WesternBeef
DEVELOPMENT CENTRE

16th Annual Summer Field Day June 24, 2014

at the Termuende Research Ranch
Lanigan, Saskatchewan

Partnerships in Research

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Collaboratively linking lab and land for the competitiveness and sustainability of the cow-calf industry in Saskatchewan

WesternBeef
DEVELOPMENT CENTRE

Partnerships in Research

WBDC Summer Field Day

Tuesday, June 24, 2014

9:30 a.m.

COFFEE AND REGISTRATION

10:00 a.m.

WELCOME & OPENING REMARKS

by Paul Johnson, Executive Director of Regional Services, SK Ministry of Agriculture;
Tim Oleksyn, PAMI Board Chair; and a Termuende family representative

10:15 a.m.
Reproductive Success in Young Beef Cows
Dr. Kendall Swanson, North Dakota State University

11:15 a.m.
The Cost of Extreme Weather to Your Breeding Cows
Dr. Kim Ominski, University of Manitoba

12:15 noon

LUNCH & TRADE SHOW

1:30 p.m.

BUS RESEARCH TOURS

RFID Tag Retention – Ross McDonald, Canadian Cattle Identification Agency (CCIA)
Hay Sampling for Feed Quality – Terry Kowalchuk, Sask. Ministry of Agriculture; Leah Pearce , WBDC
Supplementation Strategies on Pasture – Dr. Bart Lardner, WBDC; Steve Pylot, WBDC Advisory Committee
Trace Mineral Profile in Pastures – Leanne Thompson, Saskatchewan Forage Council
Impact of High Rainfall on Pasture Quality – Dr. Paul Jefferson, WBDC; Russ Muri, SPARC-AAFC
SafeGuard Trial Findings – Dr. Grant Royan, Merck Animal Health
3-D Fencing Demonstration

Beef and Forage Research Update from ALMA – Dr. Shannon Tracey, Alberta Livestock and Meat Agency
Animal Health – Dr. John Campbell, Western College of Veterinary Medicine

5 p.m.
CLOSING REMARKS

5:30 **BARBECUE STEAK SUPPER**

2014 Keynote presentation
Reproductive Success in Young Beef Cows
Dr. Kendall Swanson, North Dakota State University

Reproductive Success in Young Beef Cows

Dr. Kendall Swanson, North Dakota State University

Reproductive performance is the single most important factor contributing to profitability in the cow/calf sector and nutrition and management programs are key in maintaining a successful breeding program.

Sustaining reproductive success is often the most challenging in young cows. Nutritional management throughout the year plays a key role in successful pregnancies for young cows both as heifers and likely even more so as first-calf heifers.

Nutrition ultimately influences body condition which together influence reproductive success. Recommendations have often suggested that replacement heifers should be fed to achieve approximately 65% of their mature weight by the initiation of the breeding season and 85% of mature weight at calving, although there may be cases where this may not be optimal for specific management or production systems.

Management systems that monitor body condition can be effective so that adjustments in feeding programs can be made to maintain reproductive performance.

Consideration should be made for supplementation or early-weaning when pasture quality and/or availability is low or when winter feed supplies are short or of low-quality. This is especially important for heifers and 1st-calf heifers so that they can maintain or improve their condition going into the winter feeding period and leading up to calving.

If possible, feeding heifers and young cows separately from the mature cow herd allows for better meeting their nutritional needs through improved nutrition programs and to reduce competition with older cows.

Other important considerations regarding reproductive management in heifers and young cows include the length and timing of the breeding season, bull selection for calving ease and other traits, and consideration into synchronization and artificial insemination programs, to name a few.

Nutrition programs during pregnancy for the bred-heifer or cow also can impact future performance of the offspring. Although most nutrition programs focus on dietary energy, protein, and minerals, there may be potential to also supplement specific nutrients during key periods of the production cycle in the female that could impact lifetime productivity of the cow and also performance of the offspring in the feedlot or as a breeding female.

