



Innovation, education and regenerative agriculture Unit 4A, 710 Centre St. SE, High River, AB T1V 0H3 Phone: (403) 995-9466 ~ www.foothillsforage.com **GRASSROOTS NEWS & VIEWS**

December 2022

Director's Note — Emily Lowe

Hello,

Where on earth has 2022 gone!?

I can't imagine that I am the only one who feels like December has completely snuck up on me. The long and mild fall we had this year made round up a little more challenging as cows sure didn't seem to want to come out of the hills, however we are now on to the winter-feeding season! With December upon us however, FFGA is extremely excited to be a partner host of the Western Canadian Conference on Soil Health & Grazing again this year! It should be an exciting event this year from December 13th-15th, with a sold-out crowd. The (usually) biennial conference hasn't been held since 2019, due to obvious world events, however we are over the moon excited to be back at it this year!

The FFGA board has also been busy at work in the last few weeks. Mid-November, many directors were able to participate in a two-day strategic planning session, targeted at creating a clearer vision for our organization moving into 2023 and beyond. Much of the discussion surrounded creating new and stronger partnerships, delivering

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more exciting field days and engaging more young producers in hopes of continuing to maintain our robust, and dynamic organization. With the help of our outstanding staff, FFGA is excited to continue to bring relevant information and opportunities to our members. In November we also held a Ranching for Profit School with Dallas Mount. The first in Canada for several years. It was such a success we are in the process of planning one for next year.

Here is hoping that the early cold snap and heavy snowfalls seen in November didn't impact to many winter grazing plans! There is however, a solid chinook blowing west of Nanton as I sit at my computer typing. Here's hoping some of that moisture from our November snow fall ends up in the ground!

See you down the trail!



Playing With Fire: When Manageable Risk Delivers Great Reward



Putting fire to prairie is a little like, explosive native grass production but also can be a bit risky. Liability concerns and sacrificing current forage to the flame — especially during severe drought — keep many land managers from using this powerful regenerative management tool.

Those willing to wield fire, though, can rekindle range and pasture performance, fanning sputtering embers into an inferno of grass growth.

Fire and grass go together. Fire gives perennial, native (desirable) grasses the competitive advantage over invasive annual grasses, woody species and some forbs. Grasslands that see fire at regular intervals will continue to be dominated by a vigorous, grass-based plant community that is resilient in the face of challenges such as drought, flooding and wildfires.

Brian Treadwell, whose family has raised cattle and sheep near Fort

McKavett, Texas, for 100 years, well, pouring gas on a fire. It results in knows all too well what happens when that mimics nature. a ranch is "protected" from fire for years.

> "We ranch in a savanna grassland. It just doesn't look like it, because fire has been eliminated from the landscape with great vigor. Now it looks like a scrub oak savanna," he says. "My grandfather said all the trees grew during his lifetime. It was because they were so diligent about protecting their grass resource from fire. If they hadn't fought fire so hard, ranching here might be a lot more profitable than it is today."

> Not willing to continue the trend to trees, Brian now runs Conservation Fire Team, a commercial burn company managing prescribed fires on tens of thousands of acres each year.

Morgan Treadwell, associate professor and extension rangeland specialist for Texas A&M University, shares her husband's passion for the

land — and for using fire in a way

"Taking fire away from grasslands is like taking rain out of the rainforest," she says. "It's part of the fabric of what the system needs. It creates a more productive and resilient system. Fire is an aboveground stimulant and a belowground catalyst."

THE PROS AND CONCERNS **OF PRESCRIBED BURNS**

Below, the Treadwells list the following positive results from properly managed fire and the concerns shared by many who avoid using fire as a management tool.

PROPERLY MANAGED FIRE:

- Stimulates dormant grass root buds to create robust growth
- Retards growth of woody plants •
- Decreases invasive annual grass seedbanks
- Stimulates root growth and maintains plant diversity for better drought resiliency

(Continued on Page 3)



(Continued from page 2)

- Returns nutrients from lessdesirable aboveground biomass to the soil in a usable form for soil life and plants
- Produces more palatable, diverse, nutrient-dense plant species for livestock and wildlife
- Reduces occurrence of hot, uncontrollable fires by clearing woody fuel
- Breaks antagonistic bonds to release tied-up nutrients such as magnesium, phosphorus and potassium.

