Forage and Livestock eNews

Updates and information from across the industry

December 22, 2015 - Vol 7, Issue 12

Articles In This Issue

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Greetings!

December is here and along with the holiday season this month also brings announcements of upcoming winter conferences and events. January and February are busy months for connecting with others in the industry and getting up to date on new ideas and research so

make sure to check out the events section and see what's going on in 2016! Plan to attend the Saskatchewan Beef Industry Conference from January 20-22, 2016 in Saskatoon to get the latest updates from the Saskatchewan beef and forage industries and stop by the Saskatchewan Forage Council booth for a visit!

This final edition of the 2015 eNews includes articles on forage corn research in Saskatchewan, the Alberta Beef, Forage and Grazing Centre, updates from the CFGA Conference and more.

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Please feel free to forward the *eNews* on to others you think may be interested in forage and livestock industry updates -signing up is as easy as clicking the 'Join Our Mailing List!' on the left. We always appreciate your feedback, event listings or article suggestions. Merry Christmas and Happy New Year from the SFC!

Your *Forage and Livestock eNews* Editor,
Laura Hoimyr

Canadian Forage and Grassland Association Conference a Success

By Leanna Rousell, Saskatchewan Forage Council Executive Director

6th Annual CFGA Conference

In mid-November the SFC co-hosted the 6th annual Canadian Forage and Grassland Conference in Saskatoon. The theme of the conference was Canadian Forage in the International Year of Soils: Capture the Intensity. By all measures, the conference was a resounding success. The compliment of speakers was well crafted in that each presentation tended to resonate with the next. Virtual farm tours by producers demonstrated how research and extension influenced decisions and practices on their farms. Under seeding perennial (cocktail) mixtures with annual crops in mixed farming systems and use of multi-species perennial mixtures in intensive rotational grazing operations were two of the ways in which producers are seeking to build soil health, enhance their overall productivity and improve their bottom line.

The conference also had updates from Dairy Farmers of Canada, the Alberta Beef Producers and the Canadian Cattlemen's Association Sustainable Beef Roundtable. Having broad representation underscores the complex linkages between the various sectors that rely on forages.

Doug Wray, CFGA chairman, closed out the two day event with comments about the importance of a strong forage sector and cautious optimism about renewed interest and funding for forage crop research and extension across Canada.

A special congratulations to Dr. Bruce Coulman, U of S for receiving the CFGA Leadership Award.

Presentations from the conference are posted on the CFGA website. Click here to navigate to the conference proceedings page.

The next conference will be held in Winnipeg Nov 15-17, 2016..stay tuned for more details.

Image: Dr. Bruce Coulman is presented with the CFGA Leadership Award
Image Credit: Leanna Rousell

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Manitoba's Climate Plan Promotes Forages

Manitoba Forage and Grassland Association (MFGA) Press Release, December 9, 2015

Winnipeg, Mb, Dec 9, 2015---A loud and clear carbon-storage nod at forages within the recently-released Manitoba Climate Change and Green Economy Action Plan has reconfirmed what Manitoba Forage and Grasslands Association producers have been saying for years. Grass and forages are good for business and good for the environment.

"We congratulate the Manitoba government and leaders of the Manitoba Agriculture Food and Rural Development department for including forages and grasslands as part of the carbon solution," says Henry Nelson, MFGA vice-chair and Co-Chair, Environment Committee, Canadian Forage and Grasslands Association. "There's a need for a better and clearer understanding of perennial forages and pastures role in sequestering carbon, and also the relationship of forages and grasslands to the other major greenhouse gases such as methane and nitrous oxide. We see the inclusion in the province's climate plan as a valuable

boost to this needed research and attention."

The Manitoba plan stated:
Promoting Perennial Crops - Manitoba will promote perennial grains and forages to conserve soil and store carbon through research partnerships, including with the University of Manitoba and the Manitoba Forage and Grassland Association.
The timing, says Nelson, is perfect.

