PCBFA
PEACE COUNTRY BEEF & FORAGE ASSOCIATION

Seed Production & Nutrient Management

By PCBFA Staff

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Forage Facts

Opportunities for Native Seed Production in the Peace Country

by Kaitlin McLachlan

Did you know that the Peace Country is the second largest grass and legume seed growing region in the world? Well, we are! Pretty neat eh? We can also boast being one of the top producers of creeping red fescue, brome-grass, timothy, red clover and alsike clover.

Combining fescue seed.
Photo credit: extension.oregonstate.edu

Growing these perennial seed crops is very beneficial for our farms. Integrating a perennial grass or legume in a rotation can be very beneficial to our soil, reduce erosion, and help to break pest, weed and disease cycles. A good stand of grass or legumes has a powerful root system that can infiltrate deep into the soil, helping to improve water infiltration and put organic matter back into the soil. Their deep and extensive root systems help to keep soil together and prevent erosion. By keeping a stand of grass, such as fescue, in a rotation for several years, it can also help to break insect cycles in the soil, such as flea beetles and wheat midge. A good forage stand also creates a habitat for beneficial insects, that can help to control pest species once the land is taken out of perennial production.

However, forage seed production is on the decline in our area. One of the main drivers of this trend is the price of forage seed. While forage seed prices are currently on the rebound, they are still not the cash crop that they once were. This has many folks moving away from forage seed production to a straight annual crop rotation. Also, with crops such as fescue, it takes at least two years before a crop can be harvested.

Wild Rye Grass.
Photo credit: http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex8345

So how can we as producers take advantage of our ideal perennial grass growing conditions, benefit from growing perennials, and make money doing it? Native grass seed is a potential fit for this gap. Native grass seed is rising in demand. This demand comes from reclamation work, landscaping, erosion control in ditches, as well as the rising popularity of cover crops and utilizing native grasses in grazing mixes. Native species such as Hairy Vetch, Canadian Milkvetch, Ticklegrass, and many types of bluegrass, wheatgrass and wild rye are native to our area and have potential to do very well as a seed crop.

Native grasses require fewer inputs than annual crops as they require fewer synthetic fertilizers. It is not actually recommended to place fertilizer with the seed, as it can damage the seed. Instead, it is recommended that fertilizer is applied prior to seeding grass. If this is not an option, then one has to be careful that there is adequate separation between the seed and fertilizer, such as side banding. Having these native species as a part of your rotation can also provide the same soil and pest management benefits listed above.

Hairy Vetch.
http://www.westcoastseeds.com

The increased demand has driven up the price of native seed. Since it is a highly specialized market, there is little market information out there. Therefore, it is recommended that producers contact local forage seed distributers to talk about potential marketing opportunities.

Native grasses also provide excellent grazing. As they are suited for our soil type and climate, with proper stand establishment and grazing management, a long-term, sustainable pasture can be established. A good mix can meet most of the nutritional requirements of lactating cows and yearlings. Some native pastures in the Peace have seen gains of up to 3lbs/day on yearlings. Native grazing mixes can be found at most of our local Peace Country forage seed dealers.

Wintering Site —

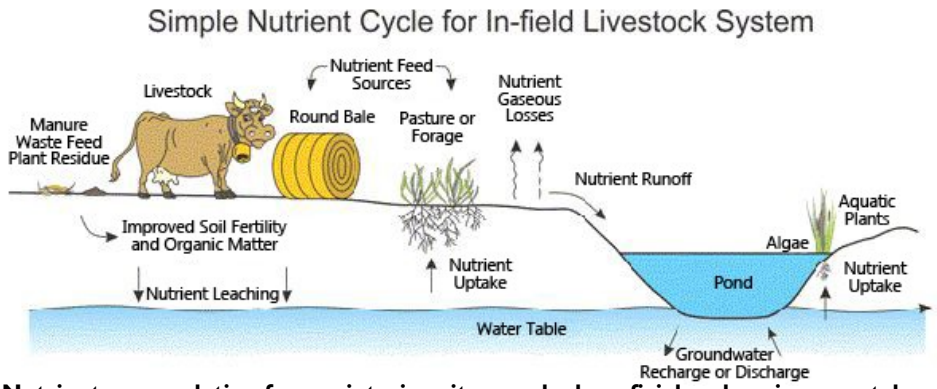
We are, we hope, about half through the winter, and are likely starting to see some accumulation of manure on our wintering sites. Due to the increasing number of producers wintering in fields as opposed to in corrals, our manure handling is drastically reduced. The majority of nutrients left in winter feeding sites are around feeding, watering and bedding areas as this is where livestock spend the majority of the time. When producers use in-field winter feeding sites like bale or swath grazing, nutrients deposited around feeding areas will be more evenly distributed than in confined feeding systems. The main nutrients we talk about are Nitrogen (N) and Phosphorus (P).

