



Grey  
Wooded  
Forage  
Association

# The Blade

*"Creating an Awareness of Forages"*

**MAY 2012**

Box 1448, 5039 - 45 Street, Rocky Mountain House, Alberta T4T-1B1,  
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### VISION STATEMENT

GWFA – The centre of choice for gathering and dispersing of forage and livestock information, providing a strong link with producers and the research community

### MISSION STATEMENT

To enhance awareness of the organization as an information exchange centre, illustrating forage and livestock production practices that are environmentally and economically sustainable for the agricultural community.

*Approved May 2012*

# Manager's Notes:

*By Albert Kuipers*

The GWFA Annual General Meeting marks the beginning of an exciting term of office for each of our new directors. This meeting also marks the completion of the terms of office for three out-going directors.

First, I would like to express sincere gratitude to our friends who are leaving the board. Directors give their time and energy to our organization because they truly believe in the value of research, extension and education for forage and livestock producers in our area.

We really appreciate Darrell Papuschak for his leadership as Chair of our organization. Darrell's positive personality always lit up the office whenever he stopped by. His efficient management style made



board meetings efficient and productive.

John Harder added a voice of experience to the mix. Many thanks to John for the time and energy he gave to make our organization a better one.

Herman Wyering served as treasurer for the past couple of years. His experience in financial matters were a real asset to us. Herman tackles anything that comes his way with enthusiasm and commitment. We have an ongoing ESN Nitrogen Fertilizer project continuing at his farm near Ponoka. Herman will continue to represent GWFA at ARECA board meetings and other events. Thank-you very much guys, for everything you put into the well-being of our organization.

As three board members are stepping off the board, three new directors are coming onto the board. We realise that, in this day and age, there are many demands on everyone's time and energy. We really appreciate the commitment these men have to forage and livestock production, and to GWFA.



We wish to welcome our new directors, Victor Penner, Cameron Jenkins and Iain Aitken to the board. We hope and trust that they will be rewarded handsomely through the sharing of knowledge and experiences that are part of every gathering the directors are involved in.

We would also like to welcome Bonita Knopp, who will be assisting us to serve you, the members, for this summer. We trust that this will be an enjoyable and educational experience for Bonita. I know that her help will be appreciated greatly by Muriel and me.

Some of you just might be saying to yourself, "Why did he have Bonita stand in a patch of dandelions?" I would like to say that the, often misunderstood, very common plant is actually beneficial. These deeply tap-rooted plants bring nutrients up from deeper in the soil than most forage plant's roots can reach. They are also a nutrient rich pasture forage plant. Consider this as you see pastures and lawns covered with these bright, yellow flowered plants that many people call weeds.



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Agriculture and Rural Development



## Director's Corner:

Hi, I'm Darrell Papuschak.

My son Brent and I run a small purebred Red Angus herd in the Rocky Mountain House area.

I am the out-going chairperson for GWFA. It has been an enjoyable three years as a Director with the association. I have learned a lot and had the opportunity to work with some very knowledgeable people.

I highly recommend being on the board if you can. You will take away far more knowledge than the time com-



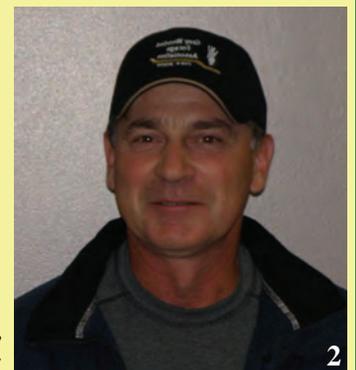
mitment that you have put in.

I am quite excited about the new strategic plan that was designed in February of 2012. It outlines clear directions for the group.

I would like to thank Albert and Muriel for their dedication and hard work that they put into GWFA. It does make a difference to work with good people.

