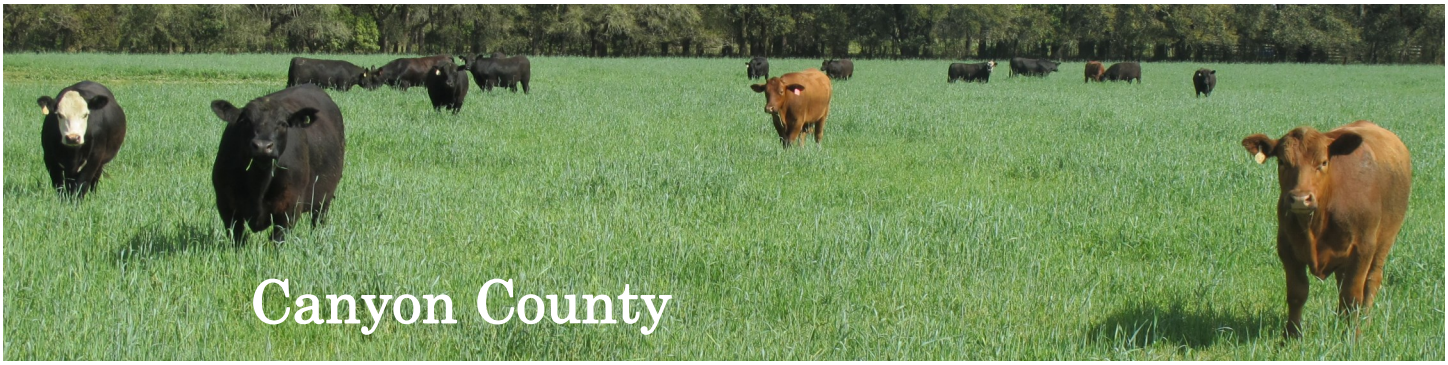

Cattlemen's Corner Beef Newsletter

Inside this issue:

Research in the Works

K. Scott Jensen, Owyhee County Extension

We have just completed six straight days of data collection in the field. With that fresh on my mind, I thought I would provide some information about two major range/livestock related projects that I am currently collaborating on.

Fine fuels management project

The fine fuels management project is being conducted in Malheur County (SE Oregon), just over the Idaho border near the community of Rockville, OR. The purpose of this research is to see if we can reduce the fine fuels (mainly Medusahead rye) and thus fire risk using dormant season livestock grazing as the tool. This project is unique in several aspects in that it involves collaboration between Oregon State University, University of Idaho, Boise State University, University of Nevada-Reno, BLM, Burns Station ARS researchers, and most importantly-five area ranchers.

The project is set up on a landscape scale with large treatment plots. Treatments include control (no grazing), traditional (grazed sometime between April and October), dormant season (grazed between November and March), and traditional plus dormant season (available for grazing anytime cows are turned out). There are two replications of the plots/treatments in each of three different rangeland pastures. We now have 3 years of treatment data to comb through and analyze with another 7 years to go. Anecdotally, I can definitely see some differences in a couple of the plot areas that have not been grazed as the fuel load appears to be extremely high. Look for an update after we have time to process 2021's data.

Quest for the ideal range cow

The second major project is led by Dr. Jim Sprinkle along with his PhD student Landon Sullivan. This project is being conducted on the University of Idaho's Rinker Rock Creek Ranch near Hailey/Bellevue, ID. The idea behind this project is to see if high efficiency cows utilize the entire rangeland landscape better than low efficiency cows. (Each of the cows in the study have been put through an efficiency test

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University of Idaho Extension, Canyon County

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

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and classified as high or low efficiency). Cows and calves wear a GPS collar that also contains an accelerometer. Through the use of these collars, we can identify exactly where the cattle spend their time and what they are doing at any given time (grazing, walking, resting, etc.). This technology has not been available previously. Dr. Sprinkle worked with a tech company in Mississippi to develop the electronics necessary for the project.

One of the goals is to learn if grazing behavior is learned, has some genetic influence, is related to physiological differences between animals, or has other influences. The long-term goal is to be able to identify genetic markers for cattle that are more prone to use the entire range and spend less time camped in the riparian areas. Being able to pinpoint animal behavior and location 24 hours/day is on the forefront of technology and science. Identifying genetic markers for cattle willing to work for a living could be a game-changer in our efforts to better manage grazing on our rangelands.

It will be exciting to see what we can learn from these research projects! I look forward to sharing results in the future.