2014 Keynote presentation
The Cost of Extreme Weather to Your Breeding Cows
Dr. Kim Ominski, University of Manitoba

The Cost of Extreme Weather to Your Breeding Cows

Dr. Kim Ominski, University of Manitoba

Who will ever forget the winter of 2013/2014? Certainly not cow-calf producers living on the prairies! In fact, between December and March, there were 70 days in which the temperature was below -20°C!

As the temperature drops and wind speed increases, nutrient requirements of cattle increase significantly. This is particularly important on the prairies where many producers no longer winter their cows in confinement for the entire winter but use various strategies to extend the grazing season. It is clear from a 2012 survey of beef producers in Canada that extended overwintering practices predominate in the prairie region. In Saskatchewan, 59% of the cattle producers indicated that they are using some form of extended grazing. The most commonly used strategy was delivery of processed forages (29%), followed by bale grazing (28%), use of stockpiled forage (22.5%), swath grazing (17%), corn grazing (4%) and stubble grazing (< 1%).

Extended overwintering environments differ from confinement overwintering in several ways. Cattle are exposed to a broader range of weather conditions in extended systems. Data from trials in Manitoba suggest that temperature in these extended grazing areas may be 3-4 °C colder than in pens. In addition, there are several other key differences between confined and pasture overwintering systems. Confined cattle have access to bedding packs, which are a mixture of wasted feed, bedding, feces and urine. These bedding packs support microbial activity which generates heat and are used by the animals as a resting area. Conversely, cattle in extensive overwintering areas will change resting areas as they are given access to new feed and therefore, warm bedding packs are not created. As well, confined animals are provided heated watering bowls whereas pastured cattle may travel significant distances to water source and as such, often resort to snow consumption as an alternative water source. These factors can lead to increased nutrient requirements for pregnant cows.

It is well known that overwintering diets that do not meet nutritional requirements of cattle may impact cow and calf performance. Cows with poor body condition scores have decreased quality and quantity of colostrum, increased incidence of calf scours and increased calf mortality. However, recent research suggests that nutrient deficiencies during fetal development may have long-term impacts on the calf as it matures. Even if early measures of productivity such as calf birth weight do not appear to be affected by nutrient deficiencies, measures later in life such as weaning weight, carcass characteristics and reproductive traits may be affected.

Therefore, it is critical to consider the nutrient requirements of the cow during periods of extreme cold when planning your winter feeding program. The impact of nutrient deficiencies during this time will not only impact her performance but may also impact the performance of her calf in the short-term and throughout its life.

RFID Tag Retention

Ross McDonald, Canadian Cattle Identification Agency (CCIA)

PROJECT OVERVIEW

- The current project is intended to collect baseline data on cattle tag retention and tag readability, recommend solutions to enhance tag retention and readability and provide the foundation for further study. The broad based approach and survey of the existing situations will provide the foundation for identifying specific tag retention challenges that may require further data collection.
- The project involves animals from various geographical areas across Canada to ensure appropriate representation of farming styles and environments.
- The study has tagged more than 5,000 animals with equal distribution of approved CCIA RFID tag types/brands at each test site.
- Each farm test site was selected based on appropriate handling facilities to optimize tagger safety, tag application and tag retention.
- Each tag type is applied according to manufacturer's directions (i.e., in terms of tag location, using the corresponding manufacturer's tag applicators, etc.).