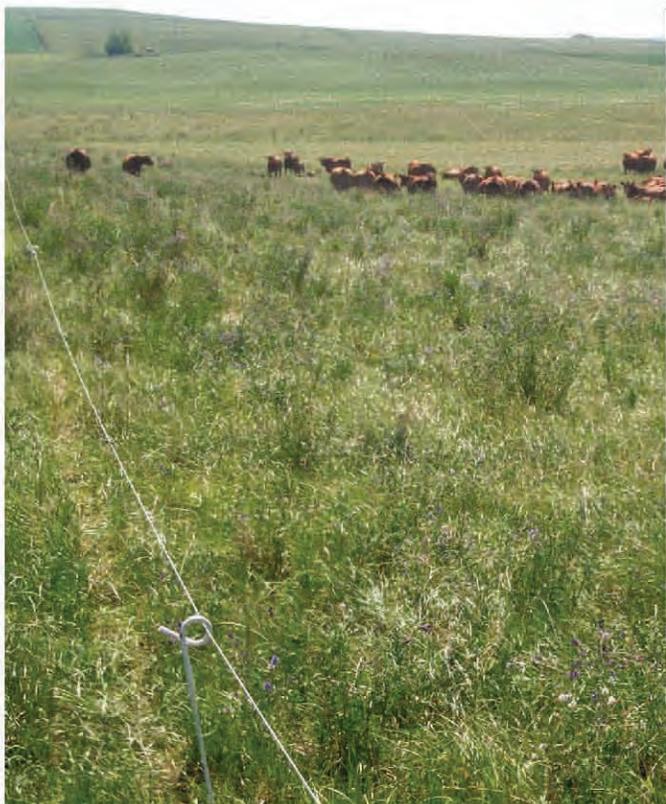
Thanks,

*Darrell Papuschak.*



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**June 19, 21, 26, 28**

**\*\*Different topics covered each night\*\***

**5:30 to 9:00 PM**

***Olds/Bowden area (east)***

**Cost: \$15 per participant, per night (includes suppers)**

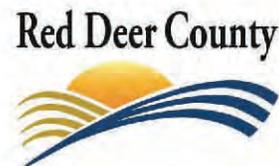
**Register Today by contacting one of your Hosts:**

**Grey Wooded Forage Association (Albert Kuipers): 403-844-2645**

**Mountain View County (Amber Hines): 403-335-3311 ext. 135**

**Kneehill County (Bowen Claūsen ): 403-443-5541**

**Red Deer County (Ken Lewis): 403-342-8653**



LLL is one evening and one full day of learning, including both indoor seminars and outdoor hands-on activities, with additional time to socialize and connect with other ranching women. Information given is specific to ranching operations.

6th Annual!

# LADIES LIVESTOCK LESSONS

## June 14-15th, 2012 ~ Pine Lake, Alberta

*...managing your grass water and herd*



### Classroom Sessions:

Good Grub! - Working Ranch Horse Nutrition

### Outdoor Sessions:

Native Edible Plant Walk

Cowgirl Range & Riparian Management-

Best Fit & Limitations for Pasture Management

Bioengineering-Utilizing Native Plant Materials for  
Streambank Recovery

Loops & Wire-This Ain't No Craft Show! Hands-On  
Fencing for the Ladies

### Registration is \$105.00

Included: workshop, meals, snacks & beverages, educational materials, accommodation on June 14th and a fun and knowledgeable learning environment!

### Registration Deadline is June 8th, 2012

\* Register early, space is limited, modern dormitory accommodation, bring your own bedding, some camping is available (power hook-ups only).

To register or for more information contact:

Ken Lewis at Red Deer County

Ph: (403) 342-8653 Cell: (403) 505-9038 or [klewis@rdcounty.ca](mailto:kewis@rdcounty.ca) or contact your local conservation staff or visit your local County website

Register on-line at our NEW blog: [ladieslivestocklessons.blogspot.com](http://ladieslivestocklessons.blogspot.com)



# Ergot Prevention for the 2012 Growing Season

Ergot in cereals has become a heightened problem in recent years on the Prairies, and significantly higher in Alberta than in other Prairie Provinces. According to plant pathologists, one potential reason for the increased ergot severity may be due to shortened rotations like canola-cereal-canola-cereal.

While the ergot resting bodies (also called sclerotia) have generally been thought to stay viable for only one year, plant pathologists are suggesting that they may remain viable for a bit longer. Since no seed treatments or pesticides are available to control this fungal disease, and all cereal cultivars other than oat are susceptible, preventive control methods are of paramount importance to prevent ergot infestations in 2012, especially if we experience another cool, wet spring and early summer.