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

Grazing Management of Rangelands in Drought

Melinda Ellison

Unseasonably hot and dry weather in the western US has made it evident that we will have to make some tough grazing management decisions this year and likely in the coming years as well. During average or good precipitation years, precipitation and soil moisture allow plants to capture energy to produce deep roots and production of strong shoots and leaves. Productive forages cultivate into a canopy that encourages moisture retention in soils by shading and decreasing evaporation potential on the soil surface and holding soil moisture in the root system. Low precipitation and hot, windy days have triggered poor energy capture and decreased vigor in rangeland plants, which leads to diminished root mass and growth potential. In turn, these characteristics lead to a reduction in soil moisture, which leads to further degradation of plant vigor. For these reasons, rangeland communities that were in less-than-ideal condition to coming into the drought will be more severely affected this year than those rangelands that were in good condition. Plant communities with better root systems, canopy cover, and plant diversity going into drought will have a better chance for recovery after a high stress year of drought.

It is during drought years that we find ourselves in a conundrum as livestock producers and stewards of the range: balancing the need for pasture resources for livestock and best management for rangeland conditions. Grazing can be beneficial to plant community diversity and growth potential. However, during drought it is important that we decrease the pressures of grazing to ensure that our rangelands can recover effectively and quickly in the years to come.

Drought is a severe stressor on rangeland plants. A secondary stressor in these scenarios can impact these plant communities even further. The level of change in grazing management should be considered based on current rangeland conditions and optimal outcomes in the coming years. At a minimum,

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consider decreasing the stocking rate by turning out fewer animals or decreasing the duration in which they graze the pasture. It is also important to consider grazing rangeland pastures early in the season and pulling livestock off the range early this year. Finally, some rangeland communities may benefit most from no grazing at all this year. During drought, focus on grazing at low to moderate utilization levels and pay close attention to leaving a minimum of 4 inches of stubble. In these years, an even better strategy is to leave 6 to 8 inches of residual to encourage faster recovery next year. Often these strategies can be difficult to apply due to lack of alternative grazing or feed options, but these steps are critical to ensuring the future of your rangeland pastures after drought.

In addition to stress on plants, drought can also be a strain on grazing animals. Because the plants have greater difficulty capturing energy, drought conditions lead to lower nutritional value of forages. For livestock, these forages may not meet nutritional requirements and subsequently lead to decreased performance in livestock. When grazing rangeland pastures during drought, it is critical to supplement the animals with a protein and/or energy supplement. Keep a close eye on their body condition so they do not get too thin. In severe drought, listed below are a few ideas to make it through to the other end:

- Supplement livestock with additional protein and/or energy feeds to decrease pasture grazing intake and stretch available forage. It is best to clip a few samples within the pasture and have them analyzed for nutritional value to optimize the cost and benefit of supplementation. Think outside of the box on types of feeds to supplement to decrease costs.

- Consider weaning calves early to decrease nutritional requirement of the cows.

- Take stock and keep records of forage availability each year, especially during drought. The year or two after a drought will have residual decreases in forage availability, even in a good precipitation year. Cull animals that are below the threshold for traits of importance and sell as early as possible.

- Plant or save extra residual of alternative feeds on irrigated pastures wherever possible to get livestock off the rangeland pastures earlier.

There is no doubt that this drought year will cost us in more ways than one, however, implementing one or more of the management considerations discussed earlier may help prevent long-term losses down the road. While finding those alternatives is stressful and sometimes nearly impossible, doing so will allow your rangeland pastures to recover better and more quickly in the coming years. Here is wishing for a short drought season and all of us getting through to the other side unscathed!

Melinda Ellison - Extension Range Livestock Specialist
Nancy M. Cummings Research, Extension & Education Center

Keep Cattle Healthy and Productive - Provide Plenty of Water

J. Benton Glaze Jr.

Summer entered with a vengeance in 2021. High temperatures, limited water resources, and drought conditions have dominated many of the news stories of late. According to the drought monitor (http://droughtmonitor.unl.edu), Idaho along with most of the states in the western United States are currently impacted by drought conditions. Many beef cattle producers are considering (or have already initiated) drought management strategies including adjusting livestock inventories, shifting the use of existing forage resources, and implementing the use of alternative feedstuffs. While much attention and energy may be focused on providing the needed feed resources for their cattle, beef producers cannot underestimate or overlook the importance of water for their beef cattle.

