

**SPECIAL
POINTS OF
INTEREST:**

- Update on PCBFA Projects & Extension for the Year
- Research Articles
- Tour Ads

FORAGE COUNTRY

WINTER 2014

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Agricultural Tour to AUSTRALIA!!

Here is an interesting fact of the day: all three of the PCBFA staff members, Akim, Morgan, and Monika have travelled to a certain country in the world...all three absolutely fell in love with this country, so it is only natural that we are all looking for a good reason to go back! This coming November, PCBFA will be going on an agricultural study tour and we would like to invite you to come along!

The trip will begin by departing from Edmonton, where we will get onto a plane to make the trip to the other side of the world! We will land in Melbourne in the state of Victoria. We will then begin with a city tour before we depart north to the area of Shepparton, which is well-known for fabulous food, wine, waterways and weather! The Shepparton area is a major agricultural region, which began as a sheep station and is now a major producer of fruit and dairy products. While in the region, we will have a stop at the University of Melbourne's Dookie Agricultural College and Farm operation, as well as a visit to the Chocolate Apple Factory!



To complete our tour of the Shepparton area, we will visit a beef operation and take a look at their property and cattle. We will then make our way north and west to the city of Ballarat, an area with rich history and rich agricultural soils. Ballarat was also first settled as a sheep station and then gold was discovered in 1851, which brought on a gold rush to the area. This stop will include a tour of the city, a rich lesson in Australian history, and an optional dramatic sound-and-light show re-enacting the Eureka Rebellion, a battle between gold miners and the government during the gold rush.



Day six of the tour will be a stop at the prestigious Te Mania Angus operation. Te Mania Angus is one of Australia's leading Angus breeders and boasts a gene pool that has been in the making for over 80 years. Te Mania Angus started in New Zealand in 1928 and in 1971 the Australian operation was started when a small herd was brought to the present day location at



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Peace Country Beef & Forage Association

“Forages & Beef; Partners in Profits”

“Whole-Farm Systems Analysis for Beef Cattle Production” and “Management of Environmental Responsibilities on Beef Cattle Operations”

The Peace Country Beef & Forage Association believes that the sustainability of rural communities in the Peace River region will be dependent upon a strong agricultural economy with livestock production as its foundation. Our goal is to improve the profitability and sustainability of the forage / beef industry in the Peace region through the transfer of leading edge forage and beef technology to producers, students, and industry representatives through innovative extension activities and initiatives. This will be accomplished by providing forage / beef producers with the management tools needed to manage their beef and forage operation as a unit, rather than individual components. To contribute towards sustaining this foundation, the Peace region beef industry will need to embody the following objectives:

- Create awareness of nutrients, nutrient distribution, collection and management on farm from wintering sites to pastures to crop land and to increase distribution and utilization of farm resources.
- Increase animal performance by enhancing utilization of feed stuffs through improved feeding

strategies and better forage/feed selection.

- Improve management strategies of annual and perennial forage species.
- Improve livestock facilities and manure management operations that pose a significant risk to water quality.
- Enhance riparian function and condition through improved grazing management.
- Reduce environmental impact of livestock production/wintering systems and create an environmentally and economically sustainable beef cattle production system.

If you have any questions, comments or feedback about our current extension events or any of our projects, please do not hesitate to give us a call at either PCBFA office.

Your input matters to us!

AUSTRALIA cont'd

Mortlake, Victoria. Te Mania Angus provides Angus bulls, semen, embryos, elite stud cows, embryo transplant recipients and commercial females. They hold two annual bull sales in the spring and fall. The Te Mania herd is stringently assessed for structure, calving ease, fast growth and high marbling. Te Mania does progeny testing of most of their sires each year to gather valuable information and further increase the accuracy of sale bulls through their sire lines. The Te Mania herd includes 1600 head of mother cows and will be an impressive operation to tour!

The next day we will head towards Warrnambool for a visit at the Midfield Group, a company with multiple divisions of beef, lamb, veal and mutton products of which are shipped across Australia and worldwide. Founder Colin McKenna purchased a local abattoir in 1988 with the intent of processing his own livestock and selling the meat in Melbourne. Since then, the company has grown and boasts self-sufficiency, with control over their products from paddock to plate. The company is still family owned and operated, and employs all local people. The Midfield Group strives to produce high quality products, following quality assurance principles. Reducing their impact on the environment is also important at the Midfield Group and new technology and practices are continuously being adopted. We will have the opportunity to tour the abattoir, the farm that supplies the abattoir and we will get some insight into the paddock to plate concept.

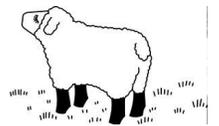


Day nine will consist of a tour of the Great Ocean Road, which is located along the south-eastern coast of Australia. The highway is 243 km long and was built by soldiers who had returned from World War I between 1919 and 1932 as a war memorial. It is a major tourist attraction and many breathtaking views and landmarks, such as the 12 Apostles, can be seen along the route.



The next stop on the tour will be Mount Gambier in South Australia, which is described as a city of 'craters, lakes and caves.' The city was built on the slopes of an extinct volcano and boasts the gorgeous Blue Lake, which was once a volcanic crater. While in Mount Gambier, we will visit a commercial fish processing plant. The fishing plant mainly processes rock lobster and abalone, which are large marine snails that are very tasty!

After the fishery visit, we'll head to Donovan's Dairying Ltd, for a visit with the managing director, James Mann. Donovan's Dairying consists of 1000 hectares of land, some of it irrigated, some pasture and a small remainder is used for growing corn. Approximately 2000 cows are milked daily, which works out to 18-21 million litres of milk! The operation also runs beef cross steers and a flock of 500 ewes.



When our time in the Mount Gambier region is complete, we'll head toward Adelaide, through the stunning Coonawara wine region and include a stop at Raven Limousin and Limflex, a purebred operation run by Penny and Jason Schulz. The property has been owned by the Schulz family since 1976; it began as a sheep operation, but has evolved to also include an impressive cattle herd. The operation specializes in black and polled Limousin, which was chosen to fit the current market demand of high growth rates and efficiencies as well as cattle with the ability to finish on pasture. Raven Limousin also raises and sells Lim-Flex cattle; what is a Lim-Flex you ask? A Lim-Flex is a registered Limousin/Angus cross, developed with the purpose of combining the best of two breeds. The cross combines the maternal and marbling traits of the Angus breed with the high growth and muscling potential of the Limousin breed and the hybrid vigor has shown to be very successful in the commercial market.



Day twelve of our journey will be a day of leisure in the city of Adelaide. Adelaide is a gorgeous city, with many interesting things to see. It has lovely scenery, including breathtaking beaches, parks and many neat shops to take a look in. Adelaide is the wine capital of Australia and the food is also fantastic! Following our visit in Adelaide, we will be hopping on a flight to Sydney, where we will have the afternoon to explore Australia's capital and do some shopping. Our last activity of the tour will send us off with a bang! We will be on a farewell cruise in the Sydney Harbour. We will be aboard the luxurious MV Sydney 2000, where we will dine at Sydney's most prestigious cruising restaurant while we watch the sunset and take in the scene of the city of Sydney lighting up as darkness falls.



How can you sign up?

Trip dates are Nov 8-22, 2014

Cost of travel: \$5898 (twin share) \$6699 (single share)

Initial deposit (\$500) is due by: May 15, 2014

Final deposit is due by: August 4, 2014

We would love you have you join us!

If you're interested in coming along and would like a copy of the full itinerary, please call Morgan at 780.835.6799

Triticale Varieties for Swath Grazing

Collaborating Producer: Wally & Christine Lentz, Whitelaw (Clear Hills County)

Studies at Lacombe Research Centre have shown that swath grazing triticale can save a producer time, money and machinery costs. Research indicates that swath grazing can reduce total daily feeding cost per cow by 41 to 48%. This is based on a 78% reduction in yardage costs and a 25% reduction in feed costs. Daily feed costs range from \$0.61 to \$1.80 per cow, largely due to variability in the number of grazing days per acre. Also, studies at Lacombe that compared the carrying capacities of triticale and barley for swath grazing showed that triticale achieved almost double the carrying capacity of barley. The use of triticale for swath grazing is not commonly done in the Peace. The present trial tested 3 reduced-awn triticale varieties and Mustang oat for forage yield and quality in a swath grazing system.