Ergot appears as conspicuous dark, hardened resting bodies (sclerotia) in harvested grain and although it doesn't cause significant yield loss, ergot can cause grain rejection or downgrading at the elevator because the sclerotia contain mycotoxins (e.g. alkaloids) that are extremely toxic to humans and livestock. Traditionally ergot was more prevalent in rye and triticale than in other cereals. However, since the late 1990s it has become more common in other cereal crops and significant losses have occurred during the last two growing seasons in spring wheat, durum and barley. Forage grasses and most roadside grasses are also susceptible to ergot.

Ergot has two infection stages – primary and secondary – and an understanding of its life cycle is key to prevention. The sclerotia bodies germinate in the soil in the spring after the crop canopy covers the soil surface, especially under prolonged wet soil conditions like the springs of 2010 and 2011. Wind-borne spores emerge from the germinating sclerotia causing primary infections by attacking the tiny flowers on the heads of fall- and spring-sown cereal crops. Once the infection occurs, the ergot fungus grows on the ovary tissues of these cereal flowers and then produces another spore type in these flowers that is comprised of a mass of spores and a sugary, sticky substance; this stage is known as the “honey dew” stage.

Secondary infection happens when these spores stick to insects or are splashed by rain drops that in turn spread these spores to the flowers of nearby cereal plant heads. This secondary spread can continue for as long as cereal flowers remain open in a field. Instead of the cereal flower ovaries being fertilized by pollen and producing seed, infection with the ergot pathogen replaces the seed with the hard, dark sclerotia that show up at harvest time.

Since open cereal flowers are susceptible to ergot infection, anything that extends the overall flowering period in a field or prevents uniform crop maturity, which would prevent uniform flowering, enhances the risk of ergot by increasing the window of time during which infection can occur. Prolonged wet, cloudy and cool weather not only extends the infection window but can also favor an increase of insect populations like aphids, midge and leaf hoppers that may transfer the sticky spores.

Deficiencies in copper and boron can lead to reduced pollen viability and as a consequence the typically self-pollinated

cereal crops (wheat and barley) will open their flowers to ensure access of pollen from adjacent plants, heightening the possibility of infection. Ensuring adequate levels of copper and boron are present in soils will help to improve pollen viability thereby ensuring wheat and barley flowers remain closed and less accessible to ergot spores that may be present during heading. However, application of copper and boron does not eliminate the risk of ergot associated with pollen sterility as other factors such as cool or hot temperatures at heading, or late herbicide applications, may lead to issues with pollen sterility and thus increase ergot risk.

Utilizing a combination of the following strategies can help to minimize the risk of ergot in cereals such as rye, triticale, wheat, durum and barley:

- rotate away from a cereal crop to a broadleaf crop like canola or a pulse for two years,
- especially do not plant a cereal crop on rye or triticale stubble from the 2011 crop year,
- use seed cleaned of ergot bodies,
- add copper or boron only if soil tests indicate a deficiency in these micronutrients,
- prevent a lengthy secondary infection window by ensuring a uniform crop stand which can be enhanced by using high seed germination percentages, avoid seeding into cold soil, seed shallow and at an even depth, maintain a balanced fertilizer program, prevent herbicide injury to the crop including avoidance of late herbicide applications, and use a higher seeding rate to prevent tillering,
- mow grasses in field headlands and nearby road allowances before these grasses flower,
- cut or graze nearby forage grasses before they flower in the heading stage.

*Continued on page 6*



Ergot continued:

If your field does end up having significant levels of ergot in cereal heads at harvest time, delaying swathing/harvesting can allow the wind to blow ergot bodies from infected crop heads prior to harvesting. Scout fields and if the headlands are more infected from nearby grasses, harvest and bin grain from the headlands separately to reduce the level of ergot contamination and improve grade. Record the infested fields, or infested parts of fields, in your record-keeping to use preventive measures in these areas over the next two years.

Crop rotation, mowing adjacent grassy areas and ensuring that copper and boron are not deficient in the soil remain the most effective preventive measures.

The spring and early summer of 2012 may not have prolonged, cool and moist weather, which increases ergot infection, however, since there are numerous viable sclerotia currently present in the soil from the 2011 growing season, it is important to consider preventive control methods to avoid an infestation in 2012.

