FOOTHILLS FORAGE AND GRAZING ASSOCIATION
Innovation, education and regenerative agriculture
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GRASSROOTS NEWS & VIEWS MARCH 2020

Director's Note - Tamara Garstin

Howdy Folks!

I am not sure how the time passed so quickly but here I am writing my last director's note as my term has reached it's end as a FFGA Director. I can honestly say it was a lot of fun, I learned a ton and made some lifelong friends. I have had the privilege of going to quite a few events, advocating for farmers and so much more.

I am grateful for these opportunities and see this as a stepping-stone to continue to learn and grow, but most importantly, implement some of these new ideas on my operation. If at every event you came to you picked up one helpful idea and implemented that, how would your operation look in a year?

One thing I keep coming back to is to understand what species I have growing in what fields and how my grazing strategies are affecting them. I find myself asking such questions as; "is this species beneficially to the soil, is it beneficial to the livestock, are the animals grazing it, am I getting the results I want, are there a better species I can introduce, is this the right type of livestock for this field"? These seem like pretty basic questions to ask; maybe they are, but I can't see the harm in asking them anyways. As the saying goes, there is always room for improvement.

The idea of these questions came to me from a local speaker at the Southern Alberta Grazing School for Women (there is one coming up again this summer, visit www.foothillsforage.com and click "Upcoming Events" for more information). I really enjoyed going to this event as I learned lots of new tips and tricks but more importantly I created relationships with people that I am comfortable to call up and ask for advice. Do you have someone you can call up and bounce ideas off? What are some ideas you have been throwing around your head but are maybe too afraid to try? Talk to someone about it and ask about their experiences. Also, start small. You don't have to bet the whole farm, (I wouldn't suggest this). Take 1 acre and try it out (or even a patch in the garden or yard). There is no such thing as failure, these are only arrows pointing you in the right direction.

If you haven't guessed what I am going to say next, it is that I would highly encourage you to come to a FFGA event, listen to the speakers and make some new connections. There is so much value in the connections you make with not only your fellow grazers, but also from the amazing speakers that are brought in. One speaker that I am interested in hearing is Danielle Smith, Keynote speaker at our AGM on March 18th (page 5), in High River. She is a big advocate of the beef industry and am I interested in her thoughts on the challenges our industry face. Hopefully we will see you there!

Till next time grazers, keep your soil healthy and your grass diverse.

Tamara Garstin

IN THIS ISSUE

Research finds Canadians want to learn about agriculture

Study by the Canadian Centre for Food Integrity shows gaps in consumer understanding of modern agricultural practices

The general public's lack of agricultural knowledge is more widespread than likely imagined, according to a 2019 study.

The study by the Canadian Centre for Food Integrity (CCFI) found that 91 per cent of Canadians feel they know little, very little or nothing about modern agricultural practices. However, this research also shows that 60 per cent of Canadians are interested in knowing more about these practices.

"If three in five Canadians are interested in learning more and they claim to know very little, this is an opportunity to share exciting new technologies, best practices that farmers utilize every day and accurate nutrition information with consumers," said Paighton Smyth, CCFI's partner engagement co-ordinator, during a webinar outlining this research. "The more Canadians feel empowered and informed, the more they build trust in the Canadian food system."

CCFI's 2019 research comprises three studies, one of which is based on the public trust tracking data the organization has been gathering since 2016. Surveying more than 2,000 Canadians, this research aimed to provide a better understanding of public views on the Canadian food system.

Each year, the public trust tracking research asks respondents whether or not they believe the Canadian food system is on the right track. With results almost identical to that of the 2018 data, 35 per cent of Canadians think the food system is moving in the right direction, while more than 20 per cent believe it's going in the wrong direction.

When asked about their overall impression of agriculture, 60 per cent of respondents have an overall positive impression, rising from 55 per cent in 2018.