Methods

The trial took place in Whitelaw (RGE RD 13) on a 20 acres of land. 4 crop varieties (3 reduced-awn spring triticale varieties (Bunker, Taza & Tyndal)) and a Mustang oat variety were seeded. Each crop variety occupied 5 acres of land. Seeding was done on June 4, 2013, with a no-till air drill at a rate of 2 bushels/acre for each triticale and about 2.5 bushels per acre for Mustang oat variety. Fertility at seeding was 145 lb/acre fertilizer blend consisting of N, P, K & S.

In mid-July, a section (a bit more than 2/3) of the field consisting of all seeded crops was sprayed with Best Foliar Fertilizer (Best FF) for crop (15% N – 25% P – 8% K) and the remainder of the field was left unsprayed and this was used as check (test) strip. For more information, please visit: <http://www.bestenvirotech.com/best-farming-system>

Harvest for forage DM yield determination was done on September 4. Oat was harvested at the late milk/early dough stage, while triticale was harvested at the mid-dough stage. Swathing of the whole field was done on September 7. Plant height was also measured on September 4. Forage samples were analyzed for quality. The field was grazed with 45 cow-calf pairs.

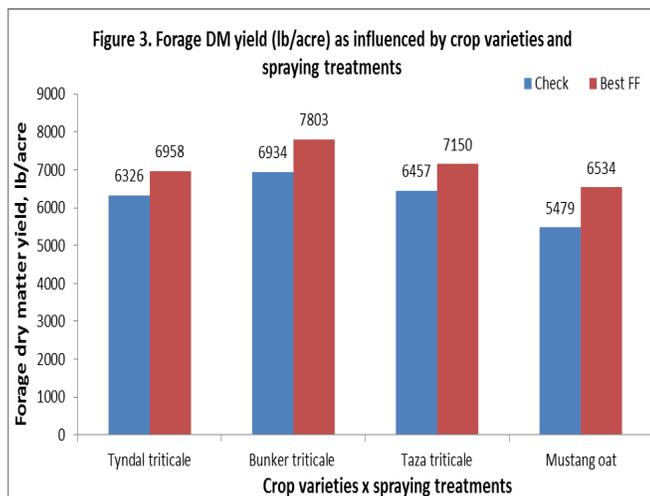
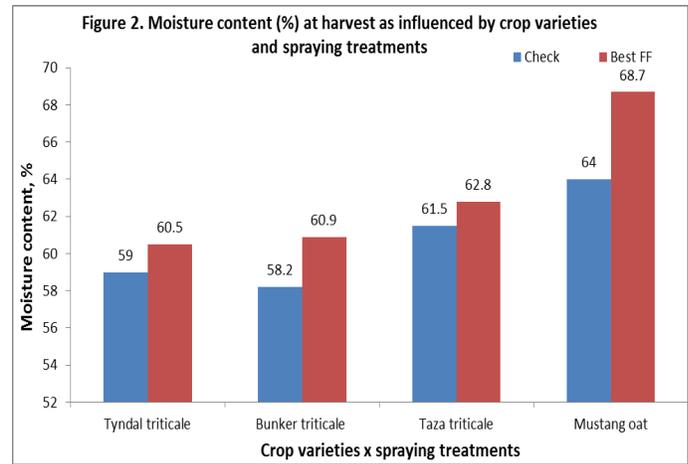
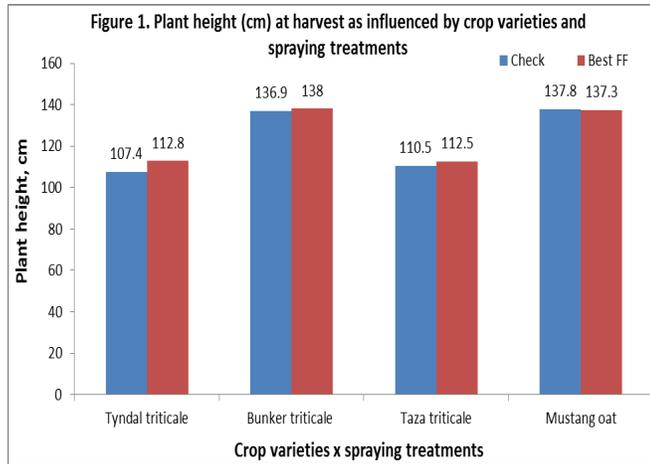
Results and Discussion

Plant Height & Moisture Content

Plant height did not vary much for the variety x spraying treatments interactions. Tyndal, Bunker and Taza triticale varieties, when sprayed with Best FF only increased plant height respectively by 5.4, 1.1 and 2.0 cm over unsprayed treatment (check) (see Figure 1). Generally, the sprayed crops appeared to have a 2.0 cm plant height advantage over check. For all sprayed crop varieties (crop variety x treatment interaction),



moisture content at harvest was higher by 1.5 to 4.7% over check (see Figure 2). Overall, moisture content at harvest was significantly higher for sprayed treatment than unsprayed check strip. When sprayed with Best FF, all crop varieties have improved forage DM yield compared to check. DM yields from sprayed strips varied from 632 lb/acre to Tyndal to 1055 lb/acre for Mustang oat over check strips (see Figure 3). Overall, forage DM yield was higher with Best FF by 812 lb/acre than check.



Forage Quality (Table 1)

Forage protein was generally favored by Best FF. Increases in protein content were 1.17 to 4.66% for crops sprayed with Best FF over check. Overall, Best FF improved protein by 2.19% over check. Averaged across both spraying treatments, all crop varieties had sufficient amount of protein needed by a dry gestating cow, which is 7 per cent in mid pregnancy and 9 per cent in late pregnancy stage. Similarly, across all crop varieties, protein contents in both spraying treatments were adequate for a dry gestating cow.

Ca and Mg contents of each crop variety were greatly improved by Best FF. But forage P content was generally unaffected by Best FF. Except for Tyndal triticale, K content appeared to be favoured by Best FF.

The energy content determined by total digestible nutrients (% TDN) did not show any consistent values with the spraying treatments (Best FF vs Check). Energy content was generally >60%, indicating that the energy requirements of a dry gestating cow (55-60% TDN) were met by both crop varieties and spraying treatments.

Quality	Treatment	Tyndal	Bunker	Taza	Oat	mean
CP, %	Check	7.88	9.98	10.59	9.64	9.52
	Best FF	12.54	11.16	12.32	10.81	11.71
	mean	10.21	10.57	11.46	10.23	
Ca, %	Check	0.16	0.12	0.15	0.23	0.17
	Best FF	0.75	0.29	0.43	0.32	0.45
	mean	0.46	0.21	0.29	0.28	
P, %	Check	0.19	0.24	0.25	0.24	0.23
	Best FF	0.19	0.23	0.23	0.22	0.22
	mean	0.19	0.24	0.24	0.23	
Mg, %	Check	0.11	0.13	0.11	0.13	0.12
	Best FF	0.35	0.22	0.26	0.15	0.25
	mean	0.23	0.18	0.19	0.14	
K, %	Check	1.26	0.89	0.97	1.01	1.03
	Best FF	0.97	1.09	1.27	1.37	1.18
	mean	1.12	0.99	1.12	1.19	
Na, %	Check	0.01	0.01	0.02	0.04	0.02
	Best FF	0.01	0.01	0.01	0.14	0.04
	mean	0.01	0.01	0.02	0.09	
ADF, %	Check	35.92	29.48	23.92	25.69	28.75
	Best FF	31.16	29.97	29.61	31.58	30.02
	mean	33.54	29.73	26.77	28.64	
TDN, %	Check	60.22	63.44	66.22	65.34	63.81
	Best FF	62.6	63.2	63.38	62.39	62.89
	mean	61.41	63.32	64.8	63.87	
DE, Mcal/kg	Check	2.65	2.79	2.91	2.87	2.81
	Best FF	2.75	2.78	2.79	2.75	2.77
	mean	2.7	2.79	2.85	2.81	
NE _M , Mcal/kg	Check	1.31	1.42	1.51	1.48	1.43
	Best FF	1.39	1.43	1.42	1.38	1.41
	mean	1.35	1.43	1.47	1.43	

Conclusion

All triticale varieties had higher DM yields than Mustang oat. Of the 3 triticale tested here, Bunker variety appeared to have a greater potential for forage production for the purpose of swath grazing for extending the grazing season of beef cows. The use of Best FF would go a long way in improving forage DM yield and some quality parameters of both triticale and oat varieties.

