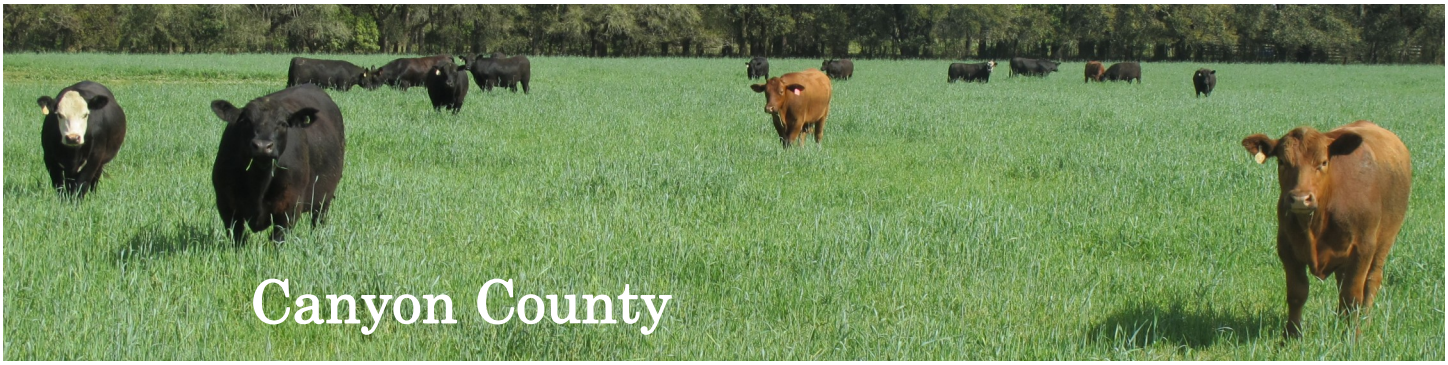

Cattlemen's Corner Beef Newsletter

Managing Riparian Pastures

Scott Jensen, Owyhee County Extension

Inside this issue:

Riparian areas are generally defined as ecosystems that occur around watercourses and water bodies. They occupy the transitional area between wet and dry ecosystems. Common examples would be land adjacent to streams, rivers, and lakes as well as marshes and wet meadows. Riparian areas are characterized by plant communities which require more water than adjacent upland plant communities. Riparian plant communities are more productive and generally have higher quality forage than upland plant communities. Riparian plant communities are relatively resilient and have a great capacity to respond positively to changes in environmental conditions or grazing management.

In the West, riparian areas represent a small portion of the landscape but provide some of the most important sources of habitat for wildlife. Riparian areas also provide important ecological functions such as flood control, ground-water storage, enhancements to water quality and erosion control. Riparian areas provide critical habitats for fish, invertebrates, aquatic insects and unusual plant species.

Livestock Use of Riparian Areas

Cattle are attracted to riparian areas for one, or a combination of the following reasons 1) foraging conditions (quality and/or quantity) are better than adjacent uplands, 2) environmental conditions (temperature, ease of travel, resting sites, insects, presence of threats) are more favorable than in the uplands, 3) available water source or 4) previous positive experiences and the associated learned behavior. When and how cattle are managed in pastures with riparian plant communities can influence each of these factors and determine if riparian areas become an asset or a detriment to the condition of our rangelands. Our objective should be to use the available forage within riparian areas without causing

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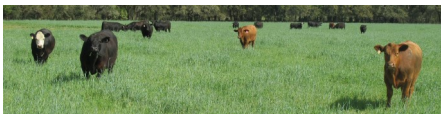

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long term detriment to the ecosystem associated with these plant communities. Negative impacts to riparian areas from livestock grazing are usually attributable to the repeated grazing of individual sites within a single grazing season. Factors which contribute to the over use of riparian areas by cattle include:

1. The riparian area provides the only source of water.
2. Upland topography is steep and/or rocky with little forage.
3. Supplements are placed in or near the riparian area.
4. During times of hot weather the only shade available is in the riparian area.
5. Upland forage is less palatable compared to riparian forage.
6. The class of livestock tends to be less mobile or prone to dispersion, i.e. cows/calves vs. yearlings.
7. Individual animals develop behaviors favoring riparian use.
8. Continuous or extended grazing seasons.