PRELIMINARY DATA

- **Calf/Yearling Project**
  - This project involved the tagging of calves at 17 Canadian herds ranging from 76 to 535 head.
  - Individual calves were tagged according to the manufacturer's recommended tag location. Tags were applied with the corresponding manufacturer's tag applicators.
  - The cooperating producer's normal management and their ability to include a tag scanning event within normal management activities determined the variation in timing of the data collected. Of the project tagged cattle, not all were retained until they were long-yearlings; however, the limited variation in the retention does not suggest a large over-wintering loss in calf tags.
  - Across 15 herds, tag retention was 98.9 per cent to the point of sale.
  - To identify the significance of lost tags, an analysis of variance test was conducted using the percentage of each of the seven brands of tags retained in each herd. Differences were analyzed for significance amongst herds and amongst tags. No statistical difference was noticed amongst herds. Tag loss was similar across the herds sampled. Retention differences by tag brand were not significant.
  - All applied tags were able to be scanned with handheld readers during data collection.
- **Mature Cow Project**
  - Mature cows will be scanned once in 2014 and once in 2015.
  - Replacement heifers tagged as calves will be scanned and included as part of the mature cow data set in the fall during pregnancy checking.
  - Tag retention in mature cows appears to be more variable than in calves; however, not enough scan data has been compiled for a robust comparison. Data is not scheduled to be collected beyond spring 2016.
- **Bull Project**
  - 175 head of yearling bulls were tagged across three PFRA-AAFC bull stations in 2012.
  - Tagging yearling bulls requires more force than tagging calves or cows.
  - Location of the registration tattoo and management tags limited RFID placement options.
  - Data from the Federal Community Pasture system was not collected. No data collection is expected.
- **Miscellaneous**
  - Scanning in cold winter temperatures significantly reduces battery life of the handheld readers. For most locations, two or more handheld readers should be used to ensure data capture.

NEXT STEPS

- Complete 2014 mature cow scans
- Preliminary mature cow data analysis
- Complete 2015 mature cow scans
- Complete final analysis and final report Spring 2016
- Communication Outreach

Growing Forward 2
Canadian Cattle Identification Agency
Canada

Hay Sampling for Feed Quality

Terry Kowalchuk, Sask. Ministry of Agriculture; Leah Pearce, WBDC

Good nutrition is at the foundation of any successful livestock production system but annual variations in feed quality can have a significant impact on breeding efficiency. In 2013 late cut hay and rain reduced feed quality in many areas of Saskatchewan. Although the feed had adequate protein, energy levels were low. A survey conducted by the Saskatchewan Ministry of Agriculture showed that only 5% of the sampled forage had adequate amounts of energy (TDN) to sustain a pregnant cow through to the end of term. This low TDN combined with the high energy demands on cattle as they weathered one of the coldest winters in recent memory created the potential for serious loss of condition in bred cattle. Last winter's extreme conditions underscored the importance of knowing the nutritional quality of feed prior to the winter season. Although feed testing may seem like a daunting task, test results can be critical in providing your livestock with a balanced ration regardless of what Mother Nature throws at them.

The tour stop will demonstrate various forage sampling devices and the process for taking a representative sample. Questions that will be discussed include:

1) Why should I feed test?
2) What do I need in order to take a sample?
3) Where do I get a probe and how much does it cost?
4) How do I take a sample?
5) How do I label and store the samples?
6) Where do I send the samples?
7) What tests do I ask for?
8) How much does the test cost?
9) How long does it take to get the results?
10) Who can I contact to help interpret the lab results?

For follow up information on feed quality testing contact the Provincial Ministry of Agriculture Ag Knowledge Centre at 1-866-457-2377.

Trace Mineral Profile in Pasture

Leanne Thompson, Saskatchewan Forage Council

The Saskatchewan Forage Council in cooperation with partners from the University of Saskatchewan, Western Beef Development Centre, Agriculture and Agri-Food Canada and the Saskatchewan Ministry of Agriculture recently completed a study looking at the trace mineral status of pasture forages from across Saskatchewan.

Trace minerals including, iron, manganese, zinc, copper, molybdenum and selenium are essential for animal growth, maintenance and reproduction. Although required in the diet at less than 100 parts per million (ppm), when deficient, these minerals can have significant impacts on animal health and productivity resulting in reduced economic returns for livestock producers.

The objectives of the study were to sample commonly grazed forage species across the four soil zones (Brown, Dark Brown, Black and Gray), in spring and fall to identify trace mineral composition and the effect of forage species, season and soil zone. Forage sampling was conducted in 2012 and 2013 with results now summarized. Both season (spring vs fall) and forage species had a significant effect ($p<0.001$) on trace mineral levels. This would suggest that varying the mineral supplementation program for grazing animals is necessary between spring and fall.