CONCERNS VOICED BY THOSE AVOIDING FIRE:

- Fires need fuel, which means sacrificing current forage for future forage.
- forage/acres than intended or could escape and burn structures, hay or neighboring property.
- ly needs to be in place to successfully implement fire.
- Burning at the wrong time of day or year could result in varying fire effects to both desirable and undesirable plants.
- How soon it rains after a burn determines how soon acres will recover and when they can be grazed again.

ADDRESSING CONCERNS TO REAP THE BENEFITS

Most concerns can be addressed to help clear a path for use of fire in a grassland system, the Treadwells say. First off is the concern about immediate loss of forage.

"It's an opportunity cost," Brian says. "Fire costs way less than using other methods to control brush."

He says the costs of alternative brush control methods and reduced forage production without fire far exceed the forage lost when burned in a regular, controlled fire. Plus, while edible forage is lost in the short term, the nutrient value isn't gone. When old growth, woody plants and other less-desirable species are burned, much of their nutrient content returns to the soil, promoting a new surge of forage growth.

Dormant axillary root buds are stimulated by fire, Morgan says. A grass with a couple dozen active buds prior to fire can jump to hundreds of active buds after fire. According to a 2006 study, native grassland species have been shown to produce 99% of new growth from axillary root buds instead of seed.

Fire also breaks antagonistic bonds jJCAac3N8A between micro and macro nutrients that can inhibit their availability to plants.

"Nutrients are mineralized by fire and put in forms plants can easily use," Morgan says. "Within 14 days following fire, 18 different nutrients have been shown to increase two to three times in the soil profile. Those nutrients are then used by soil life and A fire could potentially burn more new growth to create a nutrient-rich environment, sprouting high quality forage.

"The nutrient and growth surge A rotational grazing system usual- after fire will eventually plateau and taper off. We aren't sure exactly when that happens, but it does. That's what makes frequency of fire so important. We need to regularly return nutrients to the soil with fire."

Being uncomfortable with fire is natural, but producers shouldn't let that stop them from using the tool, Brian says. Many states have "Rightto-Burn" acts protecting producers from liability, and landowner cooperatives called prescribed burning associations have formed to share equipment, training and liability insurance.

Still, hiring a professional prescribed burn company can help mitigate risk and ensure fire is carefully managed. Monitoring humidity, wind, timing and more can mean the difference between being able to snuff a controlled burn with a leaf blower early in the day to dousing it with fire pumpers just hours later.

"Fire is the reset button" for rangelands, Morgan says. "No other management practice feeds the soil, cycles nutrients, supports plant diversity and creates resiliency in a rangeland system like fire. It can't be mimicked by any other management practice, and it's the missing link in so many rangeland systems."

Author: Martha Mintz Original Article: https:// www.noble.org/regenerativeagriculture/prescribed-burn/playingwith-fire-when-manageable-riskdelivers-great-reward? fbclid=IwAR1e7Cf7niegOfeH7vJQA HN1N9brsNfV47edjZuSmRaMXic 1







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On-Farm Climate Action Funding (OFCAF) Update

OFCAF cost-sharing funding supports farmers in adopting beneficial management practices (BMPs) for in-field nitrogen management, expanding cover cropping, and implementing rotational grazing practices.

On November 7th, OFCAF closed for 2022 applications. To date, the program has received well over 1,000 applications from Alberta farmers and ranchers who worked to prepare, document, and submit their plans to make sustainable changes to help tackle climate change on their farming operations. We thank all applicants for their participation in this program. The next round of OFCAF funding will open on February 13, 2022.

APPLICATIONS

OFCAF funding will help producers approve, test, and build diverse projects to help tackle climate change. Applicants are eligible for multiple projects to a combined maximum grant payment of \$75,000. Applicants are eligible for a maximum 85% reimbursement of eligible cash expenditures across the three BMP target areas. For guidance on how to prepare and submit your application please visit <u>rdar.ca/ofcaf</u>.

OFCAF WEBINARS

In early August, the OFCAF team hosted a series of webinars designed to give a program overview to farmers, ranchers and the general public. The OFCAF team presented 6 live webinars that were attended by over 400 participants! This webinar presentation series provided broad information about the climate change program and helped answer producer questions to support the application process.

If you missed out on attending an OFCAF Overviews webinar, we've got you covered. FFGA has uploaded a recorded webinar to the their website. RDAR also has the slides now available for download on their website. Visit FFGA recorded webinar at: <u>https://www.foothillsforage.com/recordedwebinars</u>

FUNDING OUTLOOK

OFCAF Program Manager Fiona Briody says that there are plenty of OFCAF funds available to producers, and she encourages interested farmers and ranchers to review the program website and keep those applications coming!