The potential for livestock grazing to have negative impacts on riparian areas changes with the season of use.

In the spring time, uplands typically have succulent grasses and forbs which attract grazing animals away from riparian areas. During this time, riparian areas are also cooler in temperature which may be undesirable early in the spring. The hoof action of cattle accessing water or grazing may cause mechanical damage to stream banks (shearing or sloughing of banks) and wet meadows (deep tracks) because of saturated soil conditions. Generally as the season progresses from spring to summer, livestock use of riparian areas increases as well. The peak period of riparian use often occurs during prolonged drought or intense heat. During summer and early fall, upland grasses and forbs lose moisture, turn brown and dry out much sooner than riparian grasses and forbs. The associated decline in forage quality and palatability of upland species make the green forage in riparian areas especially attractive to grazers. During this period, riparian browse species such as willows, cottonwoods and aspen also increase in palatability relative to grasses and forbs and may be selected by cattle.

Winter grazing minimizes soil compaction and bank trampling. The amount of forage utilization is also much less of concern because grasses and forbs are not actively growing during at this time of year. Generally, managing grazing on riparian plant communities during the winter should focus on ensuring appropriate use levels on woody species.

Management Strategies

A reasonable goal for managing livestock grazing in riparian areas is to provide adequate forage and water to livestock while maintaining or improving the functional condition of the riparian area. Proper functioning condition is when adequate vegetation, landform or large woody debris is present to: dissipate stream energy, filter sediments and develop flood plains, stabilize stream banks, improve wildlife habitat and support greater biodiversity (Prichard, et al. 1998). Numerous factors contribute to proper functioning condition of riparian areas, many of which are not influenced by livestock grazing. These include topography, climate, soils, geology and hydrologic conditions. Grazing management can

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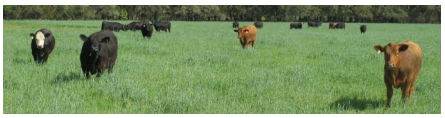

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have a profound influence on the kind and amount of riparian vegetation and the associated condition of the stream channel. These attributes should be the focus of grazing management in riparian areas. There is no "silver bullet" or a single grazing management technique that is appropriate for every riparian area. After addressing site specific aspects of each riparian area, managers should consider options for grazing:

- Avoid grazing the same place at the same time year after year and the same place multiple times in one growing season.
- Optimize regrowth opportunities with short grazing periods and adequate rest periods.
- Limit selective grazing by increasing stock density.
- Provide for adequate plant development prior to the initiation of grazing.
- Provide for adequate residual following the grazing period.
- Maintain flexibility and identify options for unforeseen conditions.
- Manage for maintenance or improvement of riparian area physical functionality.
- Assess riparian area condition at a frequency adequate to enable prompt corrective management action, if necessary, to protect the health of the riparian area.
- Manage grazing based on plant community productivity and resilience (uplands and riparian plant communities are not the same).

It should be noted that "no use" is often not a good management strategy. No use can cause an accumulation of decadent plant material that can choke out desirable plant species and open up bare ground for invasion by weedy plant species.

For additional information on managing riparian areas, consult CL522 in the WBRC Cattle Producers Library. If you need a copy of the Cattle Producers Library, contact your local Extension office.

Updated Adjustment Factors Continue to Allow Producers to Make Comparisons Across Breeds

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

Since the release of the first national sire summary in 1971, beef cattle producers have been using expected progeny differences (EPDs) to assist them in making selection decisions. Many beef producers have benefitted from using EPDs to select animals to meet defined or desired production goals. However, since EPDs are specific to the breed from which they were generated and cannot be used to compare animals from one breed to another, beef producers using crossbreeding have found challenges in using EPDs. To address these challenges, the concept of across breed adjustment factors was employed. For a number of years, researchers at the USDA Meat Animal Research Center (MARC) in Clay Center, Nebraska have evaluated breeds, collected data, and developed tables of adjustment factors

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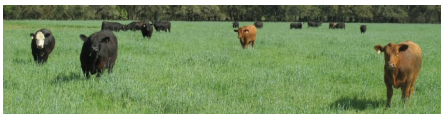

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that account for differences between breeds.

