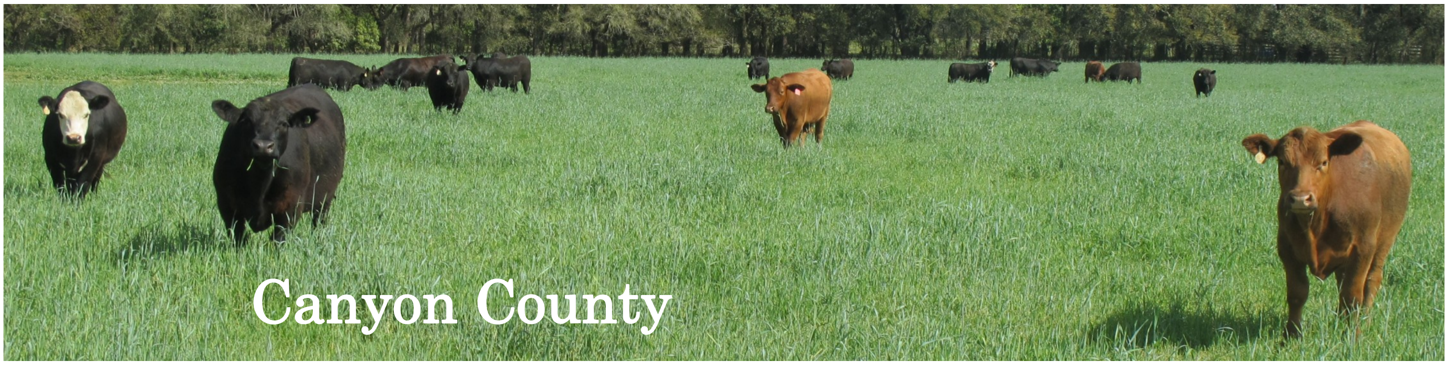


Cattlemen's Corner Beef Newsletter

Inside this issue:

Crop Residue Feeding Considerations

Scott Jensen, Owyhee County Extension

Winter feed costs often represent over fifty percent of the cost of raising livestock. Grazing crop residues such as grain fields that have been irrigated after harvest to sprout dropped/lost kernels of grain or cornstalk residual is a frequent sight. Baling and feeding baled cornstalks is a common sight in some areas. Utilizing crop residues can reduce feed costs, however there are several factors that should be considered.

Feed Value

Perhaps the greatest challenge in utilizing any crop residue as a feed source is the wide variation in nutrient content and digestibility. Sprouted grains are high in nutrient value although straw residue and plant density can impact intake. On grazed cornstalks, nutrient content declines with each day the cattle are in the field. In a field of cornstalks, cattle will seek out and consume any missed ears, spilled kernels, leaves and cornhusks first. They will then consume the more lignified stalks which are of much lower nutrient value. The nutrient value of baled cornstalks can vary greatly depending on field conditions and harvest methods. Some growers simply bale the windrow left from the combine. Others will swath all remaining cornstalks and then rake them into a larger windrow. Swathing and raking corn stalk residue will increase the tons per acre harvested but will also increase the quantity of lignified stalks and dirt content of the bales. Table 1 shows the variation that existed in several different loads from Northeast Oregon in 2007. One load that was sampled in the Burns, Oregon area tested with 7.4% crude protein, which would be considered high.

Table 1.

Baled Corn Stalks Analysis Results*

	% DM	% CP	% TDN	NO3-N (ppm)
1	85.8	3.7	53.4	N/A
2	82.1	4.5	52.5	1270
3	84.6	5.1	54.3	1560
4	77.8	5.2	49.8	750
5	84.8	3.9	55.2	705
Average	**83.02**	**4.48**	**53.04**	**1071**

*reported on a dry matter basis

Feed Comparisons

To place an appropriate value on crop residues, producers can make comparisons with something common such as alfalfa. Moisture should be the first comparison that is made. When adjusted for moisture to match alfalfa