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The Most Wonderful Time of Year!

by *Monika Ross*

I know we are well past Christmas, but for some, the most wonderful time of the year is happening as we speak, or it is yet to come; yes, I am talking about calving season. For a passionate cattleman or cattlemwoman, when the new baby calves begin arriving, it is like Christmas! In several newspapers and other ag publications and articles that I've been reading lately, I've come across a variety of calving tips and calving checklists. I've put together a few of my favorite tips and lists for you to browse over to make sure you have everything you'll need when that first baby decides it is time to arrive!

Here is a list of must-haves for calving season, compiled by Amanda Radke of the go-to American cattlemen's publication, BEEF. Though it is a list from a producer south of the border, this producer is from South Dakota where the winters are as harsh as ours. The list looks similar to the list that would have been on-hand in January at the purebred operation that I grew up around. An operation that calves a bit later may not need quite the same list, but the essentials will be similar, and it's always good to be prepared!

25+ Things To Put On Your Calving Check List

Jan. 22, 2014 by [Amanda Radke](#) in [BEEF Daily](#)

My husband Tyler and I invested in a group of bred heifers that were due to calve a month ahead of the group we keep at my dad's place. This being our first year of calving a group out at our home place, we asked for the essentials of calving season on our Christmas wish lists. While it might seem to some like a lame Christmas present, Tyler and I were like little kids in a candy store as we opened up boxes of tags, markers, slings, scales, and the other little things one needs to have on hand when delivering baby calves.



This week, our first calves started coming in. Even though we felt organized and prepared for calving season to begin, we were still scrambling to get acclimated to a new system as we calve out cows in a different location than we normally do.

My dad came over yesterday and helped me with a calf that was small and slow to get up, and I wasn't surprised when he pointed out a few things we could rearrange and fix in our calving barn set-up. As we adjust our system and plan for the next set of babies to come in, I thought it might be handy to put together a calving-season checklist. While not every item is needed for every calf, there are always unique situations where the little things come in very handy.

Here are the must-haves for a successful calving season:

- Ear tags and markers
- Tagger (and a spare)
- Calving book for record-keeping
- A list of when everything is due and what they are bred to
- The veterinarian's number on speed dial
- Milk tuber
- Pitcher to milk the cow with
- Calf boost
- Syringe
- Scour pills
- Bolus gun
- Duct tape or ear muffs of some sort to pin ears down on cold nights
- Sled with ropes to pull calves out of the snow and to the barn
- Calf catch
- Scale and sling for weighing the calf
- Calf puller and chains
- Lasso
- Halter
- Plastic gloves
- Milk replacer
- A sedative of sorts for the occasional surly cow that needs milking out
- A list of potential culls based on poor udders, bad dispositions, tough calving, old age, etc.
- Sorting sticks
- Square bales for bedding and feed when the pairs are in the barn
- Coveralls, gloves, hats, boots, long johns, wool socks, etc.
- A hot box, heater or place in the basement bath tub for cold calves
- Clean towels

Preparations for Feeding During Calving

by *Monika Ross*

Nutritional Planning for the Third Trimester and Post-Calving

Meeting your cow herd's nutritional requirements is important at all times of the year, but especially important to pay attention to during the calving season, not only to make sure you have healthy calves, but to ensure that your cows don't lose condition and are able to cycle in a timely manner. Here are a few tips on the nutrition side of things to remember before, during, and after calving.

Leading Up to Calving:

During early and mid-gestation, a cow's requirements are important to consider to supply proper nutrition to the growing fetus, as well as to keep your herd in ideal body condition. On the protein side of your feed ration, you'll need to make sure the overall protein percentage is at least 7%. When looking at energy, we need to consider Total Digestible Nutrients (TDN). At this stage of pregnancy, your cows will need a ration that is at least 55% TDN. 2013 was a tough year to put up high quality feed, and many hay stacks are low in energy and high in fibre, which could lead to problems, especially in very cold weather.

In the last stage of pregnancy, a cow's requirements will increase as the fetus continues to grow. At this point, the protein in a cow's diet should be at least 9% and the TDN should be at 60%. It is important that a cow maintains her body condition leading up to calving so that she is ready to go through the laborious birthing process.

One tip that will help indicate if cows aren't getting enough energy and that there is too much fibre in the feed, is to take a look at the manure. If the cow pies are piled up high and look fibrous, this is an indication that a lot of feed is passing through the cow because there is too much fibre for the cows to be able to digest properly.



During and After Calving

As a cow reaches the final days before she calves, her nutrient requirements will begin to increase once again. As she prepares for her calf, she will start to 'bag up,' and milk production will begin, which is a factor that greatly increases a cow's requirements. While a cow is producing milk and feeding a calf, she should be on a ration that has a minimum of 11% protein and TDN of 65%. It is important to continue to monitor a herd's body condition score after calving. If a cow is losing condition while she is feeding her calf, she will be less likely to cycle and rebreed when the bulls are turned out and her calf's average daily gain won't be as great.

Calf Nutrition

In an article by Dr. Ron Clarke posted on the Canadian Cattlemen website, Dr. Clarke emphasizes the importance of colostrum during the first six hours of a calf's life. "Calves that receive inadequate amounts of colostrum within the first six hours of life are five to six times more likely to die from calf scours. Calves rarely develop hypoglycemia after consumption of colostrum or milk. Colostrum is a critical source of energy, protein, vitamins and concentrated antibodies, the foundation of immune function in the newborn calf. A calf needs to consume at least five per cent of its body weight in colostrum within a few hours of birth. Good-quality commercial colostrum products can be used when natural colostrum is in short supply."

Tips for Calving on Pasture

Dr. Clarke notes a couple of handy tips for those who calve a bit later in the year:

"Have a clean, dry pasture available for calving: If you cannot easily see or get to the cows in a pasture, the likelihood of running into trouble increases. Have the cows close to handling/working facilities in case you have to assist a cow. The pasture, hopefully, has not been grazed for a while and has plenty of forage available. The standing forage helps keep the cows clean (less mud) and increases the health of both the cow and calf."

"Move cows and calves to a different pasture after calving: Moving the cows to a different pasture after calving simplifies the monitoring process since there are fewer cows to watch. Moving new calves and mothers out of the calving area onto new pasture or clean unused areas once they can be comfortably moved limits exposure to disease-causing organisms and the buildup of pathogens in the calving area."

Apps for Cattlemen

by Monika Ross

There's an App For Everything and Everyone, Including a Cattleman!

iCalve



A new app has been developed for Canadian Cattlemen! Handy and user friendly, this app is designed to record and store all of your calving records. It was designed by Jake Meyer, a young, southern Alberta rancher. It is the only app of this type developed by a Canadian to date. Meyer had the idea when he kept dropping his old calving book in the mud, losing it, having trouble finding a pen, and having a hard time deriving what the scribbles in the book said at the end of the year! Meyer went through quite a process to develop this app, including convincing his wife that this idea was a good place to invest money, finding someone to code the app in India and putting together the design. Overall, Meyer was happy with the way the app turned out, and since it was launched, it has been gaining a lot of interest and is being downloaded by producers as far away as the U.K.!

The iCalve app is available on iTunes; to download it, head to the iTunes store and search 'iCalve.' The app cost is \$9.99. You can choose to store the records on your phone, or you can also choose to have the records backed-up on iCloud, in case something happens to your phone. The app is compatible with iPhones and iPads, and Meyer is working on a version that will be available for Android phones.

