governor Dave Freudenthal gave the "commencement" address.

"Governor Freudenthal talked about leadership and social responsibility, and then he opened it up to questions," Martin says.

Based on initial feedback, the extension educator says the LCLI was a tremendous success in part because such a cross-section of the county was represented.



*Jeannee Sager of Afton, left, and Carolyn Reed of Cokeville work on a writing project during individual leadership assessment day in Thayne. This leadership institute session was sponsored by Silver Star Communications.*



# collaboration

## in Lincoln County, across Wyoming

The participants included:

- **Afton** – Dan Docksteder, Star Valley Independent newspaper publisher; and Jerry Hansen, KRSV radio general manager.
- **Bedford** – Karen Haderlie, Star Valley Chamber of Commerce executive director; and Russ Motzkus, real estate broker.
- **Cokeville** – Kelly Hoffman, Lincoln County fire warden and area technician for All West Communications; Darren Moody, high school maintenance supervisor and wrestling coach; and Carolyn Reed, chamber of commerce economic development manager.
- **Kemmerer** – Garth “Doc” Dana, south Lincoln County road and bridge superintendent; Todd Moores, field operator for BP (British Petroleum); and Mike Turner, county computer systems administrator.
- **Smoot** – Janet Gleue, homemaker and school bus driver who wants to become more involved in her community; and Jeannee Sager, Silver Star Communications marketing assistant.

“They’ve been saying this was a hands-down great experience. It helped them improve their communication skills, and they learned other practical skills that can be used in the home and within organizations, city and county government, and businesses,” Martin says. “The participants are telling me they are excited for another leadership institute in Lincoln County. They are saying their friends and colleagues are hoping a second one is offered.”

Haderlie says, “The institute has been a commitment, but it has been such a good experience. As far as I can tell, everyone in the class will encourage others to become involved in a similar one. I see them as ambassadors to build the participation.”

“Leadership development and civic engagement are key elements of successful communities and successful economic development.”

Mary Martin, UW CES educator

Asked why she committed six full days, Haderlie responds, “Our office serves 12 small communities in northern Lincoln County, and it is definitely a challenge to get people to work together and be supportive of each other. I was also interested in building relationships with people throughout the county because that will benefit all of us in so many ways.”

Haderlie says the LCLI gave her a number of tools to more effectively work with others.

“We learned about different personality styles, how to recognize them, and how to build teams based on the strengths of each style. We learned how to effectively handle conflicts that may arise. On leadership assessment day, the teachers gave us feedback to help us develop our own strengths and to improve on our weaknesses,” she notes.

The chamber director was told that she is a good listener, is open to ideas shared by others, and is able to help groups stay on task to reach their goals.

Haderlie then adds, “I learned that I can do better to express myself and to be more comfortable and confident in front of groups. Improving in those areas will be beneficial at work and in the home.”



*Leadership institute participants Karen Haderlie of Bedford, Russell Motzkus of Bedford, and Dan Docksteder of Afton, from left to right, interview Gwen Hansen, a secretary in the Teton County Cooperative Extension Service office, during individual leadership assessment day in Thayne. This was a mock interview to improve interview questioning skills.*

Martin says the individual leadership assessment day appears to be offering participants the greatest opportunity for personal growth and assessment.

"The participants were given five leadership simulations, and trained observers provided personal feedback in four important leadership dimensions including the ability to influence, decision making and judgment, planning and organizing, and communication.

"This is a component of the EVOLVE-sponsored programs that is unique," Martin says.

EVOLVE is short for Extension Volunteer Organization for Leadership Vitality and Enterprise. The leadership institute is one of CES's EVOLVE community-development programs created by the state's Enhancing Wyoming Communities and Households (EWCH) initiative team, which Martin chairs.

Among the EWCH members is Rhonda Shipp, an area extension educator for Big Horn, Hot Springs, Park, and Washakie counties.

"Rhonda led several leadership institutes in Park County, and that was before extension agreed to make the institutes a part of the statewide strategic plan. I am very appreciative of Rhonda's encouragement. She has been a fabulous mentor to me," Martin says.

In May, representatives from a number of western states spent a week in Cody learning about

EVOLVE. It was their intention to start similar programs back home.

The success is spreading across Wyoming, too, as leadership institutes are also occurring in Big Horn, Crook, Fremont, Lincoln, Sublette, Teton, Uinta, Washakie, and Weston counties.