Continued on page 2

University of Idaho Extension, Canyon County

Jerry Neufeld	Samantha Ball	Nic Usabel	Carrie Johnson	Jackie Amende
Extension Educator Agriculture	Extension Educator Livestock/Small Acreage	Extension Educator Horticulture	Extension Educator 4-H Youth Development	Extension Educator Family & Consumer Sciences

Continued from page 1

hay, the price for eighty-five dollar/ton baled cornstalks is $92/ton. One other moisture content consideration should be the potential for mold developing in the bale. Bales that are less than 85% dry matter can develop mold if stored for very long.

Nutritional content should be the next comparison. Protein, TDN, net energy for maintenance (NEm), and metabolizable energy should be considered. How do those figures compare to each other and to the cow's actual nutrient needs? Table 2 shows those comparisons.

In order for a 1200 lb. cow to meet her needs for net energy, she must consume 21.3 lbs. of cornstalks daily on an as fed basis. To meet her needs for protein, she would have to consume over 31 lbs. of cornstalks. Rate of passage of baled cornstalks will be much slower than with higher quality feeds. This will reduce intake and make it impossible to meet a cow's nutrient requirements solely with baled cornstalks.

Table 2. Nutrient Comparisons and Needs

	CP	TDN	NE_m	ME	Ca	P
Corn Stalks	4.5%	53.0%	.49 Mcal/lb	.87 MCal/lb	.39%	.17%
Alfalfa Hay	17%	60%	.60 Mcal/lb	.99 Mcal/lb	1.39 %	.24%
Requirements 1000 lb. cow	7.32%	51.3%	7.57 Mcal	14.5 Mcal	.21%	.17%
Requirements 1200 lb. cow	7.31%	51.4%	8.68 Mcal	16.6 Mcal	.22%	.17%

Other considerations should include feeding methods and dirt content. A few years ago a producer placed large cornstalk bales around the pasture and cut all but three strings on each bale. Cattle were then allowed unrestricted access. This resulted in waste loss of up to 40%. It was also reported that some bales were up to 8% dirt by weight. It appeared that the farmer doing the swathing and baling attempted to pick up every little bit of cornstalk. It is important to consider these and other additional factors when determining the true value of baled crop residue.

Grazing

Perhaps the most cost-effective method of utilizing crop residue is by grazing. This eliminates the fuel and machinery cost associated with harvesting the residue. One common problem with grazing crop residues is a lack of fences around fields. This can be easily remedied by utilizing portable electric fencing. Portable electric fencing can also be used to strip-graze the field which greatly increases the utilization rate. Research shows that a 3-day strip-graze yields 40% more grazing days per acre as compared to a 14-day strip-graze. In 2018, a producer from Caldwell put his cowherd on cornstalks for a couple of months. He used a one-day strip graze which yielded nearly double the grazing days/acre as a neighboring producer got when he gave his cows access to an entire field at once. Additionally, the first producer's cows maintained better body condition.

Animal Class

Dry, pregnant (mid gestation), mature cows are best suited to utilize crop residues. Their nutritional requirements are low as compared to lactating and late gestation animals. Growing calves, feeder cattle and replacement heifers are not suited for crop residues. In most instances, their nutrient requirements will not be met which will reduce their growth and performance.

Other considerations

When feeding crop residue, it is important to consider any possible negative effects of the feed. For example, certain types of grass seed straw can have high levels of alkaloids that can potentially cause negative effects on the cows, such as fescue toxicosis.

Continued on page 3

Continued from page 2

All cereal grain hays should be tested for nitrates, and corn stalks are no different. Table 1 shows the nitrate-nitrogen (NO3-N) levels of the tested corn stalk hay sampled in NE Oregon. While not alarmingly high, samples 2 and 3 should not be fed at a rate greater than 50% to pregnant cattle, as nitrate toxicity may occur and cows may abort fetuses or die.