I couldn't resist and had to check out the app myself and recently downloaded iCalve on my own phone. It is very well set-up and easy to navigate through; I'm not sure how easy it will be to use if you have to operate it in 35 below with frozen fingers, but then a calving book and pen wouldn't be much better! The home screen has six buttons: *Calf Records*, *Death Loss*, *Cull Cow List*, *Doctor Records*, *Gestation Calendar*, and *Export Records*. Under calf records, you can enter the calf ID, the cow ID, birth date, sex, weight, calving ease score, and there is a section for additional notes. Under the *Death Loss* button, you can enter the ID, date and reason for death. The *Cull Cow* button is similar, with sections to enter the cow ID, reason for culling and additional notes. The *Doctor Records* button is very handy with sections for ID, date and treatment used. To figure out calving dates, the *Gestation Calendar* section allows you to choose a date on the calendar and it gives you the expected calving date. The last button, the *Export Records* button allows you to generate PDF copies of your calf, cull cow, death loss and doctor records. You can then save them on iCloud or Dropbox or print them off your phone if you are able to. On the main screen you can also enter herd data, such as date the bulls were turned out and pulled, vaccination and preg checking dates, sale dates, heifers retained and many other important herd information. The PDF copies of your records can be very handy for many things, including selling your calves and age verification.



If you're up for trying out a new method of record keeping, I highly recommend taking a look at the iCalve app. If you want to look it over a bit more, there is also a website, www.icalve.com which gives a great overview of the app and shows pictures of the different screens available. iCalve is likely the beginning of where our record keeping on the farm will go from here and it's great to see a young Alberta producer at the forefront of developing new technology!

iCalve developer Jake Meyer putting iCalve to work on his ranch (photo credit: www.icalve.com)

The AI Cowculator

The AI Cowculator app was designed by a group at the University of Florida working on estrus synchronization and improving techniques for successful artificial insemination. Artificial insemination has been widely adopted by the purebred industry, but isn't a very common

The screenshot shows the 'AI Cowculator' app interface. At the top, it says 'App.io' and '3:36 PM'. Below that is a red header with a back arrow and the word 'Cowculator'. The main content is divided into sections: 'Decision Rule' with a green box for 'Gain Per Exposed Cow' showing '\$ 69.17'; 'Derived Inputs' with a sub-section 'Increased Returns' showing a description and a toggle switch set to 'OFF' with a value of '\$ 64.17'; and another sub-section 'Decreased Costs' with a description and a toggle switch set to 'OFF'.

practice on commercial operations.

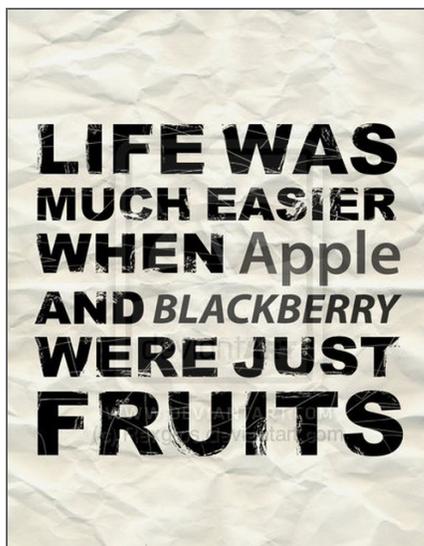
The University of Florida has come out with some very interesting research as of late and has developed a very neat tool to help you out with

making the decision to use AI on your herd or not. Bull and cow prices have been on the rise, particularly south of the border, so AI may become more economically feasible going forward than it has been in the past.

According to Cliff Lamb, the Assistant Director and Professor at the University of Florida, using estrus synchronization in a herd has many advantages, particularly for those looking to use AI for breeding. Lamb says that one of the greatest advantages is that estrus synchronization will stimulate non-cycling cows to cycle; products used for estrus synchronization contain the hormones that will bring the females into heat. When the entire herd cycles at once, the herd will calve in a smaller time frame and productivity within the herd will be optimized. Studies have also been done showing that estrus synchronization will increase the overall pounds per weaned calf in a herd; research is ongoing in this area.



The AI Cowculator is a very handy tool designed to help you decide if using AI is an economical option on your operation. It is set up to do a comparison between breeding using AI or using natural selection. The app allows you to enter in your own costs for using each system, including the cost of purchasing and keeping a bull, costs related to the cow herd, cost of facilities and equipment, additional labour for AI, semen costs and several more. After all of your comparison costs are entered, you hit the 'Cowculate' button. You will be given a list of results, including: gain per exposed cow, increased/decreased returns and increased/decreased costs based on using AI or a live bull. You can then email yourself the 'cowculations,' making it very handy for record keeping. The AI Cowculator is available from the App Store for free, and can easily be found by searching 'Cowculator.'



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PCBFA's Young Farmer Program

by Monika Ross

I have always been very blessed in many ways, and I've always been so thankful for two of the greatest blessings in my life: the first that I was born and raised in the Peace Country, and second, that I was born into a family that was a part of agriculture. Since I was very young, I knew that I wanted to work in the agriculture industry, and that my ultimate goal would be to farm. This is a goal that is not easily achieved, and there are many, many challenges and hurdles to overcome. However, there is great opportunity in the agriculture industry right now, and as always, there are many opportunities in the Peace Country in particular for anyone who has determination and is up for a lot of hard work. In my opinion, there is no better industry to work in than agriculture, and no better way to raise a family than on a farm. The Peace Country Beef and Forage Association has began taking steps to become a strong support network for the next generation of producers in the Peace River Country.

In the fall of 2012 and winter of 2013, the Peace Country Beef and Forage Association held their first events geared specifically towards young producers in the Peace Region. These events were titled 'Young Farmer World Cafes', and had the goal of posing specific questions to young producers and gathering the information. At these World Cafes, two specific questions that attendees were asked included:

- What directions do young farmers see agriculture going in the Peace Region?
- What do they need from us as a research and extension organization to help them be successful?

We received many excellent answers, which we recorded and then compiled for future use. Our next step was to look over the feedback and begin planning the first educational event for our young producers. One area that stood out in the feedback was financial management; thus, a series of events were held, titled: "Young Farmer Financial Advice Panels." We held four of these events across the Peace, in Savanna, Cleardale, Debolt and High Prairie. We invited ATB, AFSC, FCC and a veteran producer from each area to present and then be a part of a panel. Each presenter shared information and tips on a variety of areas, including risk management, crop and livestock insurance, tips on applying for loans, loan products available specifically for young producers, an overview of financial statements and ratios, and advice on management and planning ahead from a producer's point of view. Following the presentations, the audience was invited to pose any questions they had to the panel. Between all four locations, forty six young producers were in attendance. Overall, everyone learned a lot and PCBFA received a great deal of positive feedback after the events.

Following this event series, PCBFA felt inspired and excited to play a role in young farmer education in the Peace Country; the result was an idea to formally design a young farmer program within PCBFA's events and activities. In 2014, we will be developing a program specifically for young Peace Country Producers. Over the past few months, PCBFA has been working on what such a program will look like and how it can be delivered effectively. In our quest to gather more resources and information on programs for young producers, we came across an organization called the 'FarmOn Foundation.' "The FarmOn Foundation was formed by a group of young agricultural enthusiasts, from rural Alberta, determined to see the industry thrive and become tangible for new farmers looking to be a part of it. As such, the FarmOn Foundation was born, with the mandate to inspire young farmers to action by equipping them with the tools, knowledge and hands on skills needed to increase the profitability of their agricultural businesses."



The FarmOn Foundation calls www.farmon.com their home, and it is a fabulous website full of resources and information specifically for young producers. FarmOn has also put together several inspirational videos over the past couple of years, involving organizations such as Lakeland College; if you'd like to take a look, simply search "FarmOn" on Google or YouTube and a list of videos will come up. If you have a chance to watch one, don't be surprised if you feel a twinge of excitement run through you! PCBFA will be bringing up a representative from FarmOn to give a presentation at the Peace Country Classic Agri Show, during the Beef Market Outlook event on Friday, March 7th. We are very excited to introduce this organization to the Peace Country and encourage everyone to take a look at this great website!



The next event that we have planned as part of our young farmer program, will be an 'Inspirational Evening for the Young Producers of the Peace Country,' which will be held in late 2014 or early 2015. This event will bring together young producers for an evening of networking and socializing, paired with a great dinner and an inspirational message from other young producers. Watch for details over the next few months!

PCBFA's goal is to have a program in place that helps to connect young producers with resources and information that will help them succeed. At this point in the development, we see a program that will include:

- Specific recruitment to increase our membership numbers of young producers
- Specific events and projects geared towards young producers
- A mentorship program to pair young producers with veteran producers of the region

We also hope to develop a network of partners that we work with to provide young producers with a comprehensive set of resources they can turn to when they need information and guidance on anything from live-stock production to financial management.