"There have been significant results showing a decrease in the number of people who have a negative impression, but this is directly coincided with the number of individuals who voted to say they don't know enough to even answer the question," said Smyth.

This study also examined perspectives on specific agricultural practices, with levels of personal concern about some practices higher than in 2018. The study found that 38 per cent of Canadians are concerned about eating food derived from genetically engineered crops, while 46 per cent are concerned about the use of hormones in livestock. As well, 46 per cent worry about the use of pesticides in crop production.

The primary concern consumers had with livestock production was "how the animals are raised and if the practices fit their expectations," said Smyth. "A significantly higher proportion compared to a year ago agree they have no problem consuming meat, milk and eggs if the animals are treated decently."

However, the study found that just 33 per cent of Canadians strongly feel that Canadian-produced meat comes from humanely treated animals.

Smyth noted it's important to consider how the consumer's limited knowledge of agriculture can result in inaccurate perceptions. For example, for someone involved in agriculture, the term "modern farming" may suggest new technologies, but this isn't the case for the average consumer.

"Many Canadians associate modern farming with terms such as 'factory farms,' 'big agriculture companies,' 'poor animal welfare,' and 'decreased food quality,'" she said. "Moving forward, the food system needs to ensure that the consumer viewpoint is understood and utilized to ensure that they're introduced to the advancements that are being developed daily."

Trust versus responsibility

In order to understand who in the food system is best positioned to share information on its behalf, part of this research focused on who consumers trust for information related to food and agriculture, as well as who they deem responsible for providing this information.

"We separated out these two questions because who people hold responsible is not necessarily who they trust to provide information," said Smyth.

When asked who they consider to be most responsible for providing information on food production, Canadians chose farmers and ranchers as the most responsible, with food processors and manufacturers in second place and government and government agencies in third. When asked who they trust for information related to food production, producers were voted at the top of the list again,

(Continued on page 7)

On the Cover: FFGA's International Agricultural & Sightseeing Tour to Costa Rica.
Photo by Sonja Bloom

Thank you to our municipal supporters!

Should all forages be valued the same?

How Forage Energy Content Impacts Lactating Cow Rations.

There have been many articles written over the years that have indicated that feed testing is a good way to minimize winter feeding costs.

When forage prices are low, overfeeding is a lesser concern in the minds of some producers. This year however, even with an abundance of hay, bale silage, or swath grazing in many parts of the province, quality is much lower than the 5-year average. Protein is down 20 to 40% compared to normal and energy content of the forages is down 10 to 20%. This impacts the amount of energy and protein supplemented to keep the cows in good condition.

This article will focus on how overmature, rained on, or poorer quality forage impacts lactating cow feeding costs. Is there a need to adjust forage prices based on quality?

It is recommended that a lactating mature cow receive a ration that contains 65% TDN and 11% protein on a dry matter basis (AgDex 420/52-4 Beef Ration Rules of Thumb). When feed test results have energy contents between 55 and 63% TDN, how does this impact the amount of grain that is needed to meet energy requirements?

For this example; a 1500 pound lactating cow is offered forage on a free choice basis. Temperature is in the -20° C range. Energy content in the forage varies between 55 and 63%. Barley grain is valued at $ 230 per tonne ($5.00 per bushel) and has an 83% TDN value.

Using CowByte$© to balance the ration, the following table indicates the amount of grain that is required to meet the 65% TDN requirement. See Table #1.

Lower quality forages tend to have higher fibre content than a higher quality feed. It takes longer for the low quality forage to pass through the digestive system, thus feed intake increases as the quality increases. That is why the amount of grain required is not a linear function of TDN value.

The higher quality forage requires less grain supplementation than the lower quality feed. It could be a difference of 10.5 pounds of grain per head per day at an additional cost of $1.09 per head per day for the extra grain.

It is not uncommon for hay to be sold by the bale, or cents per pound. No differential is factored in for quality. With the different supplemental feeding costs, should the lower quality forage be discounted?