Summary

Crop residue can be effectively utilized to reduce feed costs. It is important however to consider more than just price. Producers should consider the class of animals to be fed, harvesting method, and nutrient and moisture content of any baled residue and should be willing to test for quality as well as nitrate content.

K. Scott Jensen - UI Extension Educator
County Chair Owyhee County, ID

Adjusting Grazing to the "New Normal"

Jim Sprinkle, Ph. D

What is Anticipated for Climatic Changes in Idaho?

A recent article is available on the Rangelands Center FAQ site entitled "How is Climate Change Impacting the Working Rangelands of the Pacific Northwest?" (https://www.uidaho.edu/cnr/rangeland-center/resources). Over the last several decades, winter snow has been replaced somewhat by rainfall. It is anticipated that summer precipitation will decrease while temperatures increase. The net result of these changes point towards reduced forage quality from July to September and increased heat load for cattle grazing rangelands.

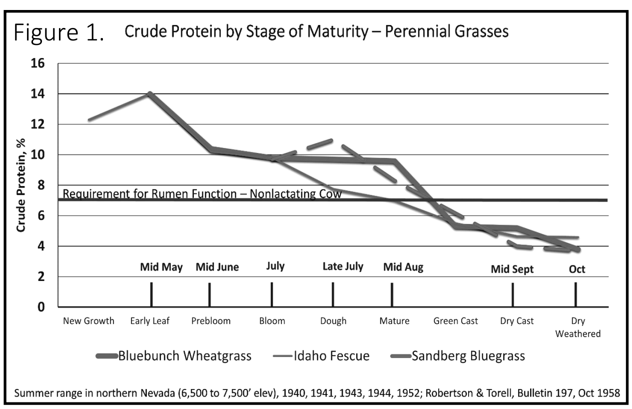


Figure 1 demonstrates how cool season forage quality changed over the growing season in some older data obtained in the 1940-1950's. By the end of August, cool season grasses at these higher elevation pastures typically did not supply sufficient protein to keep the rumen properly functioning for optimal cattle production. Of course, cattle could be expected to do some selective grazing if rotated frequently enough; but at least by late summer, lactating cattle could be expected to lose some weight. With the "new normal", it is anticipated that the decline in forage quality for cool season grasses referred to in Figure 1 could shift backwards, probably to the end of July. As cows are subjected to decreased forage quality and increased heat load during increasingly hot summers, animal performance is likely to decline.

How Well Adapted are Today's Cattle to the Changing Climate?

Earlier articles I have written that are printed in this newsletter (see May 2018, Cattle Make Choices and July 2019, Range Cow Adaptability) discussed the research that we and others have conducted on fitting cows to the environment. It appears that some older research on what kind of cows fit Western rangelands needs revisiting. As the quest for increased weaning weights has occurred, cow size and milk production have increased.

Continued on page 4

Continued from page 3

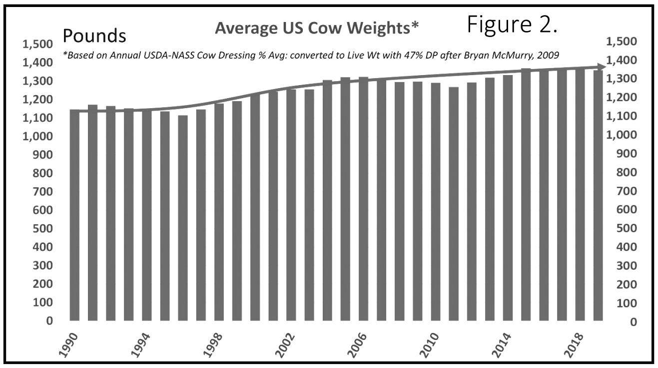


Figure 2.