Questions about OFCAF: If you have any questions, please reach out to <u>ofcaf.bmp@rdar.ca</u> or call 1-877-503-5955

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Study compares haylage vs. hay



In theory, feeding hay is a sound solution to supplement fall grazing or provide animals with winter feed. Timely harvests can result in highquality forage, and proper baling and storage preserves nutrients like energy and protein. But hay quality is never guaranteed.

Darren Henry with the University of Georgia suggests one of the biggest risks of making hay is rainfall between cutting and baling. In his region of the Southeast, unpredictable weather patterns make it difficult to ensure a sufficient drying period. Haylage, respectively. Fiber content was the hay and haylage. I gent fiber was about 6 and 68% for haylage. detergent fiber was ap

"When trying to bale hay at 10% to 15% moisture, a shower from the West can add a few days of drying and nutrient loss to an otherwise successful cutting," the assistant professor of animal and dairy science states. "With this in mind, many producers are considering wrapping their cut forage at about 60% moisture and allowing that forage to ferment, creating haylage."

Making haylage is a proactive measure to counter Mother Nature. Moreover, haylage can have similar or improved quality compared to dry hay. To investigate the latter point, Henry and a team of researchers conducted a study to evaluate the organic matter intake and total tract digestibility of nutrients of the two types of feed in beef steers.

Here's what they did

The study used 16 Angus steers and 14 Brangus steers with an average body weight of 538 pounds. These cattle were randomly assigned to two feed treatments — ryegrass hay or ryegrass haylage — and both diets were fed ad libitum. Henry notes this was done to see if one breed utilized forage more efficiently than the other.

The ryegrass hay in the experi-

ment was 89.7% dry matter, whereas the ryegrass haylage was 51.2% dry matter. Percent organic matter was roughly 90% for both feeds, and crude protein levels

were 12.4% and 11.9% for hay and haylage, respectively.

Fiber content was also similar in the hay and haylage. Neutral detergent fiber was about 69% for hay and 68% for haylage. Moreover, acid detergent fiber was approximately 41% and 42% for hay and haylage, respectively. Overall, total digestible nutrients values were 56.9% for hay

Item	Dry Hay	Haylage	P-value
Total tract digestibility, %	6		
Dry matter	57.1	67.9	< 0.01
Organic matter	57.9	69.1	< 0.01
Crude protein	57.9	56.2	0.18
NDF ¹	64.9	74.9	< 0.01
ADF ²	58.6	74.9	< 0.01

These results contradict what researchers expected. "Very often, when an animal has greater dry matter intake, such as the steers consuming haylage, digestibility is consequently reduced," Henry says. "We found the opposite occurred for these steers."

digestibility was 19% greater for

to hay," Henry explains. "The di-

steers consuming haylage compared

gestibility of dry matter and organic

matter was improved largely due to

ibility of neutral detergent fiber."

the 21% increase in total tract digest-

He offers one explanation for this could be the "softening" of fiber in

	Dry Hay	Haylage
Nutrient, %		
DM	89.7	51.2
ом	90.0	89.6
СР	12.4	11.9
NDF	69.4	68.3
ADF	41.1	42.0
TDN	56.9	56.2

and 56.2% for haylage.

Improved intake

The steers that received haylage consumed nearly 3 pounds more of feed per day than the steers that received dry hay. Henry says Angus cattle had higher feed intakes than Brangus cattle, but there was no correlation between breed and nutrient digestibility. Conversely, there was a difference between the type of feed and nutrient digestibility.

"Dry matter and organic matter

haylage due to fermentation. Another reason could be a shorter lag time of microbial attachment to fiber. Nonetheless, Henry recommends considering the benefits of better nutrient digestibility in haylage against the added costs of this type of production.

Author: Amber Friedrichsen Original Article: <u>https://</u> <u>hayandforage.com/article-4138-</u> <u>study-compares-haylage-vs-hay.html</u>

LIVESTOCK LESSONS Mountain View Heritage Center January 20, 2023

LADIES

Featuring Featuring

@WildroseFarmer Katelyn Duban, Host of "The Rural Woman Podcast".

The event will also include sessions on grassland management, building a vaccine cooler, livestock first aid, and more!