By Neil Whatley – Crop Specialist, Alberta Agriculture & Rural Development, Ag-Info Centre, 310-FARM (3276)



## No Inoculants for Red, White or Alsike Clover in Canada this Year

**There are no inoculants for these clovers available (anywhere?) this year. If you seed a new stand with red, alsike or white clover, you will have to do so without a bacterial inoculant.** On land that has had these inoculated clovers seeded on them before, this is not a very big problem. On land that has not had inoculated clovers seeded before, this may hurt yield a bit, or maybe quite a bit. The last symptoms will be with less healthy plants that are short of nitrogen. Often native bacteria will make up most, or just some of the shortfall but this happens to varying degrees.

### Background:

The clay based inoculants for red, white and alsike clover have not met CFIA standards for some time. For several years

CFIA “turned a blind eye” to this fact and Canadian Seed companies continued to get these bacteria strain products. That is until now.

As of this year CFIA chose to not ignore the fact that these clay based inoculants from the USA do not meet their standards. They finally enforced their rules and these inoculants are not being allowed into Canada.

The peat based inoculants can still be brought in (Texas), but companies were caught off guard and did not do this. The peat ones have to be applied within about 24 hours prior to the seed being planted. They are a hassle.

By Grant Lastiwka, Alberta Agriculture & Rural Development



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See Front Page News  
New information on forage beef issues from across Canada

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Summarizing research done by Western Forage/Beef Group and Others

Coming Soon!  
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[www.foragebeef.ca](http://www.foragebeef.ca)

Growing Forward

**Ropin The Web**

# Legume Inoculation Cuts Fertilizer Needs

## Nitrogen Fixation

Legumes form a unique relationship with rhizobia, a soil bacteria through which nitrogen is made available to the plant. In a process called nitrogen fixation, atmospheric nitrogen is taken from air in soil spaces and converted to a usable form. Since gaseous nitrogen is the most abundant element in the atmosphere and is continually replenished, the supply remains constant.

## Nodules

Nitrogen fixation occurs in the root nodule. Rhizobium bacteria from the soil enter the plant roots and multiply, eventually causing a swelling which forms the nodule. The shape and size of nodule varies with legume species.

Rhizobium requires specific host plants for nitrogen fixation to occur. Bacteria must be able to infect the root and effectively "fix" the nitrogen. Sometimes bacteria infect the root but are not able to fix nitrogen. In other situations, bacteria fix nitrogen but cannot enter the root, so nodulation does not occur.

## The Need for Inoculation

Inoculation refers to the addition of effective rhizobia to legume seed prior to planting.

All legumes should be inoculated with rhizobia, even if the legume has previously been grown in the soil. Inoculation provides the most effective strains of bacteria for the type of legume.

Commercial inoculum is available for specific legumes:

- alfalfa group - for alfalfa and sweet clover;
- birdsfoot trefoil;
- sainfoin;
- cicer milk vetch;
- pea group - field peas, garden peas, lentils;
- clover group - for red, white and alsike clover;
- lupins;
- bean group;
- fababeans; and
- soybeans



Inoculation with the proper strain ensures early and effective nodulation and makes nitrogen available to the plant in the early growth stages.

## Methods of Inoculation

There are three common methods to inoculate seed. The seed should be sown immediately after inoculation.

1. **Slurry** - Mix inoculum with water in amounts indicated on the package to form a slurry, then pour slurry on seed and mix well. If done properly, the seed will absorb the water leaving an even, dry coat of inoculum.
2. **Adhesive Solution** - This method is a modification of the slurry method using an adhesive solution instead of water. The inoculum adheres to seed coated with this solution. The solution also contains nutrients which the nodule bacteria use for growth. While commercially prepared adhesives are available, a suitable solution can be made by mixing 2 tbsp. (25 ml) of corn syrup in 1 qt. (1 L) of water. Use this solution to make a slurry with the inoculum and apply using the slurry method.
3. **Dry Application** - This method is not recommended because so much inoculum is wasted. Dry application requires two to three times as much inoculum as the slurry method, with less successful results.