The effect of soil zone was significant ($p<0.001$) for only two of the trace minerals measured - copper and molybdenum. When compared to the requirements of a grazing cow or growing calf, several trace minerals were found to be inadequate in the forage sampled across all soil zones. In particular, copper and zinc were lacking in most cases. Iron was found in adequate levels in all forage types, seasons and soil zones and selenium was adequate in the brown soil zone, with lower levels (although not significant) found in forages sampled in the black soil zone.

Four factsheets are currently being developed with information specific to each of the soil zones and will be available soon from the Saskatchewan Forage Council. The final report will also be available soon (August 2014) on the Saskatchewan Forage Council website www.saskforage.ca.

Funding for this project was provided by the Saskatchewan Ministry of Agriculture and the Canada-Saskatchewan Growing Forward bi-lateral agreement.

Supplementation Strategies on Pasture

Dr. Bart Lardner, WBDC; Steve Pylot, WBDC Advisory Committee

Cattle fed or grazing forage-based diets can be deficient in energy, protein and minerals as long as the limiting factor is forage nutritive value not forage quantity. Range and pasture forages are not always able to meet the nutrient requirements of cattle during the entire grazing season. Dormant native range or mature tame forages are usually high in fiber and may be deficient in protein and energy, especially for cows in late gestation and lactation. Supplements generally increase the performance of forage fed cattle, and both supplemental protein and energy are needed in order to increase intake of low quality forage and beef cow or growing cattle performance. The purpose of supplementation is to make up for forage quantity (substitute for forage) and/or make up for nutrient deficiencies to enhance forage use. Correcting nutrient deficiencies, improving forage utilization and animal performance, and increasing economic returns are among the reasons listed for feeding supplements to cattle consuming forage-based diets. The need for, and type of supplement needed, will depend on the pasture quality and on the condition of the cows. Using a supplement will add another cost, but you may still want to maintain the cows out there because of the advantages of grazing versus drylot feeding. Providing a supplementation strategy to prolong the grazing period as long as possible may be the more cost effective approach. However, supplementation can affect animal performance and be costly for the producer.

Energy supplementation:

Energy is the first limiting nutrient affecting animal performance on forage diets during late summer. Energy supplements can include alfalfa hay, corn, barley, wheat, DDGS (corn or wheat), beet pulp, sources of non-structural carbohydrates, readily available structural CHO, or fat. However, supplementing energy often reduces forage intake and utilization in cattle. Grain supplementation (starch) has been shown to decrease forage dry matter (DM) intake in ruminants. Energy supplementation can also reduce time spent grazing. The negative associative effect of grain supplementation on forage DM intake and fiber digestibility can be related to increased fermentation rate and reduced rumen pH to levels where cellulolytic bacteria are affected as well as fiber digestion.

Protein supplementation:

If forage or pasture protein is below 6-8% crude protein (CP), then pasture intake and digestibility will be depressed. Protein supplements can increase time spent grazing as the microbial protein requirements are being met. Protein supplements can include canola meal, soybean meal, urea, DDGS (corn or wheat). Supplementation of low-quality forage diets with protein can increase forage intake and digestibility. Metabolizable protein (MP) requirements of growing cattle grazing mature pasture are rarely met by microbial protein synthetized from RDP; therefore, supplemental RUP may need to be provided to meet the MP needed for performance.

Supplementation frequency:

Frequency of supplementation and frequency of feeding can affect animal performance and costs. Feeding smaller amounts of protein and energy daily decreases the chances for negative impacts on forage intake.

Mineral supplementation:

Pasture plants react to inadequate supplies of trace minerals in the soil either by reducing the concentration of the deficient element in their tissue, or by reducing growth, or both. The primary criterion for using a mineral supplement is to profitably satisfy a mineral deficiency. If a deficiency is met, there should be a marked improvement in animal performance (growth, reproduction). If a marginal deficiency exists, supplement the mineral in question and, through the use of records, determine if an improvement in animal performance occurred.

How Does Rainfall During the Growing Season Affect Feed Value of Forage?