Almost 25,000
Canadian farm operators are
under the age of 35.

Source: Statistics Canada, Census of Agriculture 2011
Photo credit: Kristjan Hebert



Contrary to many opinions, there are many young people who are farming and many more who would like to. PCBFA has had a keen interest in our young farmer events to date, with many phone calls after events from individuals who were unable to attend but were very interested in the information that was delivered. Supportive communities and education are two vital components to keeping young people on our farms and encouraging them to be a part of the industry. The Peace Country Beef and Forage Association is excited at the prospect of playing a role in helping our young people to succeed in agriculture.

Interested in learning more? Interested in helping out or sharing ideas?

We would LOVE to hear from YOU! We are looking for input from all producers and members of the Peace Country agriculture community.

Contact us to share any ideas for events, areas of focus, resources, other organizations to partner with and anything else you can think of!

Give us a call, send us your comments or stop in for a visit in either of our offices!

Post your comments on our Facebook page or Twitter account.

10 Reasons to Consider Artificial Insemination for Commercial Herds

An Article from: www.realagriculture.com



Posted by: Debra Murphy July 16, 2013

Purebred cattle breeders have relied on artificial insemination (AI) and estrus synchronization as a part of herd management for decades. That got me thinking — what's stopping commercial breeders from doing the same? Time? Money? Aren't these reasons we *should* be considering AI?

In June, Travis Peardon, regional livestock specialist with the Saskatchewan Ministry of Agriculture, spoke at the Western Beef Development Centre's field day about a current project partially funded by the ministry's Agriculture Demonstration of Practices and Technology (ADOPT) program. The project looks to compare AI to natural breeding in three herds of heifers. I asked Peardon what the producers involved thought of the program. Overall, their response have been positive, though there were some concerns at the beginning of the project.

“The producers were afraid that each time it would get a little harder to work the animals,” Peardon explained, “but we actually found the opposite.”

In fact, one of the producers involved in the study felt working the heifers in the fall made them easier to deal with during calving season. Now, that's a bonus!

Alright, alright, you say, but what about all that time you have to spend in the corrals?

The heifers in this study were processed in three hours, three times. For twenty animals, that may seem like a lot of work, but, for a moment, think back on all the time you've spent:

1. Semen testing bulls
2. Buying replacement bulls (because not everyone can pass one test per year)
3. Bringing in and treating bulls affected by: footrot, pinkeye, abscesses, genital injuries, overly-friendly magpies, etc. etc.
4. Recuperating after a bull-chase-related injury
5. Fixing fences because of bull-fight-related damage
6. Overwintering the messy, hungry, smelly critters

Peardon pointed out a few other, very important factors to consider, in his presentation. Although the AI/estrus synchronization program was an initial \$23/hd above the cost of natural breeding in his example, it meant:

1. A \$15-25 genetic advantage
2. A shorter calving season – More sleep for producers!
3. Increased performance of retained heifers – they calve sooner, thus have a longer time to recover before the next breeding
4. Expecting higher weaning weights due to earlier calving – Stay tuned – will be measured this fall

One last thought: In the example provided, Peardon mentioned the AI technician costing around \$20/hd. A four-day course in AI costs around \$700, so it pays for itself after roughly 35 animals.

Suddenly the cost differential between natural breeding and AI isn't so bad. And that has me thinking.

Debra Murphy is RealAgriculture.com's Saskatchewan field editor, based at Saskatoon. She also farms near Altario, Alta., where she never misses a moment to capture with her camera the real beauty of agriculture.

Follow her on Twitter @RealAg_Debra

A Word on The Bulls

by Monika Ross

Even though it's a very busy time of year for looking after the female bovines for everyone, we can't forget about the bulls. Are you looking at doing some bull shopping this year? Or trying to evaluate if the bulls you have on the place are up for job ahead? Bull management is very important on a cow-calf operation, and there are a few things that can be considered when looking at bull power for the coming breeding season.

Maintaining and Evaluating the Bulls You Have

There are a few things you can do to help your bull do his job well for the upcoming breeding season and there are good reasons to do so. In addition to making the calving season a little more predictable, high success rates in the first estrus cycle can also improve your cash return: one estimate suggests a loss of 50-60 pounds at weaning weight for every 21-day cycle of delayed conception.

One of the first things a rancher wants to be aware of is how many cows one bull can service. A rule of thumb is that a bull can handle the same number of cows as he is months old, up to 50 months of age. So, a yearling bull of 15 months should be able to service 15 cows in a 65 day cycle.

It is important that bulls go into the pasture in good condition. An appropriate winter feeding program aims for a moderate body condition of 3 to 3.5 at breeding time. According to researchers at the University of Lethbridge, Angus and Hereford bulls conditioned on a high energy diet had lower testes weight, reduced sperm production and lower epididymal sperm reserves in comparison to those fed a medium energy diet of forage alone. While bulls do need energy reserves to graze and look for cows over a large area, excess fat in the neck of the scrotum warms up the testes, killing sperm. However, it is also important to make sure the pasture is adequate to maintain condition, particularly for yearling bulls who are still growing. It is important to make sure your bulls have adequate vitamins and minerals. Trace minerals such as zinc play an important role in bull fertility. Also important during the winter is providing your bulls with adequate shelter and bedding, especially from cold winter wind. Extremely cold winter storm conditions can cause the lower part of the scrotum to freeze, and according to an Ohio State University Extension specialist, this will result in scrotal damage and poor semen.

Bulls should be assessed on three additional things before you depend on them to do their job well: libido or sex drive, physical soundness and semen quality. Libido can only be observed by the herd owner while the bull is in with the cows. Make sure he is showing interest in the cows and can perform; reassess periodically to make sure the bull has not sustained any injuries.



Photo by Patsy Nagel

For physical soundness and semen quality, a veterinarian can offer a bull breeding soundness evaluation. The vet will make sure your bull has sound feet and is free of conditions such as corkscrew claw, corns, weak pasterns, post leggedness and sickle hocks. Bulls need this soundness in order to mount, but these characteristics are also hereditary and can be passed on to offspring. The vet will also inspect the bull for any injuries and penile deviations and assess sperm motility and sperm morphology. Finally the veterinarian will likely recommend the bull be vaccinated with a modified live IBR/BVD vaccine and an 8-way clostridial vaccine at least three weeks before breeding.

It is important that all assessments take place 30 to 60 days before the bulls enter the pasture. It takes between 4 to 6 weeks for a bull to produce sperm cells, so an early evaluation will give you enough time to address the problem and the bull to replace lost or damaged cells.

A Few Tips for Your Bull-Shopping Excursions

Purchasing a new bull is a big decision and can have a significant effect on your herd for several years: selection should be done with careful consideration. With the advances in technology over the years with artificial insemination and work with embryo transfers, it is not hard to find high quality genetics, even in the Peace Country. Remember, that when you are looking for a specific trait in a bull, such as a high rate of gain, other traits will likely be compromised, such as conformation of the feet and legs. It is best to look at the many attributes of a bull and find a balance with the traits of your cow herd.

Assessing a potential bull for your herd involves evaluating the same characteristics as mentioned above, including conformation, reproductive soundness and performance characteristics. In the past, it was more common for commercial producers to purchase 2 year old bulls, but the main choice available in today's bull market is yearling bulls. It is more costly to raise a bull to 2 years old before he is used or sold, and with the strides that have been made genetically over the past few years, and proper nutrition, a yearling bull can get the job done. Purchasing a young bull will likely give you one more year to utilize him for, provided that he is grown out carefully and allowed to regain condition each year, especially following his first breeding season.

An important aspect to consider when bull shopping is the nutrition program that a growing bull has been on. Bulls that have been pushed really hard on rations very high in grain will likely be very fat and this will not ensure longevity in a bull. In an article by Debbie Furber on www.canadiancattlemen.ca, Dr. John Kastelic, professor of cattle reproductive health with the University of Calgary's veterinary faculty, cautions against buying bulls that have been on high grain rations. Dr. Kastelic says, "Back in the day, producers aimed for post-weaning gains of more than three pounds a day with the notion that if a bull wasn't fat or didn't have a high growth rate, then he was thought to be a poor-doer." Dr. Kastelic points out that "it is now known that overfeeding bulls after weaning on high-energy diets to achieve high rates of gain comes at the expense of reproductive health (reduced semen quality, fewer sperm), abnormal foot and bone growth (laminitis, lameness), and digestive disorders (rumenitis, liver abscesses)."