**"I would highly recommend a leadership institute to others, and I hope the Cooperative Extension Service offers a second one in our county."**

**Karen Haderlie,  
Star Valley  
Chamber  
of Commerce  
executive director**

"Institutes are being organized in counties anxious to host them, and once word gets around about how successful they are, we hope more spring up," Martin says. "Leadership development and civic engagement are key elements of successful communities and successful economic development."

Haderlie adds, "I would highly recommend a leadership institute to others, and I hope the Cooperative Extension Service offers a second one in our county." 🍷

**On the Web:** <http://www.subletteleadership.com/pages/institute.htm>

# Replacing alfalfa with cool-season grass may lower ranch costs

*By Robert Waggener, Editor  
Office of Communications and Technology*

Rancher Ray Daly got tired of plowing up alfalfa fields every six or seven years and watching white-tailed deer chew down potential second cuttings.

Like the deer leaping over fences to reach lush alfalfa fields each evening, Daly said he jumped at the chance to participate in an irrigated cool-season grass study when he received a flyer in the mail from the Johnson County Cooperative Extension Service.

"I have been trying to find something that would produce nearly as much tonnage as alfalfa but not nearly as many headaches," says Daly, who ranches on Lower Piney Creek near the Johnson-Sheridan County line northeast of Buffalo.

Daly may have found what he's looking for – cool-season grasses to replace alfalfa in the irrigated pastures.

Two years ago, Blaine Horn, an area extension educator for Johnson and Sheridan counties, seeded nine cool-season perennial forage grasses into plots on the ranch that Daly leases from Sheridan County resident Neltje. The same varieties were planted on Larry Vignaroli's ranch along Lower Clear Creek, also northeast of Buffalo.

"We got good stands of grass. Some of them look real promising," says Horn, who specializes in range forages. "The two pubescent wheat grasses are really looking good in terms of production."

Horn is cautiously optimistic that the project

will help northeastern Wyoming ranchers in the coming years, but he emphasizes, "The verdict is still out on just how long the stands will hold up, especially under haying conditions."

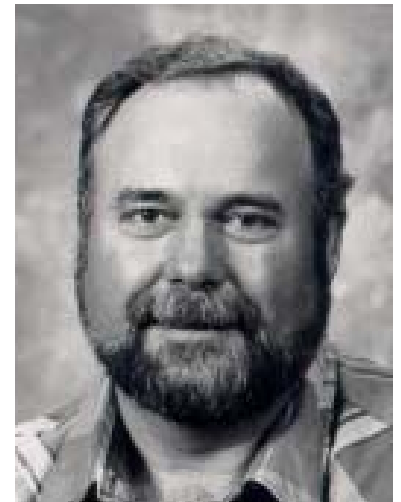
Just why did the extension educator launch such a study?

Horn says alfalfa produces high-quality hay with good yields under irrigated conditions in the two counties, but the newer varieties generally only do well for five to seven years. Fields then get plowed under, and the alfalfa is replaced with oats or millet for one to two years before alfalfa is replanted.

"There are a number of farming operations, and this gets quite expensive," adds Horn, referring to manpower, equipment costs, and seed.

Alfalfa expert Alan Gray, who is the director of the University of Wyoming's Powell Research and Extension Center, notes there are a couple of reasons why alfalfa peaks in productivity during the first four years of stand life.

"First, alfalfa is a legume, and legumes have a unique ability to fix nitrogen (N). However, all forage crops – alfalfa and grasses included – require



*Area Extension Educator  
Blaine Horn*





Justin Horn, son of Area Extension Educator Blaine Horn, seeds grass for the University of Wyoming Cooperative Extension Service research project that is underway on two ranches northeast of Buffalo near the Johnson-Sheridan county line.



supplemental phosphate (P) to maintain high levels of production. Consequently, annual maintenance applications of P are required for both grass and alfalfa stands,” Gray says.

Irrigated grasses have the same requirement for P and N as alfalfa, but grasses require a substantial annual nitrogen subsidy to remain as productive as alfalfa, he notes.

“Second, the plant population in an alfalfa stand tends to diminish over time because the plants can’t spread vegetatively like grasses, nor can alfalfa stands reseed themselves because mature plants are allelopathic to alfalfa seedlings.”

Therefore, Gray says, an alfalfa stand is difficult to thicken because it doesn’t tiller and spread like

grass does. Over time, even if a rancher starts with a good stand of alfalfa, it tends to thin out. He adds that alfalfa seeds will successfully germinate in an established stand, but a mature plant produces a growth regulator that prevents alfalfa seedlings from competing and becoming permanently established.