Most frequently when we think about issues coming from our wintering sites it due to runoff. Most of this runoff (80% according to the University of Manitoba) is due to snowmelt before the ground thaws. In these conditions, nutrients have no opportunity to be absorbed by the soil. Runoff in the winter results in more nutrient transport than runoff in the winter, which typically results in more nutrient leaching. When leaching does occur, the nutrients are carried down, through the root zone and potentially into groundwater aquifers. Gaseous loss of nitrogen through ammonia gas and nitrous oxide are also possibilities that impact air quality.

Wintering sites that are selected with nutrient management in mind and are properly managed can benefit poor soils by contributing nutrients and organic matter, which can help improve soil structure and health. So how do we select a wintering site that will benefit us in the long run, and lower the risk of environmental risks?

There are 5 aspects of a wintering site that we should look at when making an assessment as to where to put our wintering site and those are (from *Alberta Nutrient Management Planning Guide*):

* Soil physical properties (look for sandy loam or clay loam because of higher water holding capacity and limited leaching)
* Slope (gently sloping or flat land present less risk for runoff and increased nutrient transport)
* Water bodies (there is always a potential risk to water quality when sites are close to water bodies)
* Problematic soil conditions (salinity, pH, solonetzic soils, organic soils, eroded soils – these can limit the potential for benefits from wintering sites)
* Past and current site management (can help identify any changes in management that could be beneficial)



Nutrient accumulation from wintering sites can be beneficial and environmental risks, depending on our management.
(from *Sustainable Management of Nutrients on the Landscape for In-field Livestock Winter Feeding Systems*)

Now that we have a site selected, management of the site will help reduce the environmental risks associated with nutrient accumulation on these wintering sites. We can do this by preventing the buildup of feed and manure. Feed can build up if we continuously feed too much, or if there is a great deal of feed wasted, both of which can be managed. Feed wastage depends on feed quality, feeding system, and how livestock access feed. For example swath grazing, grazing annual forages or stockpiled forage feed wastage have a low impact on nutrient loading the field because the feed waste is scattered across the field. Compared to processing or unrolling bales, where cattle tend to linger around the feeding area, so both feed waste and manure accumulate here. When using bales in our wintering sites, whether its bale grazing, processing or unrolling, ensuring that the feeding area is moved frequently to more evenly distribute feed waste and manure. In cases where whole bales are fed, the nutrients will build up in a circle around the bale. Feed waste can be beneficial for building soil organic matter, and some waste is unavoidable. For bale and swath grazing, the use of limiting fences can help to reduce feed wastage by making cattle clean up after themselves. Feed waste can be beneficial for building soil organic matter, and some waste is unavoidable. For bale and swath grazing, the use of limiting fences can help to reduce feed wastage by making cattle clean up after themselves. The use of portable feeders can reduce feed wastage as well, and by moving the feeders, manure is distributed evenly across the field. By evenly distributing manure deposits and feed wastage, not only are nutrients evenly distributed as well, but by also limiting feed wastage, there is not a buildup of feed to impede plant growth for the next year.

Nutrient Management

By: Stacy Pritchard

As we talked about before, surface runoff is a major concern for nutrient loss. Knowing where our runoff is flowing and where it will wind up is very important for managing our wintering sites. By placing feed, bedding, shelter and water away from runoff paths, or placing them in areas with no runoff into surface water, we can limit the contamination of water bodies.

Bale-grazing results in circles of residue. (image from ranchers.net)

In addition to feeding management, bedding and shelter can also be managed to limit the buildup of nutrients and manure. Bedding and shelter areas will always have a high accumulation of nutrients, but by providing a large area of bedding and shelter, or by moving this area around, nutrients will be spread more uniformly. Using portable windbreaks can allow us to move across the field, spreading nutrients evenly. It is recommended that portable windbreaks are moved every 2 weeks (*Saskatchewan Water Security Agency 2013*). Portable windbreaks can also be used in addition to natural bush shelters, treed fencelines and permanent shelters to help spread nutrients and limit the time livestock spend in the natural areas. Riparian areas should not be used as shelter, as livestock tend to linger in riparian areas and this can lead to degradation and decreased water quality.

