



# NORTHEAST EXTENSION CONNECTION

Winter 2015

## IN THIS ISSUE

Money madness:  
Teaching Youth to  
Manage Money 1

The Importance of Beef  
Herd Nutrition During the  
Winter Months 3

Putting Up Good Quality  
Hay 5

UW Extension: Who We  
Are & Who We Serve 7

Wyoming 4-H Has  
STEAM! 8

Realizing the Risks of  
Radon 10

Are Organic Foods More  
Nutritious? 12

ShREC 13

Winter Landscape Ideas  
14

Cent\$ible Nutrition 15

## Money Madness: Teaching Youth to Manage Money



**By Stacy Buchholz**  
*4-H/Youth  
Development  
Educator*

Managing money can be a stressful task, learning how to balance spending and saving can lead to hard life lessons for many. Helping youth understand the importance of managing money is one of the many life skills the 4-H program seeks to instill in youth as they grow. 4-H is a great way to encourage youth to practice money management skills in an environment where it is safe to fail, and then learn from those mistakes!

Yet, money management lessons are not just saved for club activities or 4-H projects, they begin at home as well. As you begin to talk dollars and cents with your children, keep these

pointers from Thrivent Financial in mind:

1. Create spending and savings patterns. Start by instilling the values of spend, save, and share in your child. First, discuss using 10 percent of each child's earnings for charitable contributions so that they can learn the value of giving back. Next, take an additional 40 percent and put it into a savings account. The remaining 50 percent can be used at the child's discretion. By setting some easy to understand patterns while they are under your roof, children can develop good budgeting habits.
2. Get started on a path to build credit. Set up a checking or savings account, make regular deposits, and keep the account in good standing. Get your son or daughter started on the right financial foot today and it may be easier for them to someday buy a new car, mortgage a home, or se-



cure other types of loans. As an added bonus, having a checking or savings account allows your child to learn about online banking and using ATMs. Sometimes they can even build credit without the risk of credit cards if you co-sign a small overdraft protection line of credit on the checking account. You can monitor its use and help encourage the child to pay it off as soon as possible after it advances.



3. Set goals. Have your child write down a list of certain items or special gifts that they would like to buy with their money and set a reasonable date for the goal to be accomplished. Having an end goal in mind can help children put away the money needed for that special something and can also serve as a great lesson on how to meet those goals through proper money management.

4. Begin saving for retirement. Yes, it is never too early to think about retirement. If your teenager is working he or she should consider opening an IRA. A 40-year old investing \$20,000 a year for retirement will end up with only half of the assets as a 21-year old who



invests \$5,000 a year. Even the smallest savings can turn into a respectable fortune if given enough time.

5. Don't bail them out. This is one of the most difficult, yet important lessons to teach. If, despite all your best efforts, your child gets overextended on credit, take a firm hand. Let them experience the consequences of bad financial decisions. It's better to help them take responsibility for a \$2,500 debt than a \$25,000 debt later on!

Other ideas to consider when talking dollars and cents with your children:

- Work with your child to develop a realistic budget, set long and short-term financial goals and plans for achieving them.



- Cut back, not out. Is your child spending \$5 a week on food? If he or she saves \$2 a week by cutting back, after a year there will be \$104 to put in a savings or investment account that earns interest.
- Discuss the difference between "must-have" purchases today, such as school supplies, and "would like to have" purchases, such as the addition of the latest fashion to an already adequate wardrobe.
- Explain the advantages of deferring purchases today, such as the latest computer game, to save for another desired item, like a car or college education, tomorrow.
- Promote shopping around before making purchases. Generally, it assures a better deal and discourages impulse buying. Also, take the opportunity to teach the importance of making a list before shopping (and how to stick to it).
- Encourage the use of a personal financial management tool to track income, savings, expenses and debt. It is good to get in the habit of tracking monthly spending as small purchases such as magazines or sodas begin to add up after time.
- Use financial statement (checking account, credit card, etc.) reviews as an aid to evaluate spending habits, promote sound financial practices and teach how to watch for irregularities that could signal fraud.



Sometimes these money management conversations are hard as your child begins to make their own money and dream about things they would like to spend that hard earned cash on. However, teaching important lessons about money management early on will give your child the gift of a lifetime of good financial habits. So, get to work teaching about money madness!

# The Importance of Beef Herd Nutrition During the Winter Months



**By Chance Marshall**  
Profitable and Sustainable Agriculture Educator

The holiday season in Wyoming was a bit chilly this year to say the least. In fact, some record cold temperatures were reported all across Wyoming with some of our eastern plains bearing the bitterest of wind chills. According to the National Weather Service, temperatures dipped to 48 degrees below zero in Daniel Wyoming and was 67 degrees below zero with the wind-chill in Rock River Wyoming during the early hours of December 31<sup>st</sup>, 2014. While I sat next to the warm fireplace on New Year's Day, I began to think about the effects winter conditions have on cattle across Wyoming and some ideas that cattle producers should keep in mind during this time of the year.

## Feed Intake

An obvious effect that cold and/or windy winter conditions is on the maintenance requirements of cattle, thus, directly affecting feed intake requirements. Generally, voluntary feed intake increases with decreasing temperatures (See **Table 1**).