## Pre-inoculated Seed

This method is a great time saver because seed is treated or coated with rhizobia by a seed processor or distributor and can be directly seeded. Successful nodulation, however, depends on proper application and storage techniques.

## Successful Nodulation

Once seed is ready to be inoculated, certain management practices may influence the effectiveness of the bacteria.

## Bacterial Cultures

Commercial inoculum is most effective when used before the expiry date indicated on the label. Inoculum should be stored in a refrigerator or other cool, dark place to maintain its viability.

## Inoculated Seed

Inoculated seed should be sown as soon as possible. If this cannot be done the same day, place the seed in plastic bags and store in a cool, dark place for no more than two days. If seeding is delayed longer, re-inoculate seed.

## Soil Conditions

Rhizobia bacteria will not survive in acid soils. Although acid soils are not usually a problem in Manitoba, lime should be applied before seeding where soil pH is low. Some rhizobia strains now available in the alfalfa group can fix nitrogen in acid soils. However, most Manitoba soils require only the regular strains of alfalfa rhizobia.

Inoculated seed should be sown into a moist seedbed as nodule bacteria cannot survive in dry soil. However, too much moisture can also be harmful. Rhizobia need oxygen to survive, and wet soil with reduced soil air levels may cause serious bacterial losses.

*Continued on page 8*

# New Forage Barley Variety and Forage Oat Variety

## CDC Maverick Barley

Brian Rossnagel, a plant breeder from the University of Saskatchewan has announced the registration of their newest 2 row forage barley variety named CDC Maverick.

CDC Maverick is essentially a smooth awned version of CDC Cowboy. Like CDC Cowboy it demonstrates high biomass yield and in Coop testing out-yielded all checks and other entries by some 10+% in terms of forage dry matter. Forage quality is similar to CDC Cowboy with the exception of course that CDC Maverick has smooth awns while CDC Cowboy has rough awns.

Pedigreed seed increase and marketing will be handled by SeCan. CDC Maverick was tested in the Western Forage Barley Coop trials as FB205 and in CDC Trials as SB060176.

## CDC Haymaker Oat

Brian Rossnagel also announced that they are releasing their newest forage oat variety named CDC Haymaker. Please note that they have indicated that they are releasing CDC Haymaker rather than saying they have registered it since under current CFIA variety registration regulations, forage oat varieties are not subject to registration.

CDC Haymaker is designed as replacement for CDC Baler and shows some 7% higher forage dry matter yield than CDC Baler with similar forage quality. As a forage oat CDC Haymaker is not designed for the milling industry.

They will soon be seeking a seed agency for Pedigreed seed increase and marketing of this new variety.



**!!Check out the ARECA website!!**

<http://www.areca.ab.ca>



GWFA's home page can be found at <http://www.gwfa.areca.ab.ca>

*Inoculants continued from page 7*

### Seed Disinfectant

Generally, seed treatments used in Manitoba do not seriously harm bacterial cultures, but fungicide-treated seed requires special care. To ensure nodulation occurs, use two or three times the usual amount of inoculum.

Bacterial cultures should not be applied to seed treated with mercury or copper disinfectants, since these chemicals harm the bacteria. Instead, add inoculum to cracked wheat or sawdust and drill into the soil before seeding.

### Checking for Nitrogen Fixation

To determine if nitrogen fixation is occurring, dig up a plant and cut a few of the nodules. If nodules are red or pink inside, fixation is taking place.

### Crop Management

Proper treatment of bacterial cultures before and after inoculation leads to successful nodule formation. But remember, management practices associated with other crops must also be applied to the legume stand - legumes do not grow by nitrogen

alone.

### Summary

- Inoculate all legume seed.
- Purchase commercial inoculum specific to the legume being grown.
- Store inoculum in a cool, dry place until use.
- Use the slurry method of inoculation.
- Inoculate seed immediately before seeding.
- Sow inoculated seed in a moist seedbed.
- Careful seedbed preparation and good management practices are as important with inoculated legumes as other crops.

*From Manitoba Agriculture, Food and Rural Initiatives*



# GROWING FORWARD UPDATE

Growing Forward 

## Growing Forward Stewardship Plans

Stewardship Plans are designed to help producers demonstrate their environmental practices and plan for operational improvements that will reduce their environmental impact. Producers will be required to complete an Environmental Farm Plan (EFP) and a risk report based on their EFP which will direct them to one of three management programs that best suit their operation. Opportunities to complete an EFP will be available through Alberta Agriculture and Rural Development or GWFA.