"With the Paris conference on climate change and the actions of various jurisdictions such as Manitoba, Ontario, Quebec and California planning to adopt Cap-and-Trade systems that harmonize how they track and measure greenhouse gas emissions and collaborate on climate adaptation efforts, the timing is perfect to learn more about and promote our forages and grasslands," says Nelson. "At the same time, we know these grasses are in peril. This directive will help spur investigation of the potential for delivering carbon offsets from Manitoba farms and that is especially encouraging for Manitoba farmers because our current market doesn't acknowledge the public good from these grass systems. This may be a very welcome paradigm shift on that front." Nelson says MFGA has been very active on numerous fronts extolling the benefits of forages and grasslands on economic and environmental platforms.

"Forage and beef producers, others in the agriculture industry, governments, conservation groups, insurance companies, academia and land and water managers and many others all find common footing on the benefits of forages and grasslands," says Nelson. "Manitoba forages and grasslands are among the best in the world. It's time we found ways together to collectively and aggressively promote them as critical and key components of our healthy landscape. Looking at these grasses and forages for their potential to store carbon as well as the role in healthy soils is excellent news going forward from business and global health standpoints."

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Alberta Beef, Forage and Grazing Centre

Alberta Beef Producers, Press Release, December 9, 2015

Alberta Beef Producers (ABP), Agriculture and Agri-Food Canada (AAFC), and Alberta Agriculture and Forestry (AF) are pleased to announce the Alberta Beef, Forage and Grazing Centre Agreement. It is an industry-government partnership designed to coordinate and advance research and extension activities related to the forage and beef sectors in the province.

The initial five-year agreement highlights specific, measureable, long-term strategic goals designed to improve the productivity, competitiveness, sustainability, land and resource use efficiency of the forage-beef system. The goals are as follows:

* Build and maintain research and extension capacity
* Reduce winter feeding costs by 50 percent

* Reduce environmental footprint of the cowherd by 15 percent
* Improve cow efficiency by 15 percent
* Reduce backgrounding costs by 50 percent
* Improve late summer/fall pasture productivity by 30 percent

The concept for the Alberta Beef, Forage and Grazing Centre arose from producer and industry group concerns regarding the need for essential applied forage research and extension for beef producers in Alberta. This need was further confirmed during focus group sessions held in Strathmore, Lacombe, Vegreville and Grande Prairie in 2011.

The next few months will see key government and industry personnel working together to create Terms of Reference and an initial work plan. Identifying key stakeholders to be part of the Industry Advisory Board will also be an important early task for the Centre.

For more information or media enquires please contact:

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To view the full press release, click here.

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Forge Corn Research in Saskatchewan

Do Cool-Seasoned Corn Varieties Grown in Saskatchewan Affect Feed Energy Values in Dairy and Beef Cattle?

Author: Dr. Peiqiang Yu, Ministry of Agriculture Strategic Research Chair in Feed R&D, Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan

Summary
This study investigated whether corn varieties grown in cooler climates (Saskatchewan) affected energy value in both dairy and beef cattle. Forage samples from six corn cultivars (Pioneer and Hyland) which reached target crop heat units (>2000) were used to compare energy value. This article reports the energy values among the corn varieties grown in Saskatchewan for both beef and dairy cattle.

What was the purpose of this research?
Canada harvests over 190,000 ha of corn fresh forage with the highest production in Ontario (63 %) and the second highest (21%) of Canadian silage corn is produced in Quebec (Lauer 2001).

Corn grown in the Canadian prairies is different from conventional corn grown in warm climates (Lassiter et al 1958). The main differences are due to shorter growing season and lower growing temperatures (cool) in Canadian prairies compared to warm season corn in the USA (Lauer et al 2001). These corn cultivars are bred aiming to achieve substantial growth in cool climates. The cultivar differences lead to changes in nutrient compositions of silages (Mahanna 2010) when they are grown in similar soil and weather conditions.