The Beef Cattle Research Council has a webpage "Feed Testing and Analysis for Beef Cattle" http://www.beefresearch.ca/research/feed-value-estimator.cfm Two thirds down the web page, there is a tool to evaluate the "Economic Value of Feeds Based on Nutrient Content".

Barley and canola meal are used as the base to estimate the value of energy (barley) and protein (canola meal). After entering the current prices for barley and canola meal, and the feed test results for the feeds in question, the calculator provides a relative value for each forage.

For this example, barley is valued at $ 230 / tonne ($5.00 / bushel in Lethbridge) and canola at $293 / tonne, (price at the crushing plant), the relative value of each forage can be determined. Prices are quoted from the Feb 14, 2020 Weekly Crop Market Review from Alberta Agriculture.

Hays of different TDN and protein contents are evaluated based on feed test results. What is the "relative value" of the forages containing different quality? Using an 11% protein and 65% TDN forage as the standard, discounts based on nutrient content are listed in Table #2.

The reduction in protein creates a lower discount rate compared to a loss of energy. A 0.5% reduction in protein reduces the value of the forage by roughly $1.45 per tonne. A 2% reduction in TDN reduces the value of the forage by roughly $4.60 per tonne.

Buying forage by sight without having a feed test result is a gamble. Color, smell, and texture of the feed are helpful in evaluating a forage, but the only way to obtain the true nutritional quality is by taking a representative sample of the forage and have it analyzed.

When the feed test results are evaluated, it is possible that the initial contract price of the forage will need to be re-adjusted based on quality. No different than adjusting price when considering moisture content.

Article supplied by Alberta Agriculture.

Table #1. Grain inclusion and cost to keep a lactating cow ration at 54% TDN.

TDN Value in forage	Barley (lbs. / head / day)	Cost / head / day
55	12	$ 1.25
57	10	$ 1.04
59	7.5	$ 0.78
61	5	$ 0.52
63	1.5	$ 0.16

Table #2 Forage price discount ($ per Tonne) based on nutrient content. Moisture content of 15% in the forage.

	Discount $ / tonne						
TDN %	65	63	61	59	57	55	53
Protein %							
11	0	4.67	9.34	14.01	18.68	23.35	28.02
10.5	1.44	6.11	10.78	15.45	20.12	24.80	29.47
10	2.89	7.56	12.23	16.90	21.57	26.24	30.91
9.5	4.34	9.01	13.68	18.35	23.02	27.69	32.36
9	5.78	10.45	15.12	19.79	24.47	29.14	33.81
8.5	7.23	11.90	16.57	21.24	25.91	30.58	35.25
8	8.68	13.35	18.12	22.69	27.37	32.03	36.70

Beef Nutrition

Today's lean beef supplies 14 essential nutrients. Beef is an excellent source of protein, niacin, vitamin B12, selenium and zinc. It is also high in iron, riboflavin, vitamin B6 and phosphorus. Beef is also a source of magnesium, potassium and vitamin D.

The iron in beef is in a form called "heme" iron, which the body more readily absorbs than the iron found in plant foods (e.g. spinach, cereals, legumes) or eggs.

On average, today's Canadian beef has less than 8g of fat (per 100 g), when trimmed of external fat, and only 82 mg of cholesterol. Fresh beef is also a low sodium option for Canadians. On average, 100g of raw beef contains only 64mg of sodium. This is considered "low sodium," and represents less than 3 per cent of the recommended Daily Value for sodium.

Lean Canadian beef is a great choice for healthy living and is part of Eating Well with Canada's Food Guide. Eating Well with Canada's Food Guide recommends 2-3 servings of Meat and Alternatives each day for adults. A serving of beef is 75 grams, or approximately the size of a deck of cards. For adults, the Dietary Reference Intakes (DRI) state that between 20-35 per cent of your total calories should come from fat. This is the range associated with reduced risk of chronic disease while providing intakes of essential nutrients. It is also recommended that, for adults, no more than 10 per cent of total daily energy should be saturated fat.