Across breed adjustment factors for beef cattle growth traits (birth weight, weaning weight, yearling weight) and maternal milk were first calculated and published in 1993. Carcass trait (marbling score, ribeye area, fat thickness, carcass weight) adjustment factors were added to the mix in 2008. Each year, updated across breed adjustment factors are released at the Beef Improvement Federation's (BIF) Annual Research Symposium and Annual Meeting. The most recent adjustment factors were presented during the virtual 2020 BIF meeting which was scheduled to be held in Kissimmee, Florida but moved online due to COVID-19 concerns. Growth trait and maternal milk adjustment factors are available for eighteen beef breeds and carcass trait adjustment factors are available for fifteen beef breeds. The current list of evaluated breeds and their across breed adjustment factors are presented in Table 1.

Table 1. 2019 Adjustment factors used to estimate across breed expected progeny differences (EPD). (Adapted from BIF, 2020)

Breed	Birth Weight	Weaning Weight	Yearling Weight	Maternal Milk	Marbling Score	Ribeye Area	Fat Thick-ness	Carcass Weight
Angus	0.0	0.0	0.0	0.0	0.00	0.00	0.000	0.0
Beefmaster	4.0	21.3	-3.8	9.5				
Brahman	9.7	49.8	10.8	18.8		0.01	-0.164	-36.6
Brangus	2.7	14.2	0.5	15.8				
Braunvieh	1.9	-19.4	-42.4	4.8	-0.65	1.05	-0.107	-51.7
Charolais	6.2	29.6	24.7	8.7	-0.31	0.82	-0.200	8.8
Chiangus	2.5	-21.0	-36.0	4.2	-0.47	0.57	-0.140	-17.8
Gelbvieh	3.3	-11.6	-19.6	12.4	-0.52	0.92	-0.102	-5.3
Hereford	1.0	-16.1	-44.0	-10.4	-0.32	0.06	-0.075	-67.3
Limousin	2.2	-17.2	-48.6	-2.1	0.01	0.65	-0.021	-3.1
Maine-Anjou	1.6	-30.0	-63.1	-4.3	-0.46	1.02	-0.184	-32.9
Red Angus	2.5	-19.5	-29.8	2.7	-0.13	0.24	-0.049	-14.4
Salers	0.6	-9.9	-41.8	7.1	0.09	1.16	-0.179	-43.0
St.Gertrudis	4.9	37.5	34.9	20.8	-0.46	0.14	-0.091	-10.8
Shorthorn	4.2	-32.5	-44.0	2.9	-0.05	0.55	-0.025	7.2
Simmental	2.5	-13.0	-18.7	1.7	-0.08	0.48	-0.049	-5.4
South Devon	2.3	-27.0	-68.1	4.4	-0.38	0.40	-0.181	-72.5
Tarentaise	2.5	19.1	-15.8	22.4				

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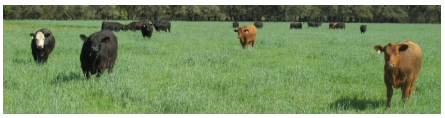

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Across breed EPD are particularly useful to beef cattle producers that are considering the purchase of bulls from multiple breeds for use in crossbreeding programs. Across breed EPDs can assist producers in identifying sires of different breeds that are similar in their genetic potential for desired performance targets, which leads to greater uniformity of calf crops from crossbreeding systems. Beef cattle producers should be aware that across breed EPDs do not have associated accuracies.

Therefore, it is difficult to assess the potential risk involved in using a particular sire based on an across breed EPDs. However, across breed EPDs are the best method available for estimating the genetic potential of bulls from different breeds. Examples of how to use the adjustment factors to calculate an across breed EPD follow.

Example #1 (Adjustment Factor Use): To calculate an across breed EPD, you need a current EPD from a breed association sire summary and a current across breed adjustment factor for the same breed and trait. Consider a Gelbvieh bull with a weaning weight EPD of + 70.0 lbs and a Hereford bull with a weaning weight EPD of + 45.0 lbs. The across breed adjustment factors (Table 1) for weaning weight are -11.6 lbs for Gelbvieh and -16.1lbs for Hereford. To calculate an across breed yearling weight EPD for the Gelbvieh and Hereford bulls, simply add the adjustment factor to the bull's original EPD. The across breed weaning weight EPD is 70.0 lbs + (-11.6) lbs = 58.4 lbs for the Gelbvieh bull and 45.0 lbs + (-16.1) lbs = 28.9 lbs for the Hereford bull. The expected difference in progeny weaning weights when both bulls are mated to cows of another breed would be (58.4 lbs – 28.9 lbs = 29.5 lbs). In other words, the expected difference in progeny weaning weights when using these two bulls is approximately thirty (30) pounds.