<b>Table 1.</b> Voluntary feed intake of cattle in varying thermal environments. (Adapted from NRC, 1981)	
<b>Temperature Range</b>	<b>Feed intake related to published values (NRC 1974)</b>
78 to 60°F	Predicted feed intake values published in Nutrient Requirements
60 to 40°F	Increased intake of 2 to 5%
40 to 22°F	Increased intake of 3 to 8%
22 to 5°F	Increased intake of 5 to 10%
<5°F	Increased 8 – 25% likely. Intake may vary during blizzards and

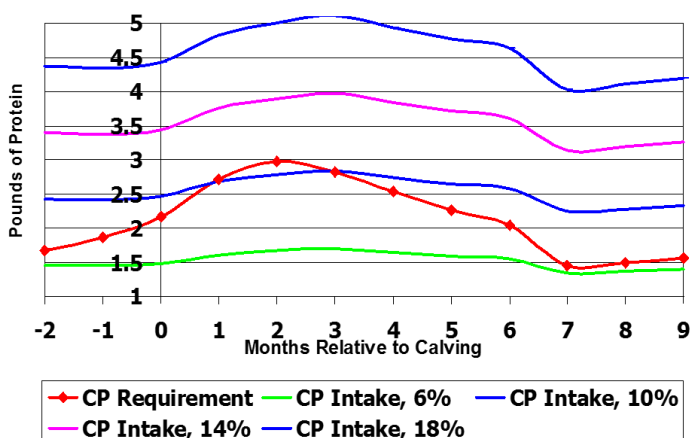
According to the National Research Council (NRC), cattle

are expected to consume 105%-110% of predicted feed intake when temperatures drop below 22 degrees and up to 125% of predicted intake for temperatures below 5 degrees. Extreme temperature below 5 degrees may have varied effects on feed intake due to cattle's reluctance to leave sheltered areas.

Therefore, making feed readily available close to protected areas during cold days may be beneficial. Also, offering higher quality forages during harsh periods and/or feeding extra to make up for elevated nutrient requirements is likely necessary to keep pregnant cows' body weights from slipping. As a rule of thumb, it is suggested to increase 1 pound of total digestible nutrients (TDN) per head for every 5 degrees below zero.

## Supplementation

It's common for cattle in Wyoming to be managed on low to moderate quality hay (6-10% crude protein) during the winter months. However, unless your hay tests  $\geq$  10% crude protein and  $\geq$  60% TDN, the hay alone is not likely to contain enough protein and energy to meet nutritional needs during the winter and early spring. This period just so happens to also be the third trimester of gestation (i.e. January-March in spring calving herds) and on through lactation (**Figure 1**).



Therefore, additional protein and energy must be included in the diet to at least maintain body weight and body condition.

There are many options for protein and/or energy supplementation methods out there that will sufficiently provide the necessary nutrients to your cowherd (i.e. cake pellets, lick tubs, etc.). A producer must determine which option best suits his/her operation and make it available. It's crucial to know the quality of the hay fed and to remember the critical periods during the winter months that will only add to the difficulties of meeting nutritional requirements of the cow herd.



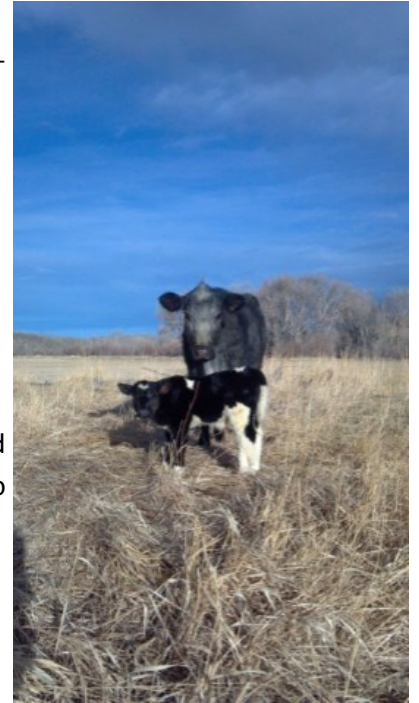
### Cow Performance

Certainly, if pregnant females are unable to meet nutrient demands from winter weather and late gestation, her fat stores will be depleted. Decreased body condition scores are a good indicator of the number of days she will need between calving and the resumption of her estrous cycle. Therefore, the odds of nutrient restricted females falling out of the annual calving cycle will be much greater.



### Requirements of the Growing Calf

Meeting increased cow requirements due to cold windy weather and late gestation is not only important for the current generation of the cow herd, but also for future generations. During the final 60 days of pregnancy, approximately 75% of overall fetal growth occurs. Numerous studies have shown that heifer calves with larger birth weights have greater probability for survival, higher conception rates, and increased growth. This response to maternal plane of nutrition is a concept known as fetal programming.



It has been interpreted that an increased birth weight could translate into greater calving difficulty. However, early research showed that supplementing cows during late gestation to meet requirements had no effect on the number of assisted births. These studies did show however, that cows that were nutrient restricted during the winter months lost 10% more calves at birth and 19% more calves from birth until weaning. This may be explained by a lower colostrum yield, inability of the calf to absorb immunoglobulins, or decreased passive immunity due to maternal protein and energy deprivation during the final trimester.