SIMONIN



16 practical tips for selecting productive replacement heifers



Selecting replacement females is important for long-term sustainability and productivity of your cow herd. The wrong kind of females won't gen- have worked for ranchers as they seerate as much cash flow and may cost more than you can afford in additional inputs.

An important part in sorting the wrong kind from the right kind is how heifers are managed from weaning to breeding. When done correctly, it can be part of the selection process, to make sure you end up with heifers that can do the best job.

Getting started

Weaned heifer calves won't generate income for two years. Rather than put them in a high-input artificial • environment and hauling expensive feed to them, some ranchers feel they should be treated like the cows they will become.

That means, on most ranching operations, they should be out foraging with minimum inputs from you. If a heifer can't do this, she probably won't make an efficient and profitable cow.

One solution to finding the right kind is to retain nearly all heifer calves, roughing them through winter and exposing them to a bull for a short time; one or two cycles at most. This allows the bulls and your ranch environment to sort out your best replacements, meaning only the most efficient and early-maturing heifers become cows. If you preg-check early, the ones that didn't breed can be sold at the peak of the yearling market.

If you breed heifers to calve in April or May, most will conceive during the first part of the breeding season. Even heifers that were a little thin during winter can catch up—with two to three months of green grass before breeding. If you end up with more bred heifers than you need, you can sell the extras to other ranchers who prefer to buy bred replacements instead of developing their own.

Selection considerations While your environment will do the best job selecting heifers for function, efficiency and fertility, there are a few other things to consider as well. Here are some time-tested tricks that lect replacements:

- If you make selections at weaning, • rather than keeping more heifers than you need and letting nature sort them, first cull off any outliers—too big, too small, too tall.
 - Heifers with "average" size and build usually end up being your best and most fertile cows. Many producers make the mistake of keeping the biggest heifers and end up with cows that are too large.
 - Choose the older heifers, not the biggest. Those born early in the calving period had fertile mothers. Choosing heifers born from the first or second cycle puts more emphasis on fertility and keeps your calving interval tight. Younger heifers born later in the calving season have less time to mature enough to have a cycle or two before breeding time.
 - Evaluate disposition and cull any that are flighty or nervous. Some of those wild ones are obvious. but one way to check is to sort them quietly in an alley. Bring each heifer to the other end alone to see how it responds to being handled by itself. If you push her, almost any heifer will try to get away, but when you back off it's easy to see if she settles down or stays wild and scared.
 - Evaluate feet and leg structure and general conformation. Any

problems you can see in a weanling will probably get worse as they mature. Pick heifers that look feminine rather than blocky, coarse and masculine. You don't want a heifer that looks like a steer; her endocrine balance may be off and there's more chance she'll come up open.

- You also don't want a heifer that's extremely long-necked or too short-necked, which makes her look like a male. Many people pick their biggest, most muscular heifers but this leads to biggerframed cattle that are not as fertile.
- You want easy-fleshing cattle, but this is harder to evaluate at weaning because a fat heifer may have a dam that milked too well. The dam may be thin.
- It's easier to evaluate a heifer's • fleshing ability after her first winter, before her first breeding season. A heifer going into breeding season without enough fat won't breed and probably won't last in a difficult environment. She'll fall apart when she's lactating and raising a calf.
- Evaluate the dam. Are her feet and udder sound? Does mom have good temperament? Do you have production records and weights on her calves? Has she had a calf every year? You don't know what a heifer out of a first calver will be like, but you have an idea about calves from a 10-year-old cow that's always been fertile and has good calves.
- Udder structure is hard to judge on weanlings or yearlings, but you'll find outliers that are obviously undesirable, such as heifers with teats that will be too long or fat.
- There are many things you can't tell about the heifer's potential without evaluating her mother. Choose daughters from cows that have produced for several years

(Continued from page 9)

and haven't missed a calf—calving early every year.

- If you are making your decisions after they've gone through winter, select heifers that shed quickest. This is an indicator of health and vitality. A highly productive, feminine, fertile heifer will be one of the first to shed in the spring, and has a soft, smooth hair coat compared to a male.
- Some producers palpate and measure pelvic width in heifers, since some females don't have a very wide birth canal. Selecting heifers with adequate pelvic size prevents calving issues and you could also detect something abnormal like a bone spur. You can often tell if heifers have adequate width through the pins just by looking at them but measuring them after they reach puberty can be helpful.
- There should also be adequate slope from hooks to pins. This is

one of the most important factors for ease of calving, but often overlooked by cattle breeders.All wild ungulates (elk, deer, moose, bison, etc.) have a sloping rear end. Cattle that are level from hooks to pins have a serious man-made fault.