Example #2 (Aligning Breeding Objectives): A producer is currently using a Simmental bull with a yearling weight EPD of +120 lbs. The producer decides to switch bull breeds for use on the commercial cow herd and chooses a Limousin bull with a yearling weight EPD of +120 lbs. To accurately estimate the yearling growth potential these bulls could pass to their progeny, an across-breed yearling weight EPD should be calculated for each bull and then compared. The across-breed adjustment factors (presented in Table 1) for yearling weight are -18.7 lbs for Simmental and -48.6 for Limousin. To calculate an across-breed yearling weight EPD for these bulls, simply add the adjustment factor to the bulls' original EPD. The across-breed yearling weight EPD is 120.0 lbs + (-18.7) lbs = 101.3 lbs for the Simmental bull and 120.0 + (-48.6) lbs = 71.4 lbs for the Limousin bull.

The expected difference in progeny yearling weights when both bulls are mated to cows of another breed would be about 30 pounds (101.3 lbs – 71.4 lbs = 29.9 lbs). In other words, there is a fair amount of difference in what these bulls can provide in terms of yearling growth potential to their progeny. As producers switch between breeds and select bulls for their crossbreeding programs, they often compare EPD values for economically important traits. Taken at face value, these bulls look identical for yearling weight growth. However, as previously mentioned, these bulls cannot be compared directly and their within-breed EPDs must be adjusted to make a fair and accurate comparison. Once the adjustment is made, it is clear that the Limousin bull lacks (30 lbs less) the yearling growth potential of the Simmental bull. If used, the progeny of the Limousin bull may not meet the expectations of the producer. Use of the Limousin bull in this situation could lead to decreased herd productivity and a lack of uniformity in the

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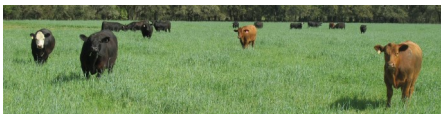

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calf crop. As producers select bulls for use in their commercial herds, they should take steps to assess the genetic potential the bulls bring to the herd and evaluate the impact the bulls will have on the progeny produced.

Biosecurity Best Management Practices

Rebecca Mills—UI Extension Educator
Gem & Boise County , ID

In 2020, people all around the world are learning principles that cattleman who have been Beef Quality Assurance certified have known for years: the importance of biosecurity. Let's do a little refresh on biosecurity best management practices for livestock producers.

The goal of biosecurity is to protect animals from disease. More specifically, biosecurity is about preventing cross-contamination of bodily fluids either between animals or between animals and surfaces that later contact other animals.

According to the Beef Quality Assurance Manual, biosecurity has five major components: Assessment, Resistance, Isolation, Traffic Control, and Sanitation. The five components are tools that a producer can use to plan for and mitigate the risk of disease in their operation. As the world is learning in 2020, there is never going to be a perfect time to stop and prepare for potential hazards to your operation. You can either make it a priority or have an issue stop you in your tracks and force you into thinking through the steps.

Assessment

When it comes to disease, assessment is about thinking through the potential diseases that could impact your herd and how those diseases are transported or transmitted in the environment. As you're assessing the potential for those diseases to enter your herd, think through how likely your herd is to be exposed, what the impact would be if your herd was exposed, and how you could control or prevent that from happening.

Resistance

Resistance relates to the overall health of your cattle and their body's ability to reject or contend with an infectious agent. Resistance can come through vaccines or by good management. In your assessment planning you'll discover that there's not a vaccine for all the potential diseases placing an even greater importance on good management practices. Proper nutrition and low stress handling will go a long way in protecting your animals from disease.