For a person who consumes 2,000 calories daily, this translates into a maximum of 78g grams of total fat and 22 grams of which could be saturated fat.

Lean beef fits well within these guidelines. For example, a 100 gram serving of braised sirloin tip steak, trimmed of visible fat, provides 218 calories, 4.5 grams of fat, and 1.9 grams of saturated fat.

Some other interesting facts you might want to consider:

- The fat in beef is not all saturated – about half the fat in beef is actually healthy unsaturated fat, most of it the same type we find in olive oil.
- Even other healthy foods like salmon have some saturated fat. In fact, an equal-sized serving of beef sirloin tip and sockeye salmon have the same amount of saturated fat, 1.4 grams per food guide serving.
- Most Canadians don't eat too much beef. On average, we only eat about half a cup a day (74g / day) - and that's just one Food Guide serving of Meat and Alternatives.

According to the Canadian Community Health Survey (Nutrition Cycle 2.2, 2004), adults get almost a quarter of their fat from processed foods and sweetened baked goods, and 22 per cent of their total calories from "other foods," which offer little or no nutrient value. Beef in contrast, is a 'nutrient-rich' food. Bite for bite, nutrient rich foods provide the most vitamins, minerals and other important nutrients for the fewest calories.

Original article can be found at http://www.cattle.ca/cca-resources/beef-nutrition/

FOOTHILLS FORAGE AND GRAZING ASSOCIATION

2020 Annual General Meeting

Featuring Keynote Speaker

Danielle Smith

MARCH 18, 2020 | 11:45 AM
HIGHWOOD MEMORIAL CENTRE IN HIGH RIVER AB

- Lunch served at 12:00pm
- AGM Business Meeting will begin at 12:45pm
- Keynote Address from Danielle Smith to begin at 2:30pm
- Cost - $40.00 for FFGA Member
  $50.00 for Non Members

Are you interested in joining the Foothills Forage & Grazing Association Board of Directors? Email manager@foothillsforage.com for more details!

Please note, you must be a member in good standing to vote during the Business Meeting. Memberships can be purchased at the door (cheque or cash only) or online at www.foothillsforage.com/membership

Please visit https://ffgaagm2020.eventbrite.ca to register before March 13, 2020.

Tips for grafting a calf

There's more than one way to encourage cow-calf bonding, but hormones and smell are key

When a cow loses a newborn calf, many stockmen will graft an orphan or twin onto the cow. Sometimes it's prudent to graft an old cow's calf onto a younger cow that has lost a calf, so that the old cow can be fattened and sold. But what's the best way to get a cow to accept a calf that's not her own?

Dr. Steve Hendrick of Coaldale Veterinary Clinic at Coaldale, Alta., says that it's generally easier to foster a young orphan calf than an older calf. There are many methods that have been used to help convince a cow to accept a calf that is not her own, he adds.

"Some people skin the dead calf and put the hide over the substitute calf, to trick the cow into thinking it's hers, but this is lot of work and there are often other ways that can be successful," he says.

There are also times where a person doesn't have the option of skinning the dead calf — for example, if it was eaten by a predator. In this situation you must use another method.

A sedative such as acepromazine can be administered to make the cow mellow if she is reluctant to accept it.

"Sedating the cow may help. Then, after the calf has nursed, she may be more receptive to mothering it," says Hendrick.

Dosage is important, however, and in some cases it doesn't work very well.

"Some cows may become hyper instead of drowsy, if they are overly sensitive to the drug," he says.

Dr. Joseph Stookey has a PhD in applied animal behaviour and is a professor emeritus at the Western College of Veterinary Medicine. He also raises Speckle Park cattle. Stookey says there are several things to keep in mind when trying to graft a calf onto a cow that lost her own calf.