Beef cattle require the proper balance of water, energy (carbohydrates), protein, vitamins, and minerals in their diets to achieve optimal levels of performance. It is often thought that beef cattle have the ability to adapt to periods without water or to water restrictions. However, that is not the case. Following only short periods without water, the feed intake of beef cattle can be significantly reduced. Throughout the year, beef cattle need to be supplied with a ready, plentiful source of good quality water to attain the levels of performance that make beef operations profitable.

Of the aforementioned nutrients required by beef cattle, water is the most critical. Water is needed in the body for a number of reasons including temperature regulation, digestion, absorption, and utilization of nutrients, elimination of waste, and a variety of metabolic functions. Water is the main component of the animal's body and can constitute 50 to 80% of an animal's liveweight.

When nutritionally stressed, beef cattle can lose essentially all of their fat and approximately 50% of their body protein and still survive. However, a loss of more than 10% of an animal's body water can be fatal.

Table 1. Estimated daily water intake of beef cattle (Adapted from Guyer, 1977)

Daily High Temp(F°)	Cows Nursing Calves	Dry and Bred Cows	Bulls	Growing and Finishing Cattle			
				400 lb.	600 lb.	800 lb.	1,000 lb.
	Gallons Per Day						
35	11	6	7	4	5	6	8
50	13	7	9	5	6	7	9
65	16	8	11	6	7	9	11
80	18	11	13	7	9	10	14
95	20	15	20	11	15	17	19

The water requirements and water consumption of beef cattle are influenced by a number of factors including age, weight, type of diet, moisture content of ration, level of intake, pregnancy status, lactation, level of activity, relative humidity and environmental temperature. Table 1 lists the water requirements for various classes of beef cattle at various ambient temperatures. It is generally known that as temperatures increase, an animal's level of water consumption (water needs) also increase. A general rule of thumb for beef cattle water consumption

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ranges from 1 gallon of water per 100 pounds of body weight in cold weather to 2 gallons of water per 100 pounds of body weight in hot weather.

There are a number of advantages of providing beef cattle with a proper/abundant level of fresh, clean water. They include increased dry matter intake, improved average daily gains, increased milk production, and more efficient grazing and forage utilization. Some of the disadvantages of limited water availability/provision include reduced intakes and gains, decreased milk production and performance in other traits, and increased susceptibility to heat stress and illness.

As producers tend to their beef cattle during hot summer months, they should keep in mind the water requirements of their herds and have a plan in place to deliver adequate amounts on a daily basis. If producers are unsure of the amounts of water their cattle need/require they can contact their local University of Idaho Extension Educator for assistance in determining the needs of the herd and identifying the most economical water delivery methods.

J. Benton Glaze, Jr., Ph.D. - UI Extension Educator
Beef Cattle Specialist Twin Falls , ID

Improving Your Pasture Management

Samantha Ball

Growing good cattle begins with growing good grass. Pasture Management can help increase your grass production which will also increase the longevity of your growing season. By managing pasture closely you should be able to increase quantity and quality of the grass you are producing.

Steps to improving your pasture:

1. **Assess the stand**—Inventory your plant species in your pasture including weeds. Do you currently have any invasive or possibly poisonous weeds?
2. **Determine weed control strategy**—Is the weed problematic? If so, determine the best method to reduce or eradicate the weed. This could include clipping, herbicide use, reduction of overgrazing, soil improvement, or increase/decreased water.
3. **Collect and submit soil samples to a testing laboratory**—Remove large plant matter from the surface of the soil. Take a sample of the soil approximately four inches deep. Take several samples in each area/pasture/field. Submit your soil sample.
4. **Analyze soil result**—Using your soil test results determine if further action is required and if you should apply a fertilizer.
5. **Establish rotational grazing**—To rotate, create multiple fields/paddocks with electric fence. Adjust stocking rate of livestock as to not overgraze the pasture. Provide the grass plenty of recovery time. This is usually at least 21 days of rest. Rotate livestock from paddock to paddock slowly grazing the grass, taking half of the grass and leaving the other half to help the plants during recovery time.

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Through these techniques you should be able to increase your feed production, decrease your feed bill, and increase your herd health. For more information on pasture management and rotational grazing please visit: https://www.uidaho.edu/cals/beef/lost-rivers-grazing.

Samantha Ball - UI Extension Educator
Canyon County, ID

To Cull or Not to Cull? That is the question.

Rebecca Mills

Building your cattle herd involves making important and long-lasting decisions regarding genetics and profitability. It is not surprising, then, that culling (or removing an animal from the herd) may also stem from decisions about genetics and profits. At first glance it may not look like a particular reason to cull is about genetics or profits but more than likely there is a connection. Let's take a look at 5 reasons you may consider culling through the lens of genetics and/or profitability of your beef herd.