Figure 2 demonstrates how cow size has changed over the last 29 years. This data was produced by converting USDA average slaughter weights of beef cows to live weights and they verify that cow size has increased by around 200 lbs. since 1990. For each 100 lbs. of added cow weight, rangeland calf weaning weights increase by around 6 to 10 lbs., worth about $15. Conversely, each added 100 lbs. of cow weight costs an extra $42 in yearly cow maintenance costs (Doye and Lalman, 2011; https://ideas.repec.org/p/ags/saea11/98748.html). Our quest for bigger weaning weights has come at an added cost that many fail to consider.

Figure 3 was shown in an earlier newsletter but is illustrated again to demonstrate how far US cattle have drifted from sustainably fitting Western rangelands. The points shown for 'Where we were' and 'Where we are' reveal that in the early 1990's we were mostly matching our cows to the limited resources available on rangelands but today's cattle are on the verge of falling off the cliff. As we continue to use cows mismatched to the environment, we must more heavily subsidize the cowherd with added feed inputs. This is only expected to get worse as summer forage quality declines and temperatures increase.

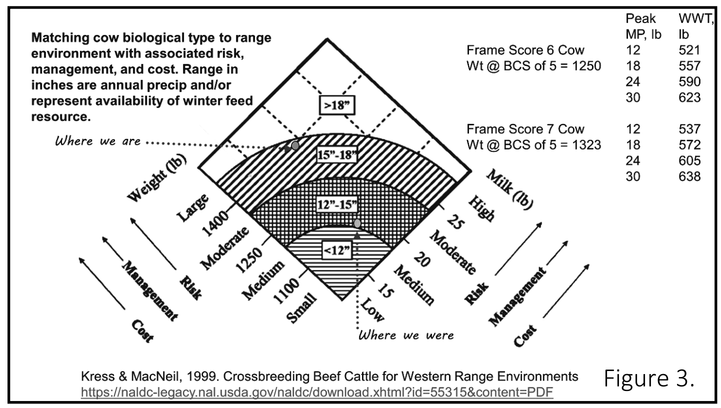


Figure 3.

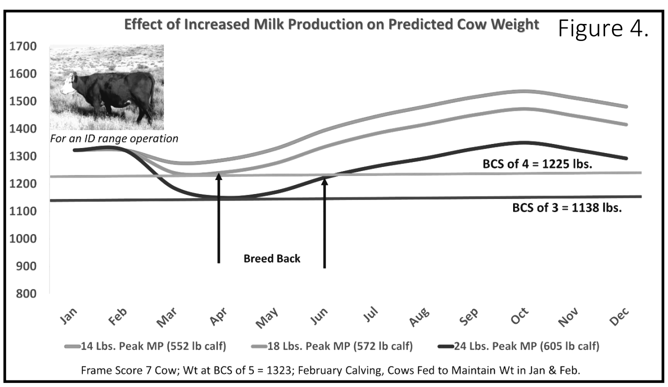


Figure 4.

As mentioned previously, milk production has also increased in the US beef cow herd. Figure 4 follows today's average size cow through a projected year in Idaho. The three cows shown all receive winter feed from January through March. Cows are fed to maintain weight in January and February and lose weight in March following February calving and early lactation. From April through December, these cows are grazing rangeland pastures. From an examination of this figure, the heaviest milking cow typical of many of our modern cattle would not be ready to rebreed until June. This cow would fail to produce a calf within the confines of a yearly calving interval and would produce a calf a month later each succeeding year until she is culled from the cowherd.

What Are Our Options?

Since we don't have options of changing the rangeland environment to our cowherd, we need to consider how we can change our cows to fit the environment. Not only do our cows need to adapt to fit the 'new normal', we need to adapt as well.

For the cowherd, we can: 1) select replacement heifers (using Beef Improvement Federation frame score charts) that are predicted to achieve a lower mature weight (e.g. frame score 4 to 5, mature weight ≈ 1,100 to 1,175 lbs.); 2) buy bulls that are no more than a frame score 6 (mature weight ≈ 2,050 lbs.); 3) choose bulls with lower milk

Continued on page 5

Continued from page 4

EPD (for rangeland, try to keep to a maximum of 10 to 18 lbs.); and 4) if available, consider using bulls that have been tested and rated as efficient using residual feed intake data. An earlier article in this newsletter (May 2018) explained how cows that are ranked as being more efficient (with RFI type information) appear to use upland range pastures more sustainably when summer temperatures increase, climbing higher and spending less time at shaded lower elevations.