### Conclusion

Providing adequate nutrition is without a doubt a priority during this time of the year. Not only are Wyoming cattle challenged with the cold and wind, but also with the elevated demands of late gestation, and eventually lactation and rebreeding. Paying close attention to herd nutrition during the chilled winter months is sure to be a very important piece of the success puzzle in the near and far future.

# Putting Up Good Quality Hay



By Blaine Horn

**Sustainable  
Management of  
Rangeland  
Resources Educator**

Following my ‘Hay Quality and Livestock Nutrient Needs’ article in the Jul-Sep 2014 issue of this newsletter I received a request to write an article on how to put up good quality hay. The following is my attempt at this assignment!

*First, let’s define good quality hay!* Hay quality is based on its total digestible nutrient (TDN) and crude protein (CP) contents. Good quality alfalfa hay has a TDN content of 58-60% and a CP content of 18-20% on

a dry matter basis. Good quality grass hay would have a similar TDN content as alfalfa but its CP content would be lower at 9-13% (see below table for TDN and CP contents of other quality designations per USDA guidelines).

Alfalfa and Grass Hay Quality Guidelines (dry matter basis):			
Designation	%TDN	% Crude Protein	
	Both	Alfalfa	Grass
Supreme	> 62	> 22	N/A
Premium	60.5-62	20-22	> 13
Good	58-60	18-20	9-13
Fair	56-58	16-18	5-9
Utility	< 56	< 16	<5

Depending on the kind and class of livestock the hay is for will determine the minimum quality needed. Higher quality hay then needed by the livestock can be provided but if it has to be purchased expect to pay more for it. However, short changing your livestock on their nutrient needs due to furnishing poorer quality hay can be more costly in the long-run.

If you produce hay, depending on the animals it is for; whether yours or your customers, will dictate the quality that you try to produce. Plant maturity when mown has a tremendous influence on what the quality of the hay will be. The physical descriptions of legumes (alfalfa, etc.) and grasses for each quality designation are at the top of the next column. I believe these are self-explanatory so won’t dwell on them in this article. However, if a hay field is full of weeds, depending on what they are, can have an adverse effect on the quality of the hay.

## Hay Quality Designation’s Physical Descriptions:

*Supreme:* Very early maturity, pre-bloom, soft fine stemmed, extra leafy. Excellent color and free of damage.

*Premium:* Early maturity, i.e., pre-bloom in legumes and pre-head in grass, extra leafy and fine stemmed. Green and free of damage.

*Good:* Early to average maturity, i.e., early to mid-bloom in legumes and early head in grass, leafy, fine to medium stemmed, free of damage other than slight discoloration.

*Fair:* Late maturity, i.e., mid to late-bloom in legumes, head in grass, moderate or below leaf content, and generally coarse stemmed. Hay may show light damage.

*Utility:* Very late maturity, such as mature seed pods in legumes or mature seed head in grasses, coarse stemmed. This category includes hay with excessive damage and heavy weed content or mold.

## Mowing, drying, and baling: Effects on hay quality

Time of day the forage crop is mown will affect quality of the hay. Plants accumulate sugars and starches throughout the day but during the night they utilize these energy sources for maintenance. Thus, cutting the plants in late afternoon will result in hay with a higher TDN content then if cut in the morning. It has been found that livestock actually prefer afternoon cut hay to morning cut hay and will consume more of it. Although the CP content of afternoon hay is generally slightly less than morning hay, it is more digestible and with the animals eating more of the hay their protein consumption will actually be greater.

Granted producers with significant hay field acreage cannot harvest only in the afternoons. However, those producers with a few acres of hay land, especially if they own the haying equipment, can. If the animals they feed the hay to require a higher quality then what a dry beef cow needs, this may be something to consider doing.

Mowing itself generally has little effect on the resultant quality of the hay. What affects quality the most is drying conditions following mowing. This includes how the hay is treated right after the cut. Growing up on a southeastern Nebraska hay farm, I spent many an hour in the seat of a IH 560 tractor pulling a 7’ sickle bar mower cutting both alfalfa and grass for hay. (Note: This was in the late 60’s and early 70’s). Because the cut plants were not

immediately put into a swath they had a chance to dry uniformly and fairly quickly even in our higher humidity environment compared to here. We usually could rake grass hay into windrows the next day and by the second day 1<sup>st</sup> and 2<sup>nd</sup> cut alfalfa. Cut plants will continue to respire until the moisture content is below 40% converting carbohydrates stored in the plant to carbon dioxide and heat resulting in some loss in dry matter and a lowering of TDN. The faster the drying process can occur the less this loss will be. If drying conditions are good it can be less than 5%.

What are good drying conditions? First and foremost the crop is not harvested when the ground is moist. For dry-land hay producers this usually is not an issue but for irrigators it can be if they are too anxious to get into the field. This would especially be true if the crop was cut with a swather and not a simple mower (sickle bar or rotary) that lays it flat onto the plant stubble. Moisture from the soil surface more readily moves up into a swath due to reduced airflow through the swath compared to if the plant material was spread out over the ground. I'll not discuss the negative impact on hay quality that rain can have if it occurs following mowing and prior to baling other than if it happens before the hay has dried, i.e., a shower within the first day of mowing, it is the least detrimental and may not be of concern. There's much to the saying "Make hay when the sun shines".