"If you or the vet pulled a calf and it's dead at birth, don't let the cow lick it. She doesn't know her own calf until she bonds with it by smelling and licking it. You don't want her bonding to a dead calf because that makes your job harder when you try to substitute another calf."

If she's already licked and bonded with her own calf, you may have to skin it and put the hide over the substitute to trick her into thinking it's hers.

"If you have a spare calf that's a few days old and it needs a mother, rub that calf with birth fluids from the dead calf," he says.

It's also wise to tie the legs of the calf together when you bring it to the cow, so it can't get off the ground.

"You don't want the calf to run right to the udder. The cow generally needs a little time to lick and get a new baby up on its feet before it gains access to the udder. You want to give the cow time to mother the calf. You can simulate this step-by-step bonding process by having the substitute calf stay on the ground for a few minutes until the cow has started to lick it," Stookey says.

Another thing that works is to put the cow in a head-catch while you bring the substitute calf to her, and help it suckle — especially if the calf has never nursed a cow. Otherwise the calf is looking to you for dinner rather than wanting to go to the cow.

If you help it onto a teat so it can learn to suckle the cow, this also stimulates milk let-down on the cow that just lost her new calf. Then when you turn them loose together, she will usually mother the calf, especially if you smeared birth fluids over that calf and its hind end, which is where the cow will smell and lick as the calf nurses.

If you had to pull a calf or take it by C-section and it is dead, it may also help to put some of the birth fluids from that calf onto the cow's nose and mouth before she gets up, and also put some of that fluid onto the substitute calf. This can help jumpstart the maternal process. Anything you can do to encourage the cow to lick the orphan calf will help with bonding. Some people put grain or molasses (or one of the commercial products marketed for this purpose) onto the calf.

"This can get that cow interested in that calf when she licks the feed, or product, off it. Then she'll taste some of the birth fluids you smeared on that calf. Those fluids are pretty magical, to stimulate the cow's maternal process," says Stookey.

Stookey adds that they've also tried spraying oxytocin into a cow's nostril. The oxytocin hormone plays a role in the maternal process. It is released by the pituitary gland in the brain. From there, it's a very short jump to the olfactory bulb, which is involved with sense of smell, Stookey explains.

"It seems like some of the oxytocin needs to be in the olfactory bulb to help with maternal recognition and memory of that calf, to stimulate maternal behavior," he says.

Smell is the determining factor for how a cow recognizes her calf. She may be momentarily confused by the sight of another calf, or another calf bawling, but once she smells the calf she knows instantly whether or not it's hers.

"Research in humans shows that recognition of faces is tied to sense of smell. There is a condition in people called prosopagnosia, or face blindness, in which they can't recognize other people by looking at faces. In one study, researchers sprayed oxytocin up their nose and they could immediately recognize faces," says Stookey.

Injecting oxytocin into the muscle doesn't work, as it doesn't move to the brain, Stookey adds. Instead, the oxytocin will move to the udder and stimulate milk let-down. It will also move to the uterus, stimulating contractions to help the cow expel her placenta.

Many producers use all sorts of tricks and substances to put onto the calf. Some might work, but it's hard to know if the successful bonding is due to what they did or whether that cow was going to bond with the calf anyway.

If the cow's hormones are lined up, the cow may bond with a calf that's not her own anyway, says Stookey. In various studies, between 40 and 60 per cent of the control animals accepted a substitute calf, without human intervention.

"So you wonder how spraying a

(Continued on page 8)

(Continued from page 2)
followed by university researchers and Canadian agriculture in general.

CCFI also wanted to find out who is considered the best source of information on nutrition issues, environmental issues, food safety issues and animal welfare issues. The top source was different for each topic, with dieticians considered the best source for nutrition issues, veterinarians for animal welfare issues, and farmers and ranchers as the best source on both environmental and food safety issues.