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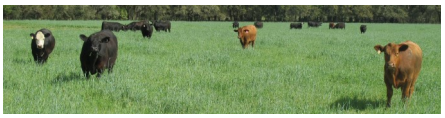

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Isolation

The third component of biosecurity is Isolation. A lot of times this is the most important first step because it minimizes commingling and movement of cattle. You will want to isolate new groups of cattle coming onto your property and consider keeping age or production groups together. This practice will also help with tailoring management to the specific needs of different groups of cattle. If any facilities or equipment are used by all groups, you'll want to properly clean and disinfect them between uses.

Traffic Control

Along with isolation this component is about movement, but it's expanded from cattle to include other domestic and wild animals (horses, dogs, cats, wildlife, birds, rodents), people and equipment. Basically, by controlling the flow of traffic on an operation you're able to impact the movement of contaminants and reduce the incidence of cross contamination. For example, when bringing new cattle to an operation the unloading and isolation facility can be away from the pens where other cattle are held. The route the truck takes to leave the property would also NOT pass by the holding pens where other cattle are and there could potentially be a washing station located on the route away from the facility.

Another example is related to feed and pest control. Think about things like: where did the feed truck come from? Was the feed truck cleaned and sanitized from its previous use before the feed was loaded? Where will the feed be stored? Is there a way to control pests like birds and rodents in the feed storage area?

Sanitation

The final biosecurity component is sanitation. Sanitation relates to the cleaning and disinfecting of materials, people and equipment and the overall cleanliness of your operation. It isn't possible to sanitize or disinfect organic matter. If the tools or equipment you're using has feces, blood, or other bodily fluids on it and you attempt to sanitize it, you'll be unsuccessful. The first step is to remove the organic matter, then adequate sanitation can occur. Focus specifically on anything that may contact the oral cavity of an animal as ingestion will increase potential for infection.

Conclusion

The similarities between the human COVID-19 experience of 2020 and these scenarios of animal biosecurity are evident. Since mid-March I've experienced isolation (a.k.a. quarantine) and restricted co-mingling (a.k.a.: social distancing). All that alone time has given me time to assess the risks in my environment and I'm mostly okay with embracing traffic control patterns at grocery stores just even for efficiency purposes. We're all learning more about sanitation and hopefully working our way to some resistance building by practicing low-stress and proper nutrition in the absence of a vaccine. Maybe we really are what we eat after all? Stay well, friends!

Source:

Beef Quality Assurance Manual accessed online at:
https://www.bqa.org/Media/BQA/Docs/nationalmanual.pdf

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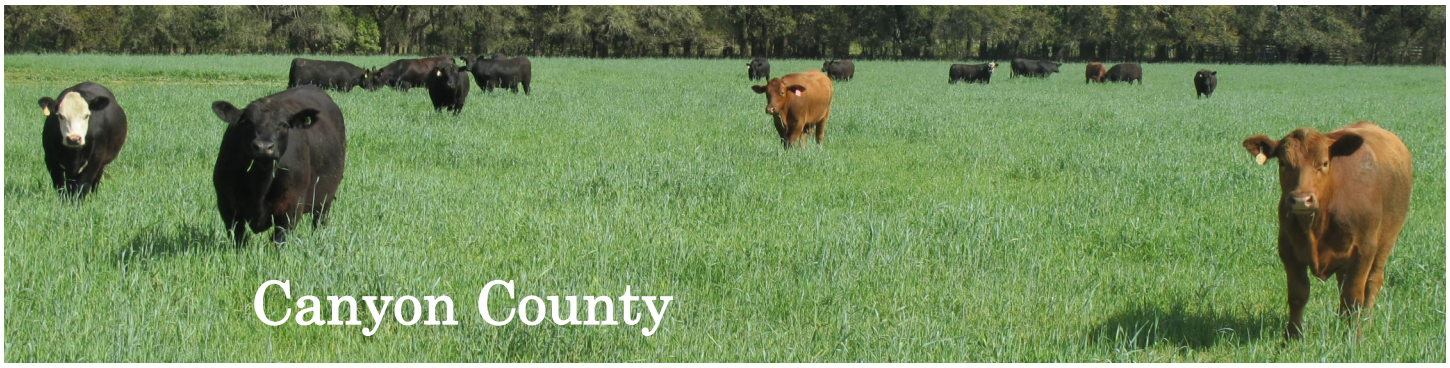

Cattlemen's Corner Beef Newsletter

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