Many producers also tend to choose cattle that are straight in the hind leg, but this is unnatural. All wild animals are cow-hocked and have some angle to the hock joint when viewed from the side, which is stronger structure than straight hind legs or post-legged. straight hind leg changes the angle of the leg, rotating the pin. When the hooks and pins are level, the hind legs are straight construction that often won't hold up—and changes the angle of the pelvis. This makes it more difficult for the calf to come up through it in a natural arc. The calf's feet tend to jam up against the backbone and tail head.

Lack of slope and smaller birth canal also makes drainage from the reproductive tract more difficult. The short tail head also moves the anus forward, with vulva tipped forward. Like a "windsucking" mare, fecal material falls into the vagina. Many of these sharp-tailed, level-pinned cows come up open or are harder to calve. If there is adequate slope, the birth canal is more open and has more room.

which is stronger structure than
straight hind legs or post-legged.Author: Heather Smith Thomas
Original Article: https://www.beefmagazine.com/weaning/16-
practical-tips-selecting-productive-
replacement-heifers

ENVIRONMENTAL FARM PLAN (EFP) WORKSHOP When: February 16, 2023 Where: Kneehill County Maintenance Shop

Workshop details:

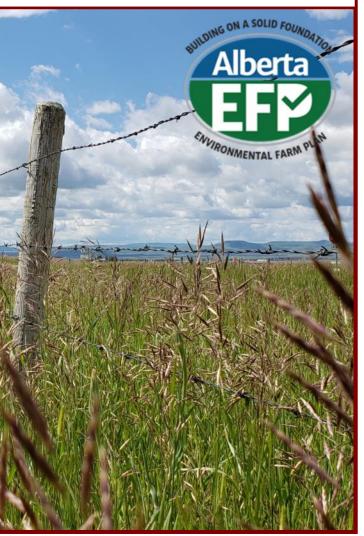
- Workshop will begin at 9:00am and wrap up around 3:00 pm.
- Lunch will be provided
- Please bring a laptop or tablet
- Information on your water sources & water bodies
- If you are renewing your EFP and you have your old binder, please bring it as this can be helpful

Please Register before February 6, 2023

To register visit: https://www.foothillsforage.com/efpworkshop2023







Winter Feed Supplementation for Cows



Winter feed is one of the greatest costs of cow-calf production. The base ingredient in winter rations is usually standing dormant forage or hay. Heifers, fist-calf heifers, and thin cows that need to gain body condition often need more energy than can be supplied by dormant forage or hay alone. Therefore, many situations require that heifers and cows be fed supplemental protein, energy, or both, depending on the nutrient makeup of the base-forage. Understanding the interaction between starch, fiber, and protein in the cows' rumen allows producers to determine the most appropriate winter supplement.

Many different types of bacteria and other microorganisms in the rumen convert forage and supplements into nutrients needed to maintain or increase a cow's body weight. What makes cattle and other a protein supplement is not necessary. In ruminant animals so important to the earth's ecosystem is that a great deal of the energy stored on the planet is stored in the fibrous parts of plants that cannot be used by non-ruminants (humans, birds, and most animals). In addition, it is important to recognize that even cattle and other ruminants can only use the energy stored in the cell walls of plants when the rumen bacteria have enough protein and other nutrients to actively breakdown the fibrous plant parts. Fiber-digesting bacteria, which are important for digesting forage, are relatively slow growing and are easily killed if the rumen becomes acidic. In contrast, starch-digesting bacteria are important to grain-fed ruminants, and reproduce rapidly when starch is available. Starch-digesting bacteria have a much greater tolerance for increased acid in the rumen than do fiber-digesting bacteria.

Changes in diet will change which types of bacteria in the rumen are most plentiful. The types of supplements that cattlemen choose to feed will affect the types of bacteria that dominate the rumen which will have an effect on how well cows can convert the base forage into body weight. Some supplements will increase the digestibility of the base forage, some will not greatly affect the base forage digestibility, and some will actually decrease the ability of cows to convert forage into body weight.

Cattle fed a forage-based diet (grazing or hay) that is deficient in protein (<7% Crude Protein) will benefit by being fed a protein-dense supplement to supply the necessary amount required for reproduction by fiber-digesting bacteria. By increasing the number of fiberdigesting bacteria in the rumen, forage digestibility is increased, the cows' eat more forage, and the energy yield from the diet is improved.