In relation to corn cultivation, crop heat units (CHU) are calculated from daytime temperature above 10°C and nighttime temperatures above 4.4°C on a daily basis from seeding to harvest. In general, many corn cultivars require 2000 or more CHU to reach silage harvest stage with kernel maturity of 45% dry matter (DM).

In this project an evaluation of fresh corn forage from six corn cultivars grown at the Outlook research center with emphasis to the nutritional and digestive characteristics was carried out and advanced models were employed such as the National Research Council 2001 and the Cornell CNCPS (Fox et al 2004).

Dry matter degradability of roughages and nutrient disappearance in the rumen are considered major evidence when it comes to the evaluation systems of ruminant feeds. The rate and extent of rumen DM fermentation are very important determinants for the nutrients absorbed by the ruminants (Kamalak et al 2005). In situ technique is one of the most the common methods for the determination of degradability parameters of DM, organic matter (OM), protein, fibre, starch and other nutrients of feeds (Van Vuuren et al 1991).

Nutrition models are important for the success of dairy rations (Fox et al 2004) and are useful tools that surround necessary information for the cow's performance in response to the composition of the ration. The use of in situ techniques and mathematical approaches that mimic the events occurring in the ruminants' digestive tract and these events as well as the different nutrition models, are capable of estimating the availability of protein in the small intestine. Several sophisticated models have been developed for dairy cows to quantitatively predict protein nutrient supply, both in the rumen and small intestine such as the French Protein truly Digestible in the small Intestine (PDI) system (Verite and Geay 1987, INRA 2007).

We hypothesize that not all corn cultivars are the same in nutritional and digestive properties. Therefore, the overall objective of this project was to evaluate nutrient profiles of six corn cultivars, and nutrient availability to dairy cattle. However, the main objective was to determine nutrient profiles of the cool season corn cultivars and to quantify the relationship between heat units and nutritive values. The purpose of this study was to answer the question: "Do Cool-Season Corn Varieties Grown in Saskatchewan Affect Feed Energy Values in Dairy and Beef Cattle?"

What corn varieties did we evaluate?

Six corn varieties were grown in Outlook (Canada-Saskatchewan Irrigation Diversification Centre). Cultivars were Pioneer 7443R, Pioneer 7213R, Pioneer 7535R, Hyland BAXXOS RR, Hyland SR22 and Hyland SR06. Cultivation was designed with four replicates with an outcome of 24 plots from six cultivars.

What were the key results from the research?

Total digestible nutrients (TDN1×, 67.8 % DM), predicted DE (2.9 Mcal kg-1), ME for production and NE (for lactation, maintenance and weight gain) determined using NRC 2001 (Table 1), were found to be high in Pioneer 7213R and the lowest in Hyland SR22. Truly digestible nutrients such as NFC, NDF, CP and FA incorporate to estimate TDN and energy (Yu et al 2003).

The energy estimates were similar between Pioneer (DE3× 2.9, ME3× 2.2 and NEL3× 1.4 Mcal kg-1 DM) and Hyland (DE3x 2.8, ME3× 2.2 and NEL3× 1.5 Mcal kg-1 DM). These findings were in close agreement with NRC 2001 published values of regular corn silage (TDN 68.8 %, DE1× 2.9, ME3× 2.3 and NEL3× 1.5 Mcal kg-1) (NRC 2001).

Therefore, it proves that these corn varieties grown in cooler climates are not inferior in energy content and digestible nutrients for the purpose of ensiling or for feeding ruminants as is (for grazing).

In addition, this issue is over-come by mixing corn silage with high protein feed for the preparation of TMR (Jones et al 2001, Yu 2005). There are many high protein concentrate feeds such as canola meal and DDGS are available as industrial by-products and therefore, corn forage will provide sufficient fibre and carbohydrate to formulate a balanced ration (Jones et al 2001, Nuez-Ortin and Yu 2010).