A bull purchased as a yearling early in the year should be ready for breeding by the time you're ready to turn him out, however, special attention after purchase should still be given to his development, as he will still be growing and developing after he is a year old. According to the the Oregon State University Extension Service, the breeding ability of a bull is at its peak at 36 months. If you have purchased a bull with the genetics for rapid growth, you will have to feed him to meet his requirements. Since he is still in a growing phase, his nutritional requirements will be greater than that of a mature bull's, so caution should be taken after you bring a new bull home.



Photo by Patsy Nagel

Pre-Breeding

Keeping your bulls in a suitable area for the winter and prior to breeding is important. Good footing that is dry is ideal to prevent foot problems. Adequate room to encourage exercise will also be beneficial so that he is not over-fat and in good condition to cover lots of miles and lots of cows. Allow your bulls time to adjust to being out on pasture before you turn them out with the cows, especially yearling bulls, as this allows the rumen time to adjust to the change from stored feeds and grain to lush, green pasture. A recommendation from the extension arm of Ohio State University recommends turning bulls out on pasture 7-10 prior to putting them with the cows to give the rumen microbes time to adjust to the new feed source.

Evaluation and observation of your bulls can continue into the breeding season and will help you determine if they are effectively doing their job. While 50% is the average conception rate in the first cycle, with these management tips and a healthy bull, producers have achieved up to 70% or higher.

Soil Rejuvenation versus Foliar Fertilizer on Oats

Collaborating Producer: Lloyd & MacKay Ross, Cleardale (Clear Hills County)

The mineral nutrients, which come from the soil, are dissolved in water and absorbed through a plant's roots. There are not always enough of these nutrients in the soil for a plant to grow healthy. One approach is to provide required nutrients to each crop in a soluble form that plants can use immediately, i.e., feed the plant. The advantage to this approach is the opportunity to quite accurately meet a crop's need. There has been an increase in the number of foliar fertilizers on the agricultural chemical market in recent years. These can be used to correct nutrient deficiencies in plant parts such as leaves and fruit. If soil pH is not limiting nutrient availability, root health and growth are not restricted, and transport of the nutrient in the crop is not restricted, soil applications of fertilizers are also very efficient methods. The present trial examined different sources of soil, seed germination and foliar nutrients on grain production, forage yield and quality of two oat varieties.

Methods

The trial was carried out in Cleardale (RGE Rd 102 TWP Rd 850) on 40 acres. Glyphosate was used as the pre-seed burn off. Two oat varieties Athabasca (20 acres) and CDC SO-I (20 acres) were seeded on May 17/18, 2013 @ 2.1 bushels/acre with a John Deere drill at 7.5 inches row spacing. Fertility following soil test was 209 lb/acre of fertilizer blend (28.7-14.4-0.0-7.2). Both oats seeds were treated with CruiserMaxx® Vibrance® (cereals seed treatment insecticide/fungicide) before seeding.

The following 5 spraying treatments (4 acres/treatment) were applied to each oat variety:

- Control (check)
- Best Soil Rejuvenation (Best Soil Rej) @ 100 ml/acre - sprayed (after seeding but before seed emergence) on May 24, 2013
- Best Foliar fertilizer (Best FF) for crop (15% N – 25% P – 8% K) - sprayed on June 22, 2013, just over a month following seeding
- Best Seed germination (Seed Germ) @ 100 ml/acre - treated with seed just before seeding.
- GSR Ca was sprayed (a few days after seeding but before seed emergence) on May 24.

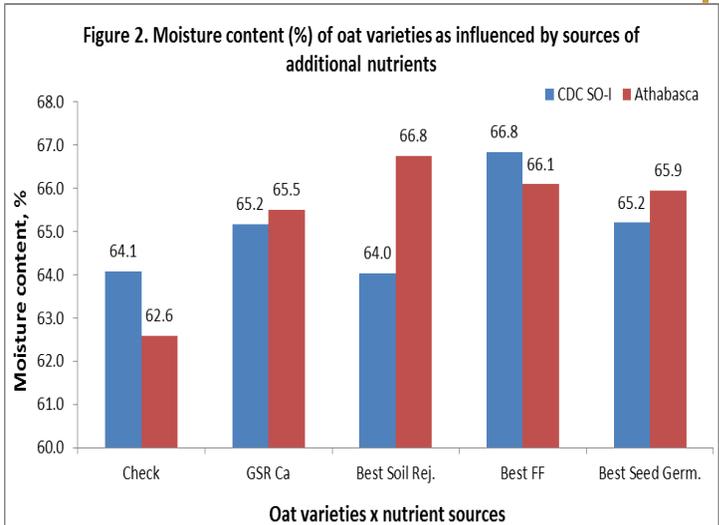
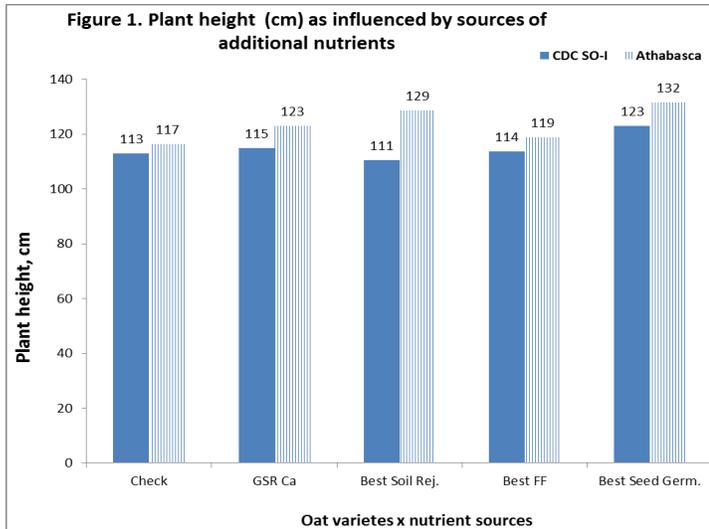
Measurements of plant height, forage brix and forage yield were carried out at the milk stage (August 8). Harvest for grain yield estimation was done on September 4.



Results and Discussion

Plant Height and Moisture Content

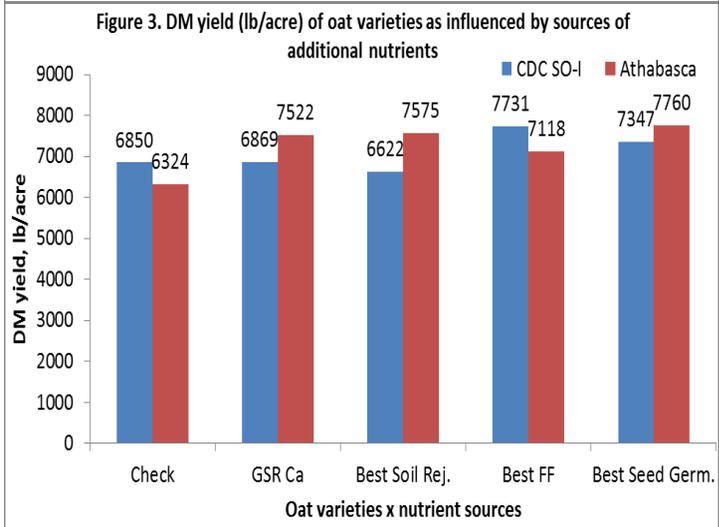
Generally, the addition of nutrients (Best products and GSR Ca) improved the growth of oat varieties as determined by plant height (see Figure 1). But plant height was better generally with Best Seed Germination than with other treatments. The Athabasca oat grew taller than CDC SO-I for every treatment even for the check. The taller growth of Athabasca than CDC SO-I probably has to do with the genetic make up of the variety. When the oats were treated with Best Seed Germination, Athabasca grew taller by 15.3 cm over check. For CDC SO-I oat, when treated with Best Seed Germination plant height was higher by 10.0 cm over check. The benefits observed with Best Seed Germination for both oats suggest the need for treating oats seeds before seeding for the purpose of good seedling vigor and subsequent crop growth.