### The programs available under Stewardship Plans are:

- ◆ Grazing & Winter Feeding Management (GWFM)
- ◆ Integrated Crop Management (ICM) **Closed**
- ◆ Manure Management (MM) **Open**

### Grazing and Winter Feeding Management:

The Grazing and Winter Feeding Management Program will close on August 31, 2012 to allow time to process applications before year end and project completion by client during normal construction season. Any new applications received after August 31st will be returned to the applicant. Please note the following:

- Meeting the August 31, 2012 deadline does NOT guarantee funding within the 2012-2013 Growing Forward program year.
- Applications are considered for approval based on meeting eligibility requirements and funding availability.
- Applications received before August 31, 2012 will be reviewed on a first-come first-served basis until all available funding has been allocated. The remaining applications will be placed in a queue should additional funds become available.
- Prior to applying for this program, please consider that your project must be completed before October 31, 2012.

In order to access the Work Plans and Program Applications for this program, potential applicants should contact the following:

For the GWFM Program or the ICM Program, contact:

⇒ Diana Bingham @ 780-632-5487

⇒ Heather Landiak @ 780-632-5467.

For the MM Program, contact:

⇒ Jennifer Neden @ 403-948-8535

You can also call:

⇒ Ag-Info Centre @ 310-3276

⇒ Mike Hittinger @ 780-349-4466 or Cell: 780-206-7669

⇒ Murray Green @ 403-948-8518 or Cell: 403-818-4516

⇒ or Albert Kuipers at the GWFA office @ 403-844-2645.



# Alberta EFP

## Environmental Farm Plan

Please call **GWFA Manager, Albert Kuipers at (403) 844-2645** or your local County Agricultural Services staff if you would like to complete an Environmental Farm Plan. **Your EFP is required** to apply for funding to the Environmental Stewardships Plan Program of Growing Forward. Grazing & Winter Feeding, Integrated Crop Management and Manure Management are the 3 Stewardship programs available.



### Soil Chemistry Now Available @ Soil Foodweb Canada!

Soil Foodweb Canada is proud to announce that effective immediately we will be offering not only biological testing but chemistry testing as well! We are using a 'Melich 1' extraction to

assess the water soluble portion of the macro and micronutrients.

Go to <http://soilfoodweb.ca/SFC-Newsletter4.4.pdf> for more information!

**Soil Foodweb Canada Ltd.**  
285 Service Rd. Box 420  
Vulcan, Alberta T0L 2B0  
403-485-6981

If you're interested in starting or being involved in a Grazing Club, please call: Arnold at 780 495-4593 or Albert at 403 844-2645.



Agriculture et  
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This publication is made possible by funding from Alberta Agriculture & Rural Development & Alberta Environment and Water via the Agriculture Opportunities Fund (AOF).





Agriculture Opportunity Fund 9

**!!!Don't miss any issues of The Blade!!!  
Join Grey Wooded Forage Association  
Or renew your membership!**

**2012 –2013 Memberships are available now for \$20.00  
and run from April 1,2012 to March 31,2013  
For more information phone 403-844-2645**

Become a part of an enthusiastic group of people who are  
exploring ways to turn grass into \$\$\$.

Membership is open to anyone interested in forage production and grazing management in an  
economically and environmentally sustainable way.

Members benefit by:

- Receiving discounts on Controlled Grazing Courses, seminars, tours, farm calls and consulting on grazing management, pasture rejuvenation, feed production (annual forages) and more.
- Receiving *The GWFA Newsletter* in Spring & Fall and *The Blade* monthly.
- Receive up-to-date information on G.W.F.A. activities via *The Blade*.