However, producers should realize that if the base forage has adequate protein content, additional protein will not improve digestibility or energy yield. A typical 1,200-pound cow of average producing ability will need only about 1.7 pounds of crude protein during the middle part of gestation. Feeding a roughage of fair quality (8 to 10% crude protein) during this period should meet both energy and protein requirements, and feeding contrast, after a cow calves, her requirement for protein increases greatly. A 1,200-pound cow producing 20 pounds of milk requires 3 pounds of crude protein daily and a forage that was adequate in mid-gestation may be very protein deficient for late gestation and early lactation.

Because of the competition that takes place in the rumen between starchdigesting and fiber-digesting bacteria, it is important to limit the amount of grain in the diet of cows grazing standing dormant forage or eating hay. If cows are eating forage of moderate quality (protein content and digestibility), supplementing with too much grain, which is high in starch, will actually decrease the digestibility and available energy from the forage even further. This decrease is due to a shift in the population of rumen bacteria away from a population dominated by fiber-digesters, to a population dominated by starch-digesters. Remember, the starch -digesting bacteria can reproduce rapidly

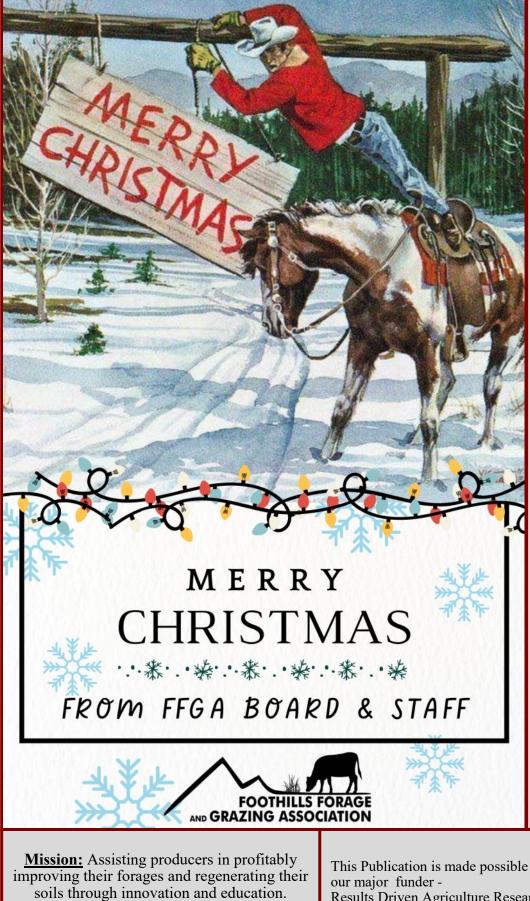
when starch is available, and during rapid growth, starch-digesting bacteria produce increasing levels of lactic acid, which will kill many fiber-digesting bacteria. With fewer fiber-digesting bacteria available, forage digestibility is decreased and energy yield from the forage is reduced.

Because corn and other grains are readily available and often are pricecompetitive with other sources of energy, producers can use these feeds up to the level where they have a negative effect on fiber digestion. The cut-off for starch supplementation of low-quality forages calculates to be about 0.28% of the cows' bodyweight for corn dry matter (3.5-4.0 lbs. of corn as-fed for a 1,200-pound cow). For moderate weight gain, a simple diet of forage and less than 3.5-4.0 pounds corn will often be sufficient.

In situations when the base forage has adequate protein, if more weight gain is required than can be met with a starchbased feed such as corn without a negative effect on forage intake and digestibility, producers can choose to use a fiberbased feed that has higher energy content than the base forage. Many by-product feeds provide energy in the form of highly digestible fiber; because the energy is in the same form as that in the forage, high levels can be fed without harming the fiber-digesting bacteria in the rumen or decreasing forage digestibility. Byproduct feeds that provide energy in the form of highly digestible fiber include: corn gluten feed, distillers grains, soybean hulls, and wheat middlings.

Working with your veterinarian, nutritionist, Extension specialist, or other ration-planning resource to help you properly select the type and amount of supplement that compliments your base forage will ensure that your cows maintain adequate body condition and that winter feeding bills are optimized.

Author: Bob Larson Original Article: https:// www.drovers.com/news/beef-production/ winter-feed-supplementation-cows



Vision: We envision a global community that respects and values profitable forage production and healthy soils as our legacy for future generations.

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