Although cutting the forage crop with a mower may result in faster drying of the hay then cutting with a swather, the process of raking the hay into windrows for baling can result in loss of leaves, especially for alfalfa. The key to minimizing this is not letting the hay become too dry before it is raked. Development of swathers was intended to avoid this, as well as reducing haying time, but as mentioned above swathed hay can take longer to dry, even to the point of the hay spoiling in the windrow. Because of this problem equipment companies modified swathers to condition hay with either rolls or flails. Both rolls and flails break the plant stems but flails also abrade the waxy surface of the plant. Both methods can speedup drying but for alfalfa, rolls are more effective with less leaf loss. Rolls and flails need to be properly set to ensure stems are broken but without further damage of the plants resulting in leaf loss. The more mature plants are when harvested the more susceptible they are to losses due to conditioning.

Moisture content of the hay when it is baled is crucial to minimize harvest losses and to maintain hay quality. For small rectangular bales the recommended moisture con-

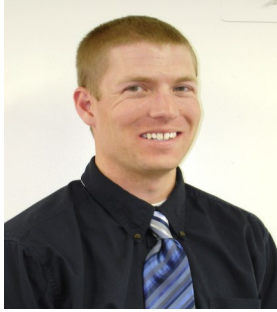
tent of the windrow is 18-20%; for large round bales 14-16%; and for large rectangular bales 12-14%. If the windrowed hay is too dry when baled there will be greater leaf loss resulting in less tonnage but more importantly lower quality hay. What happens if the hay is baled at too high a moisture content (> 22%)? Microbial growth is promoted resulting in a lower TDN content. This is evident by the interior of the bale being a dark-brown to black color, a result of heat from microbial respiration. Heat also degrades some of the protein causing it to become indigestible to the animal.



In addition, the hay can become moldy from fungal growth that can produce toxins detrimental to livestock health, especially horses. And finally, if the bale's interior becomes too hot spontaneous combustion will occur resulting in the hay stack going up in flames and anything around it.



How can you tell if the moisture content in the windrow is right for baling? The best way is to have a windrow moisture tester. Yes, they do exist (see above) but if you do not want to spend \$300 or so for one you can do the following: For alfalfa; take a handful of hay and tightly twist it then release your grip. If the hay is brittle and falls apart, it's too dry; if it stays wadded up or slowly untwists, it's too wet; but if it springs open and fluffs out, it's ready to bale. For grass; grab a clump of hay and hold one end in each hand. Pull vigorously with both hands. If the stalks break on the first pull, it is ready to bale. If it takes several pulls, it's still too green. Also the hay will have no bunches of green grass and will have a brittle, crisp feel.



**By Brian Sebade**  
*Sustainable  
Management of  
Rangeland Resources  
Educator*

For those that might be new to the *Northeast Area Connection*, the educators of northeast Wyoming thought an article that explains what exactly the University of Wyoming Extension is, might be useful. The University of Wyoming Extension is embedded in the College of Agriculture and Natural Resources on Campus in Laramie, WY. As you might guess UW Extension is not only housed in Laramie, but also throughout all 23 counties and

the Wind River Indian Reservation in Wyoming.

Extension is in existence because of the land grant university system. Land grant universities were established to not only provide education to students, but also with the idea that the university would serve the public. Extension was developed to take the questions and needs of citizens near the land grant university and administer pertinent research, education, and information to citizens regarding their needs. The reliable and unbiased information disseminated through Extension is provided to strengthen citizens lives, wellbeing, businesses and general knowledge. Information is released via newsletters, media outlets, workshops, seminars, house calls, office visits, and reports.

With the idea of serving the citizens of Wyoming, UW Extension strategically developed a system to reach the large and wide range of citizen needs. 4-H and youth development, nutrition and food safety, sustainable management of rangeland resources, community development, and agriculture and horticulture are five areas of focus used for education.

### Community Development

Community development educators provide facilitation, planning, and educating services to communities in Wyoming. These programs include board training to elected and appointed boards, family financial resource man-

agement, and Extension Volunteer organization for leadership.

### 4-H and Youth Development

4-H educators contribute leadership to guide and help youth grow into caring, educated, confident, and positive citizens as adults. Educators also spend a large amount of time working with adult leaders and volunteers that provide critical skills, structure, and knowledge to youth. Camps, clinics, clubs, citizenship, leadership, character development, and positive relationships with other youth and adults are activities and programs utilized by 4-H educators for reaching the needs of youth.

### Nutrition and Food Safety

Educators in this group administers science based information to promote healthy eating and lifestyles of Wyoming citizens. Programs include healthy future/ healthy youth, Dining with diabetes (healthy eating for diabetics), Proper food safety and handling procedures, and local sustainable foods.

### Agriculture and Horticulture

The agriculture and horticulture group provides information on the latest research related to crops, live-stock production, agriculture, and horticulture. Some of the major programs they provide are risk management, enterprise feasibility, master cattleman, woolgrowers, stockman, and gardeners, and *From the Ground Up*. They service large and small operations along with many rural living landowners.

### Sustainable Management of Rangeland Resources

The SMRR group produces science based information related to Wyoming rangelands. Programs target producers, managers, and users of rangelands and the best management practices available. Programs include *Exploring the Nature of Wyoming*, range management schools, drought management, plant identification, grazing management, range monitoring, and rural living.