Dr. Paul Jefferson, WBDC; Russ Muri, SPARC-AAFC

In 2005 and 2006, a line-source irrigation system was used to apply different amounts of water to annual forages grown at the Semiarid Prairie Agricultural Research Centre, Agriculture and AgriFood Canada, Swift Current, SK. The plots were fertilized with 58 lbs N/ac and 40 lb P_2O_5 /ac across all water levels. Water increased forage yield and decreased dry matter and protein content. The effect of water on P concentration in the forage varied among species and years. In 2005, P concentration in barley was not adequate for a 1250 lb lactating beef cow (see Table 1) at any water level. In 2006 however, water level did not affect the forage barley P as a function of the dietary requirement of a beef cow. In millet, P concentration was inadequate at low water levels but improved with additional water from irrigation in both 2005 and 2006. Calcium and Calcium:Phosphorus ratio were adequate in all cases. These results show that forage mineral concentration is affected by growing season, species and rainfall amount. Feed testing will provide the information producers need to ensure that mineral concentration of forage is adequate for good animal performance.

	2005			2006		
	Rain + Irrigation mm	P g/day	% of requirement	Rain + Irrigation mm	P g/day	% of requirement
Barley	187	14.6	52.2	146	32.3	115.4
	211	14.6	52.2	163	33.7	120.4
	237	17.9	63.1	198	32.0	114.3
	281	20.1	71.6	237	34.3	122.4
German Millet	187	23.1	82.6	146	25.2	90.0
	211	27.5	98.3	163	28.9	103.2
	237	32.0	114.1	198	34.0	121.4
	281	31.6	112.9	237	35.7	127.5

Table 1. Effect of water level on P consumed per day for 1250 lb lactating beef cow assuming 3% BW consumption for two annual forages in two years at Swift Current, SK.

Beef and Forage Research Update from ALMA

Dr. Shannon Tracey, Alberta Livestock and Meat Agency

The Alberta Livestock and Meat Agency (ALMA) is a provincial government agency established to help advance the Alberta Livestock and Meat Strategy (ALMS) - a roadmap designed to drive positive change within Alberta's livestock and meat industry.

ALMA's vision is to "be a catalyst in the development of a profitable and internationally competitive Alberta livestock and meat industry." As a catalyst, ALMA provides ideas, information and investment opportunities to the industry and the Government of Alberta. The agency develops policy that drives ALMA investment, directs ALMA strategies and influences public policy related to regulations, legislation, programs, and issues of importance to the livestock and meat sectors. As well, ALMA identifies solutions and engages the industry to foster collaboration and alignment between industry and government priorities.

ALMA's programs stimulate innovation and encourage the adoption of best practices, develop new technologies and state-of-the-art processes. The agency's priority areas are market access, streamlining the regulatory burden, synergistic growth, domestic positioning and information flow.

Operating as an agency provides ALMA with an important degree of autonomy from government, while ensuring fiscal accountability and commitment to industry priorities. Our Board of Directors ensures ALMA acts in the best interest of the livestock and meat industry, and advises the Minister of Agriculture and Rural Development on current and emerging issues and trends in the industry.

Disease Investigation Unit

Dr. John Campbell, Western College of Veterinary Medicine

The WCVM Disease Investigation Unit was originally started by Dr. Eugene Janzen and has been in existence for over 20 years. The original funding for this unit came from the Saskatchewan cattle industry through the Horned Cattle Trust Fund. Funding has been supplied by a number of government and industry sources and since 2007 we have received stable funding from Saskatchewan Agriculture and Food. The unit deals with disease outbreaks and problems on livestock operations across Saskatchewan. All investigations must be initiated by a local veterinarian who contacts the college. Members of the Disease Investigation Unit will then help with the investigation either through visiting the farm and helping with the investigation or by supplying the local veterinarian with resources to help investigate the problem. Greater than 85% of the funding goes directly to diagnostic laboratory expenses which assist the local veterinarian and the producer in reaching a diagnosis.