1. **Cow's ability to breed back**. There are several factors that may impact a cow's ability to breed back. It could be nutrition, age, or injury related. Either way, when profits come from calf sales and a cow doesn't produce a calf annually, the balance of inputs and income quickly gets off kilter. Conducting pregnancy checks 60 to 90 days after the breeding season will enable you to cull those cows who aren't going to contribute to profits next year before they cost you more money in feed and input costs.
2. **Calf's ability to grow.** You might think, "I'm already planning to sell my calves, what does their ability to grow have to do with my culling strategy?" Actually, I'm referring to culling the mother of those calves who aren't great at growing. This point can refer to both profitability and genetics. Something must be going on for some calves to underperform compared to the rest of the herd. Genetics passed down from the mother may be one factor. You'll want to do a full review of the benefit that that mother cow provides to your herd since smaller calves equals fewer dollars in your pocket.
3. **Disease.** When an animal is chronically ill there can be increased costs for health care and even losses in reproductive ability. If you're having to treat an animal multiple times, you're spending time and money that you may not recover in calf profits. Depending on the issues, it could also be something passed down to offspring.
4. **Physical ailments or inefficiencies.** In this category I'm referring to things like bad utters, poor feet, missing teeth, and skeletal structure issues that keep cattle from grazing effectively. Age could also play a factor here since these types of things decline with age. It may be helpful to do a review of cattle age to see when the issues started and adjust plans for keeping replacements from cattle that have these issues knowing that the longer a cow can perform the more profits you'll ultimately enjoy.
5. **Drought.** When the weather turns hot and dry the grasses and hay fields struggle to survive. This could very well be a factor for 2021 in Idaho. You'll want to be strategic in how you manage support for your livestock when feed supplies may be limited. One idea could be to wean calves early so cows aren't trying to care for a growing calf both inside and by their side. Calves that are weaned

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early could be sent directly to market or separated and fed for a time. Understanding the cost of your inputs when making decisions based on drought is critical.

A common theme that will impact your success in designing a culling strategy is a good record keeping system. Having the ability to go back to your records to get a glimpse of the historical value of that animal is helpful. Records can show whether issues are chronic or one-time events. Good records can also be useful in making those tough decisions, like during a drought year, when you know you need to cull but you care about each of the animals and appreciate the value they've been to your bottom line over time. Solid record keeping can make decisions more about facts and less about emotion. Which, when it comes to genetics and profitability, deciding based on facts makes good "cents".

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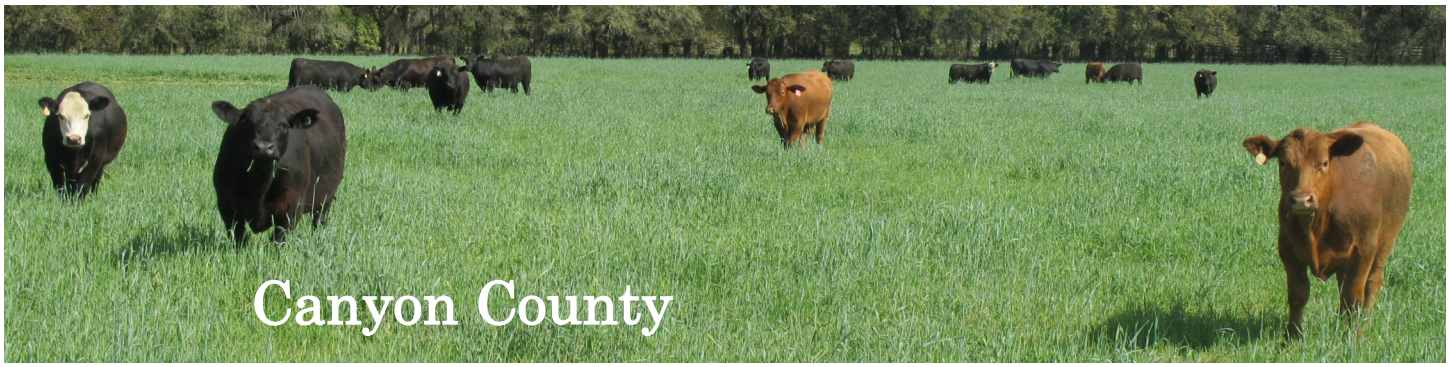

Cattlemen's Corner Beef Newsletter

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