The moisture content of oats at harvest for green feed appeared to be slightly higher with additional nutrients (except for Best Soil Rej for CDC SO-I) (Figure 2). For CDC SO-I oat, moisture content was highest (66.8%) with Best FF. While for Athabasca oat, highest moisture content at harvest (66.8%) was with Best Soil Rej.

Forage DM Yield

The DM yields were generally improved by the spraying treatments (except for CDC SO-I in a few instances) (see Figure 3). Both Best FF and Best Seed Germ improved DM yields of both oat varieties over check. Overall, for Athabasca, DM yield was improved by all nutrients over check. DM yield was as high as 1436 lb/acre for Athabasca oat treated with Best Seed Germ over check.



Forage Quality (Table 1)

All Athabasca oat sprayed plots had higher protein than check (unsprayed Athabasca plots). Athabasca + Best Soil Rejuvenation had the highest protein (8.61%). For CDC SO-I oat, except for Best Soil Rejuvenation, all other spraying treatments had higher protein than check. Overall, CDC SO-I + GSR Ca had the highest protein content (9.24). Averaged across the 5 spraying treatments, CDC SO-I oat had higher protein than Athabasca oat (8.34 vs 7.41%). Generally, the protein contents of the 2 oats following the 5 spraying treatments were only mostly sufficient for cows in the mid-pregnancy stage. Only unsprayed (check) Athabasca oat had lower than 7% protein suggested for cows in the mid-pregnancy stage.

Except for the forage Ca content of Athabasca oat + Best Soil Rej, all spraying treatments for both oats had sufficient amounts of Ca, P, Mg and K needed by a dry gestating cow.

Energy content (%TDN) was generally about 60%. Generally, energy did not vary much between sprayed and unsprayed (check) plots for both oats. The values of TDN obtained here was adequate for a dry gestating cow, which requires 55 and 60% respectively in the mid and late pregnancy stages. Feeding the both oats as green feed to a nursing cow would therefore require additional source of energy to achieve the 65% TDN needed by this category of cow.

Generally, CDC SO-I oat appeared to be slightly better in quality (see mean values in Table 1) than Athabasca oat.

Table 1. Forage quality (milk stage) of Athabasca and CDC SO-I oats with 5 spraying treatments.

Oat variety & Spraying treatment	CP %	Ca %	P %	Mg %	K %	ADF %	TDN %	ME	DE	NE _L (Mcal/kg)	NE _M	NE _G
Athabasca + Best Seed Germ	7.36	0.23	0.24	0.15	1.95	37.0	59.7	2.15	2.63	1.34	1.30	0.72
Athabasca + Best Soil Rej	8.61	0.17	0.23	0.14	1.76	37.3	59.5	2.15	2.62	1.34	1.29	0.72
Athabasca + GSR Ca	7.33	0.20	0.22	0.14	2.21	40.3	58.0	2.09	2.55	1.30	1.24	0.67
Athabasca + Best Foliar Fert	7.68	0.20	0.21	0.14	2.08	38.0	59.2	2.14	2.60	1.33	1.28	0.71
Athabasca (Check)	6.05	0.19	0.22	0.13	1.97	37.5	59.4	2.14	2.61	1.34	1.29	0.72
Mean	7.41	0.20	0.22	0.14	1.99	38.0	59.2	2.13	2.60	1.33	1.28	0.71
CDC SO-I (Check)	7.85	0.25	0.25	0.16	2.30	37.3	59.5	2.15	2.62	1.34	1.29	0.72
CDC SO-I + GSR Ca	9.24	0.23	0.24	0.15	2.28	40.0	58.2	2.10	2.56	1.31	1.24	0.68
CDC SO-I + Best Soil Rej	7.31	0.21	0.23	0.14	1.78	33.6	61.4	2.22	2.70	1.38	1.35	0.77
CDC SO-I + Best Foliar Fert	8.63	0.25	0.25	0.14	2.26	35.4	60.5	2.18	2.66	1.36	1.32	0.75
CDC SO-I Seed Germ	8.67	0.21	0.29	0.15	1.90	37.2	59.6	2.15	2.62	1.34	1.29	0.72
Mean	8.34	0.23	0.25	0.15	2.10	36.7	59.8	2.16	2.63	1.35	1.30	0.73

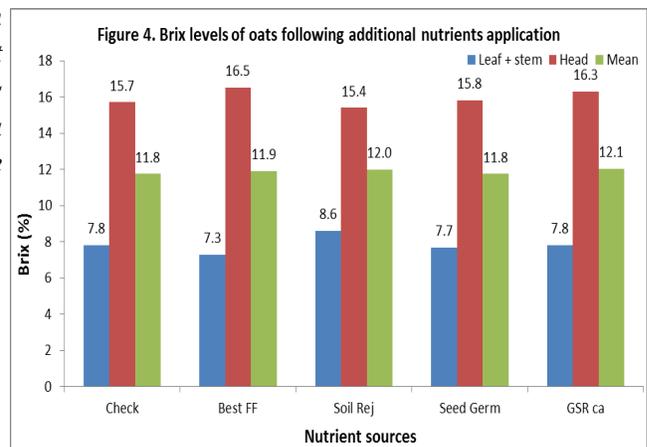
Brix (Sugar) Level

The brix level for the different nutrient sources or spraying treatments obtained in the present trial was similar in most cases to check (see Figure 4).

Brix is a measurement of the sugar level in plant extracts as created through photosynthesis. Brix is measured with an instrument called a Refractometer.



Brix Testing is a measurement of the Degrees of Brix in the plant sap and is an excellent way to determine plant energy, as well as nutrition. Use of a refractometer is easy and economical. Increased levels of Brix indicate a healthier plant with increased energy and nutrient dense produce.



Grain Moisture Content, Weight and Yield (Table 2)

Grain moisture content respectively averaged 10.4 and 9.9% for Athabasca and CDC SO-I oats. Seed weight of both oats was not consistently affected by spraying compared to unsprayed checks. Overall, seed weight of CDC SO-I oat was higher than that of Athabasca oat by 5.2 g/100 seed.

Generally, grain yield of both oats was not consistently affected by spraying treatments. For Athabasca oat, only Athabasca oat + Best foliar fertilizer had higher grain yield than check (167 vs 133 bu/acre). Grain yield was higher for Athabasca oat + Best foliar fertilizer by 34-80 bu/acre than other Athabasca spraying treatments and check. For CDC SO-I oat, CDC SO-I + Best seed germination had the highest grain yield (188 bu/acre). Overall, CDC SO-I oat had higher grain yield of 21 bu/acre than Athabasca oat.

The inconsistency of grain yield from both oats with respect to spraying treatments could be as a result of the effects of size, scope of field or field variation, which couldn't be properly addressed during sampling for grain yield estimation.

Table 2. Grain moisture content, 1000-seed weight and grain yield of Athabasca and CDC SO-I oats and different spraying treatments.

Oat variety & Spraying treatment	% Moisture	TSW adj for moisture (g/100 seed)	Grain yield (bu/acre)
Athabasca (check)	10.0	36.48	109.8
Athabasca + Best Foliar Fert	9.9	35.49	137.6
Athabasca + GSR Ca	10.9	34.76	71.8
Athabasca + Best Seed Germ	10.7	39.91	97.3
Athabasca + Best Soil Rej	10.7	36.53	109.4
Mean	10.4	36.6	105.2
CDC SO-I (check)	9.7	43.44	137.7
CDC SO-I + Best Foliar Fert	10.0	42.61	115.0
CDC SO-I + GSR Ca	9.5	40.11	125.3
CDC SO-I Seed Germ	9.5	41.48	155.3
CDC SO-I + Best Soil Rej	10.7	41.27	85.2
Mean	9.9	41.80	123.7

For more information on GSR Ca, brix, brix testing process and brix chart, please visit:

<http://back-to-your-roots.com/>

For more information on Best products used here and other available products, please visit:

<http://www.bestenvirotech.com/best-farming-system>

Future Plan

The trial will continue next year (2014) with further evaluation of Best Seed Germination and GSR Ca on CDC SO-I oat for grain and forage production.

Thank You to our Industry Sponsors!



Forage Fact # 76

Date:
December 2013

Are You Grounded?

"I do not think it is ever one factor that leads to electric fencing failures but a number of small ones that compound on each other."
Albert Kuipers,
Grey Wooded Forage Ass.