# Wyoming 4-H Has STEAM!



*By Liz Shaffer  
4-H/Youth  
Development  
Educator*

Science, Technology, Engineering, Arts, and Mathematics (STEAM) are terms that are being thrown around a lot when it comes to youth programs including the 4-H program. This may raise the questions: what does this mean for Wyoming 4-H and what new opportunities are 4-H members participating in?

Over the years Wyoming 4-H has incorporated more and more opportunities for STEAM into the program. Whether it be a STEAM based learning activity at a 4-H camp or a robotics competition, Wyoming 4-H is providing opportunities to members to get hands on experience in these areas. At the state 4-H competition, Showcase Showdown, there are multiple opportunities to participate in STEAM based competitions (such as robotics and rocketry) or learn about building and racing RC cars or a new robot programming technique at one of the workshops at this event.



**4-H members go head to head in the state robotics Sumo competition.**

One example of a STEAM competition is the state robotics competition. This is a three part competition: Sumo, Construction, and a Maze. For the sumo competition members build a robot that they compete with to push their competitors out of the “ring”. For construction members must build a robot that accomplishes a task

based on a theme that is presented to all 4-H members. The final part of the competition is the Maze. For this part of the competition members get 30 minutes to program their robot to go through a maze. This competition incorporates all aspects of STEAM and encourages members to learn through a hands on experience which is fundamental in the 4-H program. The opportunities do not end there. Wyoming 4-H is branching out and competing in other robotic competitions that capitalize on STEAM opportunities.



**Sheridan County 4-H members practicing the missions at the Wyoming State FLL competition**

LEGO Mindstorm robotics kits are what is used for the state robotics competition and the F.I.R.S.T. (for inspiration and recognition of technology) LEGO League (FLL) competition that is catching fire in Wyoming 4-H. FLL is an international competition for children ages 9-14 in North America. It is a team based competition with teams consisting of 3-10 members each. Each year, a new challenge is announced in August with a theme focusing on Science, Technology, Engineering, and Mathematics (STEM) principles. This year the theme was world class learning and teams were faced with the opportunity to come up with a more innovative way to educate people about a topic of their choosing. Teams are judged in three categories: the robot game, the project and the FLL core values. For the robot game, members must program the robot that they



design and build to complete a series of tasks called missions. The project is based on the challenge for the current year. The team must come up with a presentation based on the challenge. The final part of the competition is Core Values. Core Values are the competitions way of promoting sportsmanship among members. The Wyoming FLL competition is held in Casper where 64 teams from schools, after school programs, and other youth organizations across the state compete. Sheridan County 4-H organized and participated in the competition for the first time this year with a team consisting of four members: Cade Relaford, Fisher Burris, Kyle Mediate, and Cody Hope. The team won first place in the project with their presentation on a more innovative way to learn who is on the US paper money.

Another 4-H team from Sublette County won the robot game as well as the entire competition.

The A in STEAM is new to Wyoming 4-H. Last November 4-H Educators from across the state decided to include a growing area of STEAM nationwide into the Wyoming 4-H Organization. A team of 4-H educators is working on new ways to incorporate arts into the program for the upcoming 4-H year.

Technology is a very important part of everyday life and will continue to grow nationwide. As technology grows and improves, Wyoming 4-H will continue to grow with the rise in technology through providing youth with as many opportunities as possible county and statewide. STEAM is an important part of every adult's everyday life and as youth gain more experience the future of STEAM looks bright.



**Sheridan County 4-H members win 1<sup>st</sup> place in the project presentation at the Wyoming FLL competition.**

# REALIZING THE RISKS OF RADON



By **Vicki Hayman**  
Nutrition and  
Food Safety  
Educator

In the 1920's, a working-class woman could land a job working with the miracle substance, radium. Radium wristwatches were manufactured in America, and the U.S. Radium Corporation was hiring dial people to paint glow-in-the-dark tiny numbers onto watch faces. They became known as the 'radium girls.'

In 1924, a woman named Mae Keane was hired at a factory in Waterbury, Connecticut. The brushes would lose

shape after a few strokes, so the supervisors encouraged the dial painters to shape their brushes to a fine point with their lips, producing the sharp tip needed to paint the tiny numbers and lines of watch dials and the lacy designs of fashionable clocks. The workers, who had been told the paint was harmless, ingested deadly amounts of radium by licking their paintbrushes. After just a few days at the factory, the boss asked Mae if she'd like to quit, since she clearly didn't like the work. She agreed.

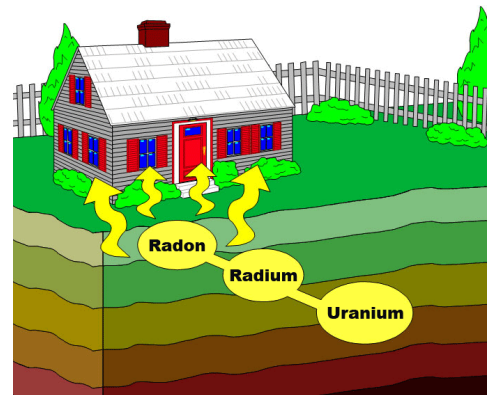


Other women weren't so lucky. By the mid-1920's, dial painters were falling ill by the dozens, afflicted with horrific diseases. Many were still in their 20's when they died of cancer from radiation poisoning. Others succumbed later, and to other health problems related to radium exposure. They suffered from anemia and bone fractures. Many lost their teeth; some also lost their jawbones. In all, by 1927, more than 50 women had died as a direct result of radium paint poisoning.