This presentation will review a number of the various disease outbreaks we have done in the past few years and the lessons learned from these investigations. This abstract will give a brief summary of the lessons learned:

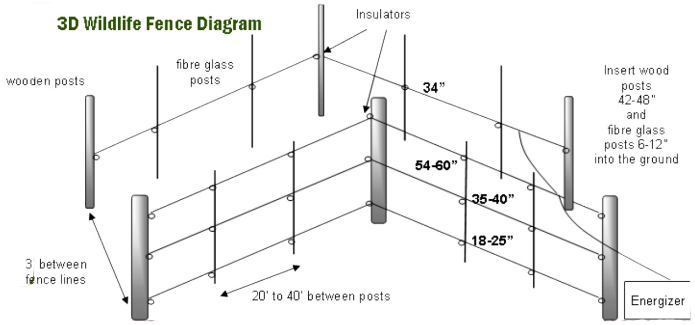
1. Nutrition is important and in many cases is a critical animal welfare issue.
    - Almost 50% of our investigations are nutritional or toxicological in nature
    - The cow calf industry tends to be a low input industry
    - The economics of production have often had very small margins
    - The most significant cost of production is feed
    - Vast majority of producers excel at minimizing feed costs while maintaining good nutrition and production
    - Nutritional problems tend to be long term and chronic which can cause significant welfare issues
    - Also tend to be herd problems so large numbers of animals are affected
    - In some cases easy solutions are not available
    - High levels of mortality can occur
2. Toxicology can cause problems of animal health and public health significance
    - Lead poisoning is the most common and has important food safety implications
    - Other examples investigated include ergot, selenium, sulfates, blue-green algae, monensin
    - Can have similar consequences as nutritional problems with higher mortality
3. Reproductive failure can have devastating economic consequences
4. Cutting back on vaccine costs does not usually work as an effective way of improving profitability
5. Unknowns still occur: Diseases continue to emerge and situations occur where we do not reach a conclusive diagnosis

3-D Fencing Demonstration

Researchers are investigating the effectiveness of 3-D fencing in an effort to curtail feed losses due to wildlife. The fence has height, depth, and width, which cause the wildlife to be hesitant in approach due to their lack of depth perception. The fence is usually electrified as well, causing a shock when the wildlife investigate the fence, encouraging them to find alternate routes or other feeding areas.

A 3-D fence can be permanent or portable, and in some cases, existing fence can be modified to 3-D fencing.

3-D fencing can be used to surround any area that is subject to damage by wildlife, such as gardens, nurseries, orchards, vineyards, and tree farms.



The fence is constructed by creating two lines of fence within three to four feet of each other. Wood posts can be used for both lines, but other materials would work as well. The inside line of fence has three high-tensile wires that are energized. The second, outside line of fence has one high-tensile wire that is also energized. The gates of the enclosure should to be energized as well, as they are weak points.

The Benefit of a Strategic Deworming Program in a Cow-Calf Operation in Western Canada

Grant Royan and Glen Cartwright, Merck Animal Health Canada

Cattle are normally infected with multiple species of gastrointestinal nematodes (Roundworms) that have a direct life cycle between the host and the environment. The parasite's life cycle is influenced by multiple factors resulting in parasite infections that vary depending on the area of the country, farm, season of the year and an individual animal's sex, age, and genetics. In western Canada the majority of infections in cattle are sub-clinical but are of an economic level as treatment results in improved performance[1]. The most common gastrointestinal nematodes found in western Canada are[2]:

- Abomasum – *Ostertagia*, and *Haemonchus*,
- Small Intestine: *Cooperia*, *Nematodirus*, and *Trichostrongylus*,
- Large Intestine: *Trichuris*.

Animal, pasture, environment and treatment factors influence which species make up the infection at any given location.