"When communicating with Canadians, evaluate the topic or information you're disseminating; who could be the best person to convey the message, and who would your target audience trust the most?" said Smyth. "Utilize their knowledge on the subject, and based on how consumers responded in the research, they're actually going to be more likely to believe the information in front of them."

Shifting perspectives

Another component of the 2019 research explored what messages resonate with Canadians as related to the benefits of specific agricultural practices. Using artificial intelligence software, this research studied online conversations from more than 25,000 Canadian social media profiles with publicly available data. The goal was to learn how it may be possible to shift a consumer's perspective of a controversial practice, and this software was able to predict if a negative view could be changed to a more positive perception.

"By knowing how Canadians feel about GMOs and how they feel about food affordability, the (artificial intelligence) software can predict how a consumer might react when food affordability is used to describe a benefit of using GMO technology," Smyth said.

"The key messages that resonated most with Canadians about GMOs was that they helped to reduce greenhouse gases and fight climate change, and that they allowed farmers to use less pesticides. The top messages for pesticides were that they had the potential to decrease exposure to food contaminated with harmful micro-organisms and could help climate change," she continued.

"For antibiotics, messaging that they could improve food affordability and regulators assure food safety presented as messages that could shift opinions. Finally, for modern farming, wording that suggested animal welfare is highly regulated and farmers care about their animals was most successful."

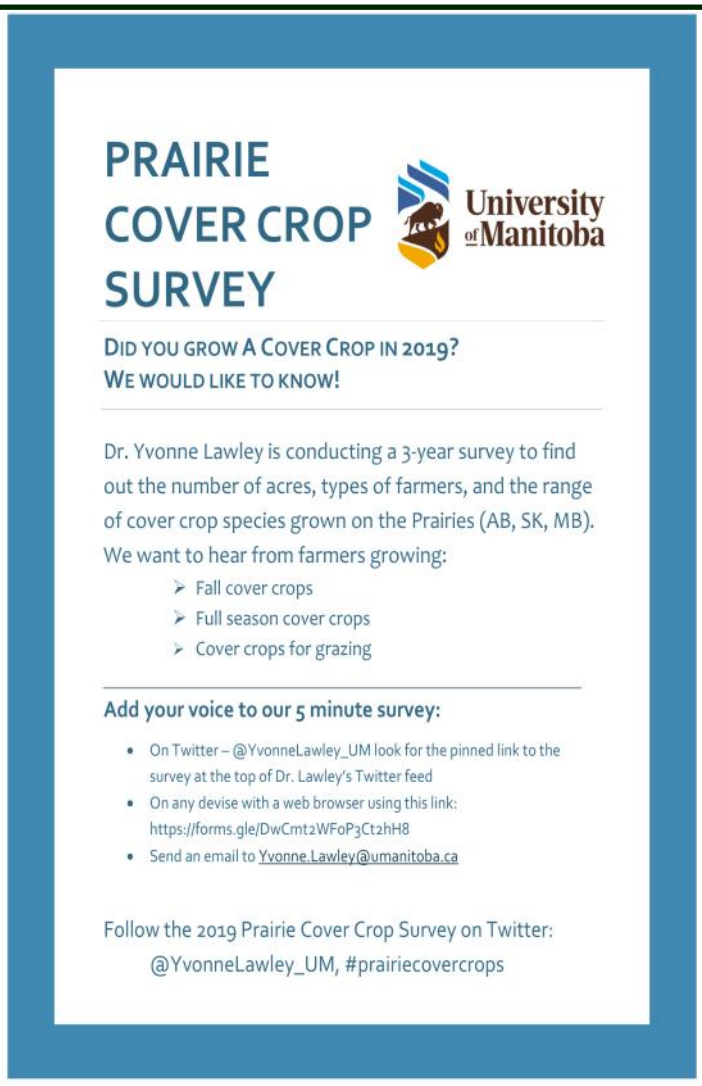
While this tool only provided predictions, it offers direction for more successful engagement with consumers.