Scientists have long been concerned about the health risks of radon, the radioactive gas that comes from radium but never before has there been such overwhelming proof

that exposure to elevated levels of radon causes lung cancer in humans. The U.S. Environmental Protection Agency estimates that radon is responsible for more than 21,000 lung cancer deaths per year in the United States. Radon is the second leading cause of lung cancer in the U.S. after smoking and the leading cause of lung cancer among non-smokers. Radon exacerbates the damage from smoking and puts smokers at an even higher risk for lung cancer. Although lung cancer can be treated, the survival rate is one of the lowest for those with cancer. From the time of diagnosis, between 11 and 15 percent of those afflicted will live beyond five years, depending upon demographic factors. In many cases lung cancer can be prevented; this is especially true for radon.

Radon is a naturally occurring radioactive gas that is invisible, odorless, and tasteless. Radon gas is produced from the natural breakdown of uranium in soil, rock and water. Radon gas moves through the ground into the air and travels into your home through gaps, cracks and holes in the foundation. It can also enter through the water supply of your home. Radon can be a problem in all types of homes, including old homes, new homes, drafty homes, insulated homes, homes with basements and homes without basements. Once radon gas is in your home, it can build up to dangerous levels. The hotspots are usually in basements and garages. Approximately 1 out of every 15 homes in the



United States has increased levels of radon

**January is National Radon Action Month** and it's a good time to test your home. Testing is the only method to detect the level of radon in your home. If a home hasn't been tested for radon in the past two years, the EPA and the U.S. Surgeon General recommend taking immediate action.

Here are steps for testing your home for radon:

1. **Obtain a short term radon test kit.** Use a short-term radon test kit for the fastest way to test for radon in your home.
2. **Conduct the radon test.** Keep the windows and outside doors closed throughout the entire test, otherwise it will be an invalid test. Normal entry and exit is allowed, as long as the doors are shut once a person has entered or exited. Place it on the lowest lived-in level of your house.
3. **Interpreting test results.** At the conclusion of the radon test, follow the kit instructions on how and where to send the test. Radon is measured in picocuries per liter (pCi/L) of air. If the result of your test reveals that you have a radon level of 4 pCi/L or higher, either a long-term test or a second short term test should be conducted to verify the results.

If levels continue to read 4 pCi/L or greater after further testing, a radon mitigation system will need to be installed in your home by a qualified professional.

Methods to reduce radon exist for all types of homes; basements, no basements, crawl spaces, mixed foundations, walk-out basements, etc. The EPA recommends that a post mitigation test be performed within 30 days of the installation of your radon reduction system.

What are the average levels of tested households pCi/L in the North East area of Wyoming? According to AirChek, Inc. who distribute the test kits and who evaluate the results, the answer is:

<b>Campbell County:</b>	<b>4.1</b>
<b>Crook County:</b>	<b>6.0</b>
<b>Johnson County:</b>	<b>4.1</b>
<b>Sheridan County:</b>	<b>6.4</b>
<b>Weston County:</b>	<b>7.9</b>

Find out if you are at risk for radon exposure this month. Radon test kits are available from the Campbell, Crook, and Weston County Extension offices for \$3 each or 2 for \$5.

Methods also exist for constructing new homes with radon-resistant features to prevent radon from entering.

To learn more, contact the Wyoming Radon Program at [307-777-6015](tel:307-777-6015), [steve.melia@wyo.gov](mailto:steve.melia@wyo.gov), or visit [www.wyomingradon.org](http://www.wyomingradon.org) online. You can read or download a copy of the US EPA's *A Citizen's Guide to Radon*; this publication goes into greater detail describing the meaning of your radon test results and what your personal hazard from the exposure may be. More information on radon can be found by visiting [radonmonth.org](http://radonmonth.org) or at [www.epa.gov/radon/](http://www.epa.gov/radon/).

The Wyoming Radon Program is working with the Wyoming Comprehensive Cancer Control Consortium to advance a statewide radon awareness initiative to increase residents' access to radon testing resources. These partners are making test kits and presentations available for media representatives, residents, community groups, school teachers, real estate agents (REAs), appraisers, architects, physicians and other healthcare providers. Architects, appraisers and REAs can earn up to four continuing education units; physicians and other healthcare providers can earn up to one continuing medical education unit.



Mae Keane was among the hundreds who survived. Over the years, she had some health problems – bad teeth, migraines, two bouts with cancer. There is no way to know if her time in the factory contributed to her health. Mae Keane died in 2014. At 107 years old, she was the last of the ‘radium girls.’ Had Mrs. Keane stayed longer, she might have become one of the many sad stories involving the so-called ‘radium girls,’ the hundreds of young women who worked with radium paint in factories early in the 20th century.



# Are Organic Foods More Nutritious?



**By Kentz Willis**  
Nutrition and Food  
Safety  
Educator

Have you ever wondered what that 'organic' label really means and if eating organic foods will improve your health? Exciting new research is shedding light on the question of organic foods and health, helping to make our food purchasing decisions more informed than ever.