Effects of Gastro-Intestinal Parasites on Cattle:

- Direct destructive effect of the parasite on the host's tissues
- Suppression of the immune systems response to viral and bacterial pathogens (and reduced response to routine vaccination protocols)
- Reduced feed intake
- Direct effects on the normal digestive process

Strategic Deworming:

Young growing cattle; nursing calves, grass yearlings and replacement heifers, are affected the most by internal parasites. Strategic deworming is a management strategy where deworming occurs after spring grazing begins but before overwintered parasite larvae that have been ingested have had time to mature and begin shedding eggs re-contaminating the pasture. Overwintered infective larvae can survive on pastures for 60 – 90 days once temperatures reach 18 – 21^0 C. In adult cows it takes approximately 6 weeks from the time larvae are ingested until an egg-laying adult worm develops. In younger animals this time period is shorter. Deworming on pasture after 5 - 6 weeks of grazing will remove parasites ingested during that time period preventing egg shedding and further pasture contamination for the next 4 - 6 weeks. A second deworming may be necessary depending on the weather and length of the grazing season.

Trial Design:

- Trials conducted at the Western Beef Development Centre, 2012 and 2013
- 100 cow calf pairs were randomly allocated based on weight and sex to one of two treatment groups
  Control – no deworming
  Safe-Guard – cows dewormed with Safe-Guard™ Suspension prior to turn-out and cows and calves dewormed on pasture Day 35 by adding Safe-Guard™ 20% Premix to the amount of the mineral that had been consumed the prior week.
- Fecal Egg Counts – Cows and calves
  Day 0, Day 14, Day 35, Day 56, & Weaning
- Pasture productivity
  Rotational grazing; pasture productivity and pasture quality assessed on a continual basis

Results: Fecal Egg Counts (eggs/3 gram sample)

Day of Trial	2012				2013			
	Cows		Calves		Cows		Calves	
	Control	Treated	Control	Treated	Control	Treated	Control	Treated
Day 0	**68.3**	**66.4**	**24.9**	**24.9**	**24.2**	**22.5**	**0.2**	**0.3**
Day 14	**140.4**	**0.3**			**10.1**	**1**	**1.2**	**0**
Day 35	**15.1**	**8.4**	**43.7**	**22.7**	**21.1**	**1.9**	**12.1**	**7.8**
Day 56	**51.4**	**0**	**31.7**	**0.3**	**6.9**	**0.4**	**4.6**	**0.1**
Weaning	**15.2**	**2.9**	**43.3**	**32.85**	**11.5**	**1.3**	**5.4**	**5.6**

The Interpretation of Fecal Worm Egg Counts using The Modified Wisconsin Sugar Flotation Technique (eggs/3gram sample)			
CATEGORIES	LOW	MODERATE	HIGH
Cows	5 or less	5 - 20	>20
Calves	10 or less	10 - 50	>50

Results: Calf Pasture Performance

	2012			2013		
	Control	Treated	*P- value*	Control	Treated	*P- value*
Number	50	50		50	50	
Days on Pasture	108	108		90	90	
Initial Weight (lb)	222.3	222.2	0.9839	260.5	263.1	0.5923
Final Weight (lb)	503.7	521.7	0.0551	498.9	528.3	0.0002
Pasture Gain (lb)	280.6	298.8	0.0039	238.4	265.2	0.0000
ADG on Pasture (lb/day)	2.60	2.77	0.0038	2.65	2.95	0.0000

Results: Pasture productivity and nutrient quality

There were no significant differences in pasture productivity or quality between the rotational grazing paddocks in either of the years

The treated group in 2012 was rotated one time more than the control group

Results: Economics of Strategic Deworming

Calf prices based on Canfax average price, the week after the calves were weaned, for sex and weight of individual calves

2012 – ***18.2 lb. increase in gain***; net return from strategic deworming with Safe-Guard $ 15.05/calf

2013 – ***26.8 lb. increase in gain***; net return from strategic deworming with Safe-Guard $ 21.25/calf

Strategic deworming with Safe-Guard (fenbendazole) has proven to give an economic return in cow/calf operations in western Canada.

References:

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Saskatchewan Ministry of Agriculture, Viterra, University of Saskatchewan

Collaboratively linking lab and land for the competitiveness and sustainability of the cow-calf industry in Saskatchewan