Forage Fact Objectives

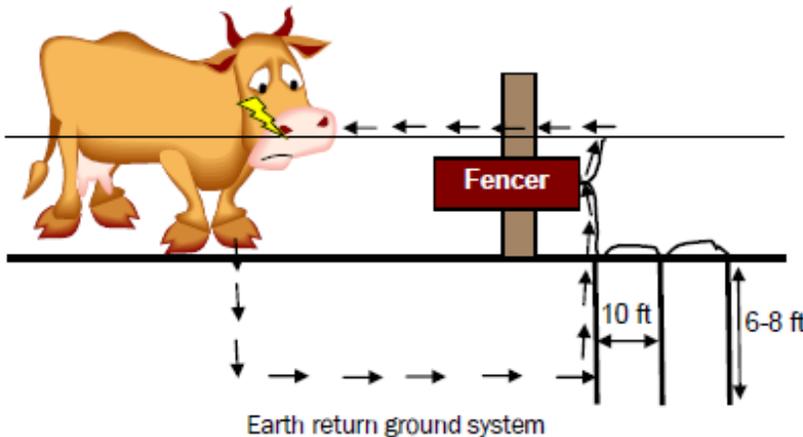
Electric fencing is the key component to a 3-dimensional fence as it is a psychological barrier not a physical one. The largest cause of failure with this wildlife fence is a failure in electric fencing. Without a proper functioning electric fence wildlife will quickly discover they can penetrate the fence without receiving a

negative reinforcement. Proper grounding is essential for an electric fence to perform correctly. There are two common grounding systems used in electric fencing:

1. Earth return system - used in the Peace Region and,
2. Hot/cold system - used in southern BC.

Earth Return Ground System

The earth return ground system can be seen all throughout the Peace Region to ensure livestock receive an adequate shock from the electric fence containing them. Ground rods are required when soil moisture is inadequate to conduct electricity. The recommendation for this grounding system is to place a minimum of three galvanized steel rods (6-8 feet by 1/2 inch) into the ground at least 10 feet apart. These rods should all be connected in sequence together and then to the fencer with 12.5 gauge insulated wire. The drier the soil the more rods that may be required.



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Published by P.R.F.A. of BC:

For more Forage Facts
visit our website:

www.peaceforage.bc.ca

How to Test if Your Ground is Adequate

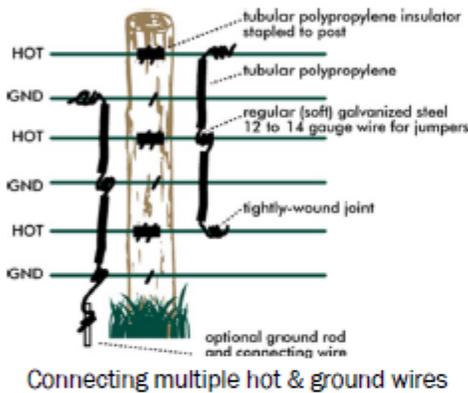
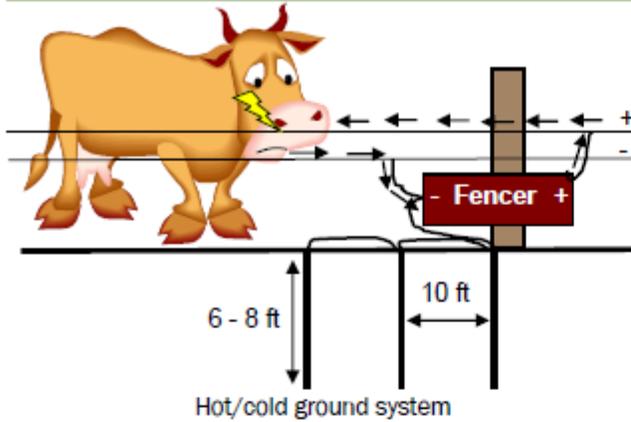
Lay enough metal "t" posts against the fence (ensure good contact with the soil) so that a voltmeter reads less than 1000V. Make sure these are 100 yards from the ground rods. Go to the ground rod that is the farthest from the energizer. Connect one end of the voltmeter to this rod

and the other deep into the soil. If the voltmeter reads over 300V then there could be one of three problems with the fence grounding:

1. Not enough ground rods,
2. Ground rods too close together,
3. Connections between the ground rods and wires are poor.

Peace River Forage Association
of British Columbia





Hot/Cold Ground System

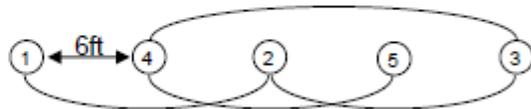
When soil moisture is lacking, an earth grounding system is less effective, as it is a poor conductor of electricity. A similar situation occurs in deep snow fall areas, as livestock and/or wildlife do not have contact with the soil, and therefore do not receive a shock from the electric fence. In these situations a hot/cold grounding system can be used to deliver a shock. In order for this system to work the animal needs to come into contact with both the "hot" wire (electricity running through it) and "cold" wire (grounded). The diagram on the left is a simple example of this system. It is common in southern BC to see fences with 14 wires of which half are "hot" and the rest "cold". This grounding system is being experimented within the new 3D fencing project.

How to Connect Multiple Ground Wires

The diagram to the left illustrates how to connect multiple hot & cold wires together. It is called jumping when all of the hot wires and all of the cold wires are connected. The wires should be jumped together every 1/4 to 1/2 a mile. This process ensures that the current flowing through the wires is evened out. It is recommended to use 12-14 gauge wire to connect these wires and to cover the connecting wire with insulated plastic tubing so the hot wires do not short out the ground wires.

Ground Rod Placement & Order

Both grounding systems can use ground rods so ensuring proper placement and order is important. Insert ground rods along a fence line or beside a building to prevent tripping over the connecting wire. Try to put the ground rods in areas of permanent moisture. The drier the soil the more ground rods that will be required to keep the fence working effectively. In the hot/cold ground system it is recommended to add ground rods every 1500 - 3000ft around the fence. If it is not possible to space the rods 10ft apart then the rods can be pounded closer together and wired in a pattern. Make sure that the wire is insulated so it does not touch itself where there is overlap. See the example to the right.



Top view of ground rods and example of how to get at least 10ft between each connection.

Summary

Proper grounding is essential. No matter what size your fencer claims to energize it will not effectively do so if the grounding system is insufficient. Now you know the two different systems used, plus how to check if they are working correctly.

Compiled by: Talon Johnson in December 2013.
 With Contributions from: Albert Kuipers & Sandra Burton
 3D Wildlife Fencing Project Funding Partner(s):
 The Investment Agriculture Foundation of B.C. through programs it delivers on behalf of
 Agriculture and Agri-Food Canada and the B.C. Ministry of Agriculture.
 Forage Facts Project Partially Funded by: all the donators and supporters
 at the Forage Goods & Services Auction on Jan, 2012.

Upcoming 2014 Events

EVENT	DATE	TIME	LOCATION	CONTACT	COST
Peace Country Classic- <i>Market Outlook Seminar & FarmOn</i>	Mar 7	10:15am - 12pm	Grande Prairie TEC Centre	780.835.6799 780.523.4033	FREE
Dugout Workshops	Mar 18 Mar 19	1pm- 4pm	Worsley Fire Hall Saddle Hills County Office	780.835.6799 780.523.4033	\$10/member \$15/non member
Cover Crops <i>Kevin Elmy</i>	Mar 27	TBD	Rycroft	780.835.6799 780.523.4033	\$20/member \$25/non member
Clear Hills Agricultural Trade Show	Apr 12	10am - 4pm	Hines Creek	780.835.6799 780.523.4033	FREE
Guest Speaker: <i>Don Campbell</i>	Jun 17-19	10am - 4pm	TBD	780.835.6799 780.523.4033	\$20/member \$25/non member
Guest Speaker: <i>Jim Gerrish</i>	Early July	10am - 4pm	TBD	780.835.6799 780.523.4033	\$20/member \$25/non member
Agriculture Tour to AUSTRALIA	Nov 8-22		Victoria & South Australia	780.835.6799	\$5898/twin \$6699/single

For more information about any of our field tours, workshops or project sites please call either Peace Country Beef and Forage Association Office.

Fairview 780-835-6799 or High Prairie 780-523-4033

Thank you to all our Funding Agencies.



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