To be able to use the USDA Organic seal, a product must utilize *approved methods* for production and processing that are designed to foster

cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used.

So will eating organic food make you healthier?

Well...maybe, but the answer is not as straightforward as you might wish. To better understand how eating organic foods—specifically plant foods—might affect health we can look at two important factors: exposure to synthetic pesticides and the nutrient composition of organic vs. conventionally grown foods.

It is well documented that conventionally grown foods have a greater risk for pesticide contamination than organic. Further, it appears that dietary intake is the greatest source of pesticide exposure for children. Rinsing your food before eating it is always a good idea but it has not been demonstrated to decrease exposure to pesticides, unfortunately.

Despite how troubling this might sound, pesticide residue levels in conventionally grown foods are typically well below government-established limits for safety. Eating organic foods will certainly reduce exposure to these chemicals further but it is not clear that this will improve health.

Recent research has also uncovered significant nutrient differences between organic and conventionally produced foods. The most exciting is a finding of higher concentrations of a wide range of antioxidant compounds in organic foods. While this *seems* to be a positive finding, the metabolism of antioxidants is complex and there is a lot we don't understand about how they work within the body. At this time it is uncertain if an increased intake of these antioxidants would have a positive effect on our health.

Other nutrient differences identified were a mixed bag: higher levels of carbohydrates, xanthophylls, vitamin C, and lower levels of protein, fiber, and vitamin E. Differences (both positive and negative) were found in a handful of minor minerals as well. These findings were statistically significant but have not received the amount of attention as the antioxidant finding because their potential for practical clinical (i.e. 'real world') significance is not as great. That is to say, it is unlikely these differences would positively affect health.

Despite lower pesticide levels and superior antioxidant concentrations the current evidence does not support a measurable health benefit to eating organic foods. It is important to note, however, that many individuals choose to buy organic foods due to perceived benefits to the environment and animal welfare. These issues, while critically important, are outside of the scope of this article.

Eating more whole grains, fruits, and vegetables and less added sugars and salt are some of the best steps we can take to improve our health. Whether or not you wish to pay the premium for organic foods is, of course, your

choice. For more information on healthful food choices visit [www.choosemyplate.gov](http://www.choosemyplate.gov). *Kentz Willis, M.S., is the University Extension Educator in Nutrition and Food Safety for Northeast Wyoming. He can be reached via email at [kwillis3@uwyo.edu](mailto:kwillis3@uwyo.edu).*



# Sheridan Research & Extension Center (ShREC)

---



**By Bret Hess**  
*University of Wyoming  
Associate Dean & Dir.  
University of Wyoming  
Agricultural Experiment  
Station*

This has been another year of change for the Sheridan Research and Extension Center (ShREC). The center has experienced tremendous growth resulting from a unique partnership between the University of Wyoming, Northern Wyoming Community College in Sheridan, and Whitney Benefits.

The Watt Agriculture Center on Sheridan College's campus has served as the official home to ShREC, the UW Outreach School in Sheridan, and Sheridan County Extension for over a year now. ShREC's observations have been that co-locating all of these entities under one roof creates the one-stop-shop atmosphere because it readily provides access to all UW programs in Sheridan.

Along with the relocating ShREC office to the Watt Agriculture Center, ShREC opened a new research greenhouse and continued utilizing the Adams Ranch located immediately south of the Sheridan College campus. Because of the new research greenhouse and most of the Adams Ranch is under irrigation, the scope of ShREC has expanded to include more research and education on irrigated agriculture, forage management, horticulture, and viticulture.

ShREC has also experienced changes in the personnel ranks. Associate Professor in the Department of Plant Sciences, Dr. Valtcho Jeliaskov left the University of Wyoming on December 1, 2014 for a new career opportunity with Oregon State University. Assistant Farm Manager, Jeremiah Vardiman also took new career path. Jeremiah will be the Ag and Hort Extension Educator in Park County. ShREC wishes the best of luck to both Valtcho and Jeremiah in their new jobs.

ShREC was fortunate to receive approval to move forward with recruiting for two positions. An internal search for the position of Northern Wyoming Research & Extension Center Director was launched in mid-December. The Northern Wyoming Research & Extension Center Director will provide administrative support for ShREC and the Powell Research & Extension Center. A search for the Assistant Farm Manager also began in mid-December. Screening of applicants for both of these positions will begin mid-January.

ShREC is anxious to fill these two position...stay tuned.

# Winter Landscape Ideas



**By Scott Hininger**  
*Profitable and Sustainable Agriculture Educator*

A landscape does not have to look bleak and desolate during the winter months. When we look, out the window or go outside, is all we see is snow or just a non-interesting landscape picture? Let us explore how to add interest and beauty to the landscape this coming year. Most homeowners generally have several of these concepts already in their landscape, and with a little tweaking or a few additions they can go from ok to great.

First, take note of the forms and shapes of the plants themselves this can lend interest to the landscape in winter, whether it is the carefully pruned shrubs, which add horizontal interest, or form borders or the natural pyramidal shapes of many evergreens.

In addition to providing winter interest, many seed heads, seedpods, and berries, are also an excellent way to attract wildlife to the garden. Bark is also a major consideration when selecting shrubs or trees into the landscape. Many dogwoods have a reddish colored bark, which adds color in the wintertime. In addition, the texture of the bark is often more noticeable in the wintertime. Pines such as Ponderosa have very distinctive looking bark, and there are some trees and shrubs that have exfoliating bark such as the Korean Lilac tree, which adds a very nice and different look.