After changing our cows, what is required of us to fit the 'new normal'? We may need to consider increasing our recordkeeping for each cow for such things as calving interval, frame score, body condition score (BCS), etc. We may also need to consider strategic protein supplementation when forage quality indicates the need. We can monitor BCS, forage quantity and quality, number of cows showing heat, and grazing behavior to assist in these management decisions.

Long before we see BCS decline in the cowherd, the cow may signal the need for a pasture rotation or strategic supplementation with an increase of grazing time beyond what is commonly expressed. Finally, on a social level, we may want to consider, as Kit Pharo puts it, "giving up some bragging rights" as we endeavor to better fit the 'new normal'.

Jim Sprinkle, Ph. D. - Extension Beef Specialist
UI Nancy M. Cummings Research, Extension & Education Center
Carmen, ID

This article contains a short synopsis of a portion of a talk given at the 2020 Rangeland Center Fall Forum. For additional information, please contact Jim Sprinkle at sprinkle@uidaho.edu

Recommendations for Castration Timing and Methods

J. Benton Glaze, Jr. Ph. D

Castration of bull calves is a routine management practice on commercial cow-calf operations in the U.S. Bull calves are commonly castrated to stop the production of male hormones and reduce secondary sex characteristics, minimize aggressiveness and mounting behavior, improve temperament and handling, minimize injuries to other animals and humans, and decrease the costs associated with bull-proof fencing and handling facilities. Castration of bull calves can also help to reduce the frequency of dark-cutting carcasses, avoid discounts from packers, and provide improved meat quality products. Following are the results from a couple of studies looking at castration recommendations and the level to which castration is applied in the beef industry.

In 2017, a survey of practicing veterinarians that service commercial cow-calf operations was conducted to document the recommendations that were being offered to clients. The approximate 150 responding veterinarians represented 35 U.S. states and 3 Canadian provinces. These veterinarians devoted over half of their practices to service commercial cow-calf producers. Approximately one-third of the respondents had been in practice for more than 30 years and almost 40% of the respondents serviced more than 10,000 cows.

In general, the survey questioned veterinarians regarding vaccine protocols, animal health and production practices and included questions related to the timing and method of castration.

Several studies have shown the younger the calf is when castrated, the less stressful the procedure. The majority of responding veterinarians (34%) recommended castrating bull calves at an age of 0 to 7 days. Eighteen percent (18%) of the veterinarians recommended the procedure be done at 2 to 3 months of age. This was followed by 16% of the veterinarians recommending branding as the time for castration and 15% of the veterinarians recommending 1 to 2 months of age.

Continued on page 6

Continued from page 5

Beef cattle producers have several methods to choose from when castrating bull calves. In the survey, veterinarians were asked to consider a castration time at branding and at weaning and rank various castration methods from most preferred to least preferred. At branding, use of a knife was the most preferred method (86% of veterinarians) followed by banding (11% of veterinarians) and burdizzo (1% of veterinarians). At weaning, use of a knife was the most preferred castration method (67% of veterinarians) followed by banding (25% of veterinarians) and burdizzo (15% of veterinarians). No castration of bull calves at branding and weaning was also a selection that veterinarians could make on the survey. Twenty-seven percent (27%) of veterinarians chose no castration of bull calves at branding and 61% of veterinarians chose no castration of bull calves at weaning as the preferred outcome. This suggests that veterinarians prefer and recommend that bull calves be castrated earlier in their lives.