Managing a water source for our wintering sites is critical to our livestock. As we saw in January's *Forage Facts* there are several options available for producers. Direct access to a waterbody runs the risk of water contamination as well as bank degradation, not to mention the animal safety risk of falling through ice. If livestock do have direct access to water, controlling the access to the water body with fencing can limit the degradation of the bank to one area, but still runs the risk of water contamination. One important note to make is to always have a backup plan for water. This is not only true when using snow, but also for well or dugout sources – what would happen if our well or pump failed?

Now, we've looked at selecting a site, managing feeding, bedding, shelter and water, but what about management of the site after the winter feeding season? Well, we've tried our best, but inevitably there will be areas with a buildup of manure, feed wastage or bedding. These areas will impede growth, and also result in uneven nutrient distribution. By addressing these "hotspots" vegetation cover will remain even, and this can reduce erosion and runoff. Harrowing these areas can help spread the residue build up around, promoting even plant growth and distributing the nutrients.

Nutrients accumulate in wintering sites; rotate sites to avoid excess nutrients (image from www.nd.gov/ndda

Wintering sites should be rotated in order to get the most benefits out of this type of system. It allows the crop, whether its hay, pasture or annual crop to use the nutrients applied throughout the winter. By rotating our wintering sites, we also reduce the risk for nutrient buildup and leaching. How often we return to a wintering site depends somewhat on our feeding method. On sites where we import feed (bales for grazing, processing or unrolling), there is a higher potential for nutrient accumulation and nutrient distribution isn't always even. On sites where we don't import feeds (swath, corn, stockpile grazing), nutrient distribution is more even, but overuse of these sites can still result in excess nutrient buildup even though it is more evenly distributed. For imported and non-imported feed systems the recommended feeding frequency is once every 3-4 years. If it is not possible to rotate the entire site, rotating the location of the feeding site and where animals are bedded should be done every year to reduce the risk of excess nutrient accumulation.

Managing our wintering sites can help us get the most out of these alternative feeding system. By managing all aspects of these systems (feed, water, bedding and shelter) we can reduce the environmental risk associated with wintering sites.

There are several resources available for producers:

* *Wintering Site Assessment and Design Tool* (available in our office)
* *Sustainable Management of Nutrients on the Landscape for In-field Livestock Winter Feeding Systems*

Contact us for:

- *Project Ideas*
- *Feed Testing*
- *Environmental Farm Plans*
- *Growing Forward 2 Assistance*
- *Ration Formulation Help*
- *Past Project Information*

Upcoming Events!

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Managing Information of Profitable Cow/Calf Production

* Feb 10, 2015
* Days Inn, High Prairie
* 9:30am-3:30pm
* Cost: $25
* BIXS 2.0 * Herd Management Options * Genetic Selection Tools *Animal Health & Welfare * Nutrition * Profiting for Information Management & Genomics
* Register by Feb 6, 2015 by calling the Ag-Info Centre 1-800-387-6030

Land Acquisition & Planning for the Future

* March 13 2015 *at the Peace Country Classic*
* 9:45am Registration
* 10am Start and Wrap-up by 11:45am
* Fred Mertz from *Farming for Freedom*
* Learn about land acquisition and tax planning—aiming to help young farmers set up their business to succeed!

Dugout Workshop

* March 17, 2015
* Valleyview Ag Society Hall
* *More Details to Come!*

Sprayer Tech Workshop

* Late March 2015
* Eaglesham
* *More Details to Come!*

Peace Country Crop Production Workshop

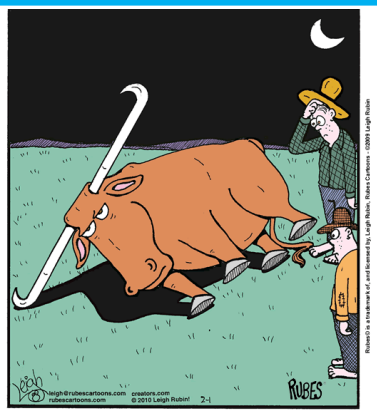
* Feb 12, 2015
* Spirit River - Culture Room at the Arena
* 9:30am Registration
* Topics to be covered include:

Crop Pest Update & 2015 Forecast * Market Update & Outlook * Local Pea Producer Panel

PCBFA AGM

* Feb 20, 2015
* Fairview
* 4:30pm registration
* 5pm Meeting
* 6pm Supper
* 8pm Entertainment

$55/person or $75/farm pair
Includes 2015
Annual Membership!



The Johnson boys discover why cow tipping never quite caught on in Texas.

For more information or to register for PCBFA events please call Stacy at 780-835-6799 or 780-772-0277!

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