"Overall, messaging that promotes a decrease in greenhouse gases/fights climate change has the most potential to reach the 2.5 million Canadians who are currently discussing these topics online," said Smyth.

The full research summary can be downloaded from CCFI's website. Graphics based on the 2019 findings are available for presentations and to share via social media. CCFI will also produce insight reports every two months in 2020, focusing on a specific topic in the Canadian food system by sharing credible information and advice on how to connect with consumers.

Piper Whelan is a field editor for Canadian Cattlemen based out of Calgary, Alta

Original article can be found at https://www.agcanada.com/2020/02/research-finds-canadians-want-to-learn-about-agriculture



strange odour onto a calf that a cow has already refused would make her want that calf. Some people say you've masked the odour of the calf, but if the cow is already not bonding to it and doesn't want it — no matter what odour that calf is, she's not going to want it. The ones it 'worked' on were going to accept the calf anyway," Stookey says.

Heifers that reject their calves

Working with a heifer who doesn't want her calf is frustrating, Stookey acknowledges, and producers usually cull that heifer to avoid a repeat of that situation the next year.

But before getting mad at that heifer, remember that it wasn't a conscious choice on her part so much as hormones.

"Producers generally don't get angry at a yearling heifer that didn't breed; they just cull that heifer. If we think about bonding failure from that perspective, we have more understanding about why a heifer doesn't want to be a mother. Yes, it's her calf, but for whatever reason, she doesn't have the proper hormones in place. Getting angry with her will not change that situation," Stookey says.

There are some things that can help, such as restraining her and helping the calf suckle. The act of nursing and milk let-down stimulates production of oxytocin and often triggers maternal behaviour.

"Some of them, however, you could suckle three times a day for five days and still not make progress," says Stookey.

He had a young cow once that didn't want her calf and he helped it suckle many times. The calf knew its mother and where the milk was. Out of frustration, he finally just turned her and the calf loose. The calf would chase down the mom and suckle between her hind legs and eventually she'd let down her milk and stop trying to move away. But she never did have any interest in her calf.

Some producers go to great lengths to make a heifer accept and raise a calf she didn't want, and with persistence this works. It may take two or three weeks of supervised nursing sessions to make sure the heifer doesn't beat up on the calf.

"Before you go to all that trouble, it might pay to see if there is a better candidate in your herd for raising that calf. A cow that lost her calf and wanted it might make a much better mother than the heifer that doesn't want her calf. You can make that switch and the calf will do better, and you can cull the heifer."

If the heifer is the only possible mother, however, you can usually make her accept it with time and patience. Keep them penned separately so she can't hurt her calf when it tries to nurse — and only let it nurse when you are there to restrain her or supervise. You don't want the calf so afraid of her that it won't suckle.

Penning the cow next to her calf also gives a clue when the heifer starts to change her attitude. When she begins to show a little interest in the calf — standing next to its pen or mooing at it — it may be safe to leave them together.

Author: Heather Smith Thomas with Canadian Cattlemen. Original article can be found at https://www.canadiancattlemen.ca/livestock/tips-for-grafting-a-

NEW

CANADIAN AGRICULTURAL PARTNERSHIP
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PROGRAM

EFFICIENT GRAIN DRYER

The Efficient Grain Dryer Program is an energy efficiency program intended to assist producers with reducing the overall energy use on their operations.

BUILDING ON A SOLID FOUNDATION
Alberta EFP
ENVIRONMENTAL FARM PLAN

A valid Alberta Environmental Farm Plan (EFP) is a prerequisite to this program.

Details can be found at https://cap.alberta.ca/CAP/program/EFFICIENT_GRAIN_DRYER

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FFGA MISSION & VISION STATEMENTS

Mission: Assisting producers in profitably improving their forages and regenerating their soils through innovation and education.

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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Alberta Government

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