To gain some perspective as to the timing of castration in the beef industry and to the level at which veterinarians' recommendations are being followed by producers, consider the following survey results. In 2017, the USDA National Animal Health Monitoring System (NAHMS) initiated a study (NAHMS-Beef 2017) to examine various management practices on cow-calf operations in the U.S.

Surveys were conducted in the 24 states with the largest beef cow populations and represented approximately 87% of all U.S. beef cows and approximately 79% of all U.S. beef operations. Questions related to the castration of bull calves prior to sale were included in the surveys.

Results from the NAHMS-Beef 2017 study showed that overall, 62% of commercial cow-calf producers castrated their bull calves prior to sale. A greater percentage (91%) of larger herd-sized (200+ cows) operations castrated their bull calves prior to sale as compared to the percentage (81%) of medium herd-sized (50-199 cows) operations and the percentage (55%) of smaller herd-sized (1-49 cows) operations. The percentage of beef operations in the central (86%) region of the U.S. that castrated their calves was greater than the percentage in the western (57%) and eastern (49%) regions.

In addition to inquiring whether bull calves were being castrated, the NAHMS-Beef 2017 surveys included questions to determine the age at which calves were castrated. Overall, the average age at which bull calves were castrated was 69 days. On larger herd-sized (200+ cows) operations the average age at castration was 65 days compared to 70 days on medium herd-sized (50-199 cows) operations and 76 days on smaller herd-sized (1-49 cows) operations. More specifically, the percentage of responding producers castrating calves at various ages are as follows: 33% castrate calves at 0 to 31 days; 24% castrate calves at 32 to 61 days; 19% castrated calves at 62 to 92 days; 7% castrate calves at 93 to 122 days; and, 17% castrate calves at ages greater than 123 days.

The results of these studies/surveys show that about 60% of U.S. beef producers are castrating their bull calves prior to sale. This suggests that there is room for a greater percentage of producers to castrate their calves prior to sale and provide benefits to their operations and the industry as a whole. The timing of castration by beef producers generally aligns with the recommendations provided by veterinarians (e.g. castrate bull calves early in life).

It is a good practice for beef cattle producers to regularly evaluate the production practices used on their operations. This ensures that the practices are in sync with the operations' production goals and that the operations are reaping the full benefits of the practices.

J. Benton Glaze, Jr. Ph. D. - Extension Beef Specialist
Department of Animal & Veterinary Science
University of Idaho

Telling the Cattle Story

Rebecca Mills

It’s year-end reporting time here at University of Idaho Extension. Faculty members across the state are recording the titles of programs delivered, number of contacts reached, and stories of impacts achieved. All of which will be reviewed by administration and filtered to be shared with industry and funding partners in the future. The annual reporting process takes time and there are moments of questioning the return on investment of the effort put in. It really begs the question, what is the value of telling the story behind the work?

You might be thinking – “what does University reporting have to do with my work or involvement in the cattle industry? I’m not reporting to anyone but the bank and the tax man.” But are they really all you’re “reporting” to? What about when you wear your cowboy hat into the big city or bring a dish made with home-grown beef to a potluck dinner? Or when you take your calves to town on sale day or drive around with a “Beef. It’s What’s for Dinner.” sticker on your car? What story are you telling? Cattle producers may not have the same type of reporting requirements that Extension faculty do, but telling the story is no less important. It could be argued that both entities are “publicly funded”.

It’s also probably not new for you, as a cattle producer, to be encouraged to tell your story. Agricultural advocates have been pushing for producers of all types to engage with the public in the age of information we’re living in.

If you’re not telling the story of agriculture, consumers are left to assumptions and the critics are speaking loudly. Does that mean you need to start a webpage for your ranch or have social media presence? Actually, no. Those are viable options but they’re not the only ones. Here are three ways you can tell your story that you might not have thought about before.