Please mail the portion below with a cheque for \$20.00 to:

Grey Wooded Forage Association  
Box 1448  
Rocky Mountain House, Alberta  
T4T-1B1

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Please give us an idea of what area of forage production you are interested in:

Controlled Grazing & Pasture Management: \_\_\_\_\_

Growing Annual Forages for Extended Grazing or Swath Grazing: \_\_\_\_\_

Growing Annual Forages for Silage or Greenfeed: \_\_\_\_\_

Growing Hay: \_\_\_\_\_ Ration Balancing: \_\_\_\_\_

Soil Biology: \_\_\_\_\_ Pasture Rejuvenation or Renovation: \_\_\_\_\_

Low Cost Cow/calf Production: \_\_\_\_\_

Environmental Sustainability: \_\_\_\_\_ Economical Sustainability: \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# AGRI-FACTS

October 2004

Agdex 420/52-4

## Beef Ration Rules of Thumb

This factsheet can both guide producers through a feed test and help them understand the results.

With a feed test in front of you, look at the following rules and compare them to the feed test. Remember, these are rules of thumb, which means they hold true most of the time, but variations in management and cow type will affect the end result.

These rules of thumb should not be considered a replacement for balancing rations with proven software, but rather an aid to understand the feed and where it fits in the management.

### Rules of Thumb

#### Dry matter

Always refer to the "dry matter" numbers. These numbers have the moisture factored out and allow the comparison of all feeds, from stage 1 grains.

#### Crude protein

Protein is a building block. The Beef Cow Rule of Thumb with protein is 7-9-11, which means an average cow requires a ration with crude protein of pregnancy, 9 per cent in late pregnancy

#### Energy

Energy gives the ability to use the building blocks for growth and other productive purposes. Learn one of the six measures for energy and stick with it. Using Total Digestible Nutrients (TDN) per cent, the Rule of Thumb is 55-60-65. This rule says that for a mature beef cow to maintain her body condition score (BCS) through the winter, the ration must have a TDN energy reading of 55 per cent in mid pregnancy, 60 per cent in late pregnancy and 65 per cent after calving.

# AGRI-FACTS

August 2009

Agdex 130/536-1

## Nutrient Management on Intensively Managed Pastures

Pastures are unique to agricultural production systems in that only a very small portion of the nutrients

effect of legumes

# AGRI-FACTS

September 2008

Agdex 420/56-3

## Agronomic Management of Swath Grazed Pastures

Feed, feeding, cow management and manure disposal can account for up to two-thirds of the total cost of production in a cow-calf operation. Systems that can extend the grazing season and reduce these costs are of great interest to cow-calf producers. One of these systems is swath grazing.

Many factors come into play to determine forage quality, quantity and unit cost of production in a swath grazing system. Some of these factors, such as weather, are

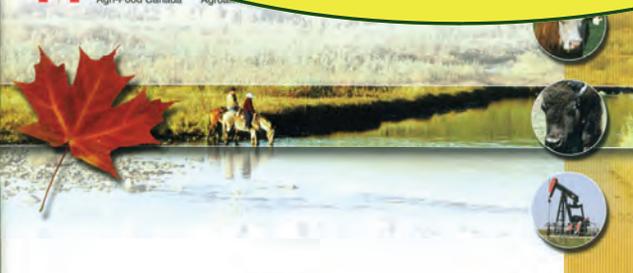
and environmental risks and pathways

of pools of nutrients including plant litter, living animals, large herbivores, above and soil microbes, and the

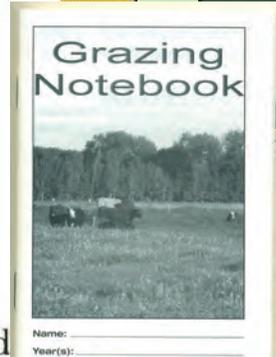
cycles develop as nutrients flow always from one pool to The processes and pathways of cycles are different for various but nutrient balances control

Inputs = outputs + losses when they are removed as hay or silage. These exported

These publications are available to our members by phoning or emailing the GWFA office!



## Management of Canadian Prairie Rangeland



# Pasture Planner

## Stock-poisoning Plants of Western Canada

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# AGRI-FACTS

Agdex 420/56-4

## Agronomic Management of Stockpiled Pastures



## YEAR ROUND GRAZING 365 DAYS



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## ***“GRASS ROOTS OF GRAZING”***

November 27 - 29, 2012

Sheraton Hotels & Resorts, Red Deer AB

*Keynote Speakers:* Neil Dennis    David Irvine    Charley Orchard    Glen Rabenberg

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