“An alfalfa stand is at its best about 12 months after establishment. It’s all downhill from then, regardless if you start out with a great stand or a poor one,” Gray stresses.

Horn says he decided to launch the study because of alfalfa’s downfall coupled with the fact that Sheridan and Johnson County ranchers grow approximately 64,000 acres of irrigated alfalfa hay annually.

“If hay yields of cool-season grasses are similar to that of alfalfa, are of good quality, and remain productive for more years, the overall costs for hay production could be lowered,” he predicts.

The educator sent out flyers outlining his study, and Daly and Vignaroli eagerly agreed to participate. Plots were seeded in May 2003 with six

varieties of wheatgrass, two varieties of brome, and one of wildrye. The first harvest occurred in late June 2004.

Horn says that forage yields of the grasses averaged two tons per acre with an average crude protein content of 9 percent and an average total digestible nutrient (or energy) content of 63 percent. These numbers compare favorably to mid-bloom alfalfa hay averages in the two counties.

According to research cited by Horn, beef cows need between 6 and 11 percent crude protein and 45 to 60 percent TDN in their diets depending on the stage of production. Thus, he says, the cool-season grasses would provide an adequate amount of energy for a beef cow and an adequate amount of crude protein, except when she is in early lactation.

“Although the financial impacts of ranchers’ raising cool-season perennial forage grasses for hay in replacement of alfalfa remains to be determined, this first year’s data indicate that these grasses do have potential as a viable alternative to alfalfa for hay production in this region,” Horn says.

Though he believes the quality analysis of the grass hay, including protein and energy contents, likely won’t change, it will take three or four additional years of study to determine how the grasses hold up to factors such as weather, mechanical harvesting, and consumption by cattle, deer, and other animals.

But Daly said he is already so pleased with the preliminary results that he decided last spring to plow an additional 35 acres of alfalfa and seed six different plots with six grass varieties.

“The two bromes (Manchar smooth and Regar meadow) did well, but two of the wheatgrasses (Luna pubescent and Manska pubescent) have done amazingly well. The whole field averaged three tons per acre for the first full year of production,” Daly says.

“Before I plowed the alfalfa down, the field was only producing two tons of hay per acre. It needed to be plowed down real bad. My alfalfa has a short lifespan in part because we have so many white-tailed deer. They eliminate a lot of the second

cuttings and take the stored reserves for late-fall grazing,” he continues.

“So far, I’m real pleased with the grass production I’ve seen off of the field.”

Daly then starts laughing.

“I’m hoping that 20 years from now, when I’m ready to retire, I’ll know what I should have been doing all these years.” 🌾

**On the Web:** [http://uwadmnweb.uwyo.edu/UWCES/Johnson\\_main.asp](http://uwadmnweb.uwyo.edu/UWCES/Johnson_main.asp)

**On the Web:** [http://www.uwyo.edu/ces/PUBS/MP111\\_04.pdf](http://www.uwyo.edu/ces/PUBS/MP111_04.pdf)



*Luna pubescent wheatgrass, along with two other varieties of wheatgrasses, have produced the highest yields so far among the nine grasses that are being studied for yield, quality, and longevity.*



**Editor**

Robert Waggener

**Layout and Design**

Tana Stith

Send comments or  
suggestions to:

Glen Whipple

Dept. 3354

1000 E. University Ave.

Laramie, WY 82071

(307) 766-5124

[glen@uwyo.edu](mailto:glen@uwyo.edu)

UNIVERSITY  
OF WYOMING



Printed on recycled paper

*The University of Wyoming  
is an equal opportunity/  
affirmative action institution.*

*Professor David Koch, an agronomy specialist in the Department of Plant Sciences, was one of three featured speakers at a meeting of extension specialists March 29 in the College of Agriculture. Koch shared a few stories about his career and also discussed research that is taking place with forage plants in an effort to extend grazing seasons. "We're getting more and more interest in research of plant species that provide grazing animals with their nutrient needs for a longer time. This, in turn, reduces the need for expensive hay and helps ensure long-term profitability," Koch said. The other speakers included Associate Professor Jim Waggoner, livestock nutrition specialist in the Department of Renewable Resources, and Warren Crawford, state 4-H/youth specialist.*



University of Wyoming  
Cooperative Extension Service  
Dept. 3354  
1000 E. University Ave.  
Laramie, WY 82071

PRESORT STANDARD  
U.S. POSTAGE PAID  
LARAMIE, WY 82072  
PERMIT No. 1