Invite. Take a moment right now to think of your non-ag friends. Did someone come to mind? Have you ever thought about inviting them to help you with your cattle? Michele Payn, author and agricultural advocate, recently said that a lot of times people trust farmers but not farming practices. What better way to educate about farming and ranching practices than to invite non-agriculturalists to help or observe? It may take more time to get the task done or be messier or less efficient than if you were to have skilled help, but the impact may be deep and lasting.

Sharing is caring (unless we’re talking about germs). Think about the last time you were in a conversation with individuals that don’t understand your involvement in the cattle industry. Did you volunteer any information about what it is you do and why it’s important? It may not come up naturally in the conversation but if it does, don’t be afraid to speak freely.

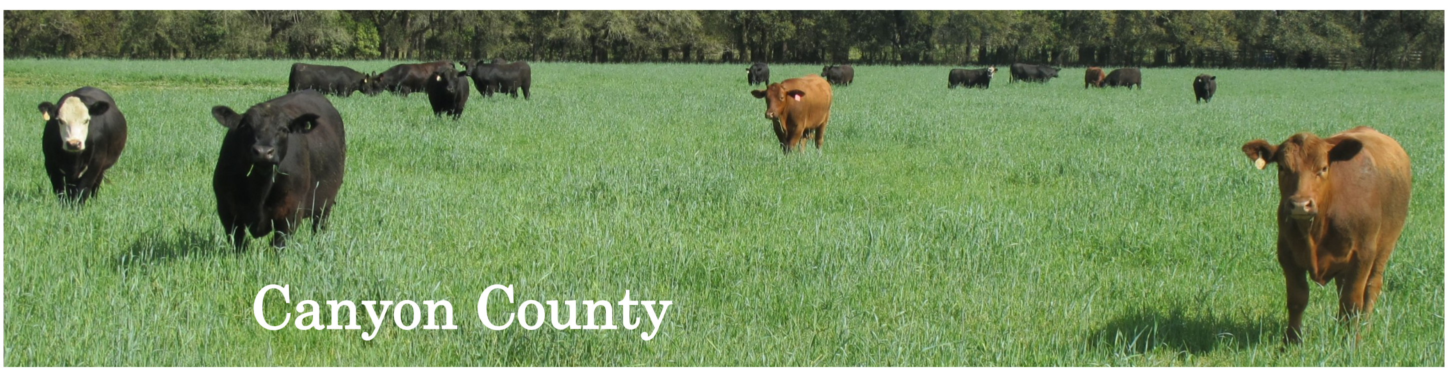
Pay it forward. When Extension programs were first being offered across the country the farmers weren’t interested in what the researchers had to say. The farmers were, after all, the professionals in their field, not the researchers. The research was sound, though, so the message found a different audience – youth. It may be difficult to have conversations with your non-ag friends about what you do but young people are a ready audience anxious to learn. Consider volunteering with an ag literacy program through the schools or organizations like 4-H, Ag in the Classroom, or Farm Bureau.

Words like short, medium, and long-term impact are frequently part of the conversation in Extension reporting. Short term impacts are changes in knowledge and medium term are changes in behavior. Long-term impacts are hardest to measure because there are so many factors involved, including the passage of time. What’s the return on investment of telling your story? It may just be that change in knowledge. Or it may be a swayed voter who’s more educated about how public issues impact agriculture. It may be a new customer or the creation of a fellow advocate. You’ll never know until you tell your story.

Rebecca Mills - UI Extension Educator
Gem & Boise Counties, ID

University of Idaho Extension
Canyon County
501 Main Street
Caldwell, ID 83605

RETURN SERVICE REQUESTED



Cattlemen's Corner Beef Newsletter

This newsletter is provided as a public service. If you do not have an interest in receiving the Canyon County Extension Newsletter in the future, please contact the Extension Office and we will remove your name from our mailing list. Or, if you know of someone who would like to receive the newsletter, please let us know at:
Email: canyon@uidaho.edu or Phone: 208-459-6003. Past editions of the newsletter are available on our website at https://www.uidaho.edu/extension/county/canyon/small-acreage.