Of course, when we are thinking of color the first thought is evergreens. They come in different hues of green to blue, and they come in many shapes and sizes. By adding different heights such as tall evergreens in the back then the light colored deciduous trees such as aspens will show up better. The addition of a few small evergreens whether they are ground covers or ornamental

types of evergreens certainly will add color and texture to the winter landscape. Do not forget the ornamental grasses. These can add some structure and variety to the landscape. Not only do these move in the wind to add interest, however like all of the landscape plants when there is a heavy frost or light snow this also adds interest. Some grasses do add color, such as the native Little Blue stem adds a nice reddish color.

Then we can add those hard structures to the garden, such as sculptures, statuaries, benches, rocks, old equipment. In the summer, these tend to be covered up or somewhat hidden by the foliage around them. In the wintertime, the foliage is mostly gone and these structures stand out more. In addition, the sun heats these up and melts the snow, and they can add color during the wintertime.



The other feature some homeowners have is a water feature, whether it is a small pond, or waterfall. Depending on the design, if these are frozen they can add another interest to a landscape view. With a little creativity, a frozen water feature can add quite an interesting and changing feature to the winter landscape view.

So as you are driving around this winter, take note of things that catch your eye and see if you can add one or two of these to your landscape this year.

Trade or brand names used in this publication are used only for the purpose of educational information. The information given herein is supplied with the understanding that no discrimination is intended, and no endorsement information of products by the University of Wyoming Extension is implied. Nor does it imply approval of products to the exclusion of others, which may also be suitable. The University of Wyoming is an equal opportunity/affirmative action institution.



# Cent\$ible Nutrition News from Sheridan County



By **Sandy Koltiska**  
Cent\$ible Nutrition  
Educator

This is the time of year when our focus shifts from the holidays to being the healthier you. The Cent\$ible Nutrition Program can give you tips on healthy eating. Helpful in being a healthier you is finding a physical activity that you enjoy and that you will participate on a regular basis. These skills will help you make

a lifestyle behavior change that will last a lifetime. It is important to make smart food choices and watch portion sizes wherever you are—at the grocery store, at work, in your favorite restaurant, or running errands. Most packaged foods have a Nutrition Facts label. For a healthier you, use this tool to make smart food choices quickly and easily. How many servings are in the package? How many servings will you eat or drink? You can do it. Take small steps to eat nutrient rich foods. Small steps equal a big change over time.

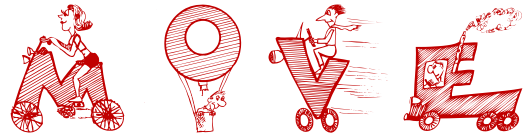
## Make smart choices from every food group A healthy eating plan is one that:

- Emphasizes fruits, vegetables, whole grains
- Emphasizes fat –free or low-fat milk and milk products
- Include lean meats, poultry, fish, and other proteins such as beans, eggs and nuts
- Is low in saturated fats, *trans*fats, cholesterol,

## Being physically active can help you:

- Increase your chances of living longer
- Feel better about yourself
- Decrease your chances of becoming depressed
- Sleep well at night
- Move around more easily
- Have stronger muscles and bones
- Stay at or get to a healthy weight
- Be with friends or meet new people
- Enjoy yourself and have fun

## New Year—New You



your body,,,,,

30-60 minutes every day.



Sheridan County Extension  
3401 Coffeen Ave.—Watt Ag. Center  
Sheridan, WY 82801

PRESORT STANDARD  
US POSTAGE PAID  
SHERIDAN, WYOMING  
PERMIT #268

## **Northeast Extension Connection**

*A quarterly newsletter from Campbell, Crook, Johnson, Sheridan  
and Weston County Extension*

**Campbell County** 307-682-7281: *Chance Marshall - Profitable and Sustainable Agriculture;  
Hannah Johnson- Horticulture; Kim Bell - 4-H/Youth; Lori Jones, Cent\$ible Nutrition*

**Crook County** 307-283-1192: *Brian Sebade - Sustainable Management of Rangeland Resources;  
Sara Fleenor - 4-H/Youth*

**Johnson County** 307-684-7522: *Blaine Horn - Sustainable Management of Rangeland Resources;*

**Sheridan County** 307-674-2980: *Scott Hininger - Profitable and Sustainable Agriculture;  
Kentz Willis - Nutrition and Food Safety; Sandra Koltiska - Cent\$ible Nutrition; Liz Shaffer—4-H/Youth*

**Weston County** 307-746-3531:  
*Vicki Hayman, Nutrition & Food Safety; Stacy Buchholz- 4-H/Youth*

*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.*

*The University of Wyoming is an affirmative action/equal opportunity employer and institution and does not discriminate on the basis of race, color, religion, sex, national origin, disability, age, veteran status, sexual orientation, or political belief in any aspect of employment or services. The institution's educational programs, activities, and services offered to students and/or employees are administered on a nondiscriminatory basis subject to the provisions of all civil rights laws and statutes. Evidence of practices that are not consistent with this policy should be reported to the Employment Practices Office at (307) 766-6721.*