Our results confirm that low CHU access would lead to relatively low CP, SCP, despite unaffected NDF content. Other growth factors for corn such as soil, irrigation and fertilization (even with barn manure) would improve nutritional quality of silage by enhanced plant growth and maturation (Anderegg and Lichtenstein 1981, Mahanna 2010). Nutrient composition of corn fresh forage seemed to have optimal levels of carbohydrate and protein for ensiling.

Conclusions and implications

Cultivar differences were found in many aspects of nutritional evaluations conducted in this study. However, nutrient content of fresh corn forage indicated that they are nutritionally well compiled to

use as ruminant feed even though they were grown in cooler climate.

Other Project Information:
People involved in this project:
Principal Investigator: Professor Dr. Peiqiang Yu1*
PDF fellows: Sam Abeysekara and Hangshu Xin
Project Collaborators/Co-investigators: D. A. Christensen1, J. J. McKinnon1,
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2016 Saskatchewan Agriculture Scholarship

Government of Saskatchewan Ministry of Agriculture, October 23, 2015

Today, Agriculture Minister Lyle Stewart announced the 2016 Saskatchewan Agriculture Student Scholarship.

"This year's scholarship theme, *Stewards in Sustainability*, is designed to get young people thinking about the relationship between agriculture and the environment," Stewart said. "With this scholarship, passionate youth will have the opportunity to pursue careers in the many professions that the industry has to offer."

Interested students can apply for the scholarship by submitting a creative, three minute video or well-researched 1,000 word essay based on topics surrounding agriculture and sustainability. These topics include technology's role in agricultural sustainability, sustainable production practices, youth's role in sustainability and environmental success stories.

"This scholarship is such a generous and amazing opportunity for students who are starting their agricultural education," winner of the 2015 Saskatchewan Agriculture Student Scholarship Morgan Heidecker said. "Simply completing the application myself -- which was in the form of a video -- made me realize how excited I am to pursue my future career in the agriculture industry! I'd definitely recommend that anyone who's interested in it apply!"

One winning scholarship of $4,000 and three runner-up scholarships of $2,000 will be awarded to students in Grade 12 and recent graduates entering agriculture-related post-secondary studies in 2016.

The application deadline is March 1, 2016.

For more information on the Saskatchewan Agriculture Student Scholarship and to view last year's winners, visit www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/thinkag/prepare-for-a-career-in-ag/scholarships

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The Root of It All

Reprinted with permission from Manitoba Forage and Grassland Association (MFGA) eBulletin December 5, 2015
John MacGregor, MFGA Extension Support

In the 70's and 80's an organization known as the Eastern Grassland Association (EGS) had the slogan "Forage: the root of it all". This producer organization knew and promoted the benefits of forage.

I mention this because if you go to a meeting on forages or grazing you are likely to see a slide showing how grazing strategies can and do affect the amount of roots a plant produces and, on the other side, how the amount of roots a plant has affects its ability to rebound and produce more leafy material.

The amount of root material under your forage has other benefits other than the production of leafy material. Adequate root mass is responsible for holding soil (erosion), providing organic matter to hold water and sequestering carbon deep into the soil.

How deep do forage roots go isn't all that easy to determine. When you dig up a clump of grass you may see a root ball that is one or two feet down but that might just be the tip of the iceberg. Thanks to Jerry Glover an agro ecologist from Kansas and Jim Richardson, a photographer with National Geographic, you can get a fairly impressive idea of how deep roots can penetrate the earth. For more photos on Jerry's work and the techniques used to create the photos click on National Geographic.

Image: Dr, Jerry Glover next to a 14 ft tangle of Indian grass, compass plant and big bluestem grass he grew.
Image Credit: National Geographic

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Feed Quality of Stockpiled Forages

Manitoba Agriculture, Food and Rural Initiatives, Agriculture and Agri-Food Canada and Manitoba

Forage Council Fact Sheet

What is Stockpiled Forage?

Stockpiling forage is a method of extending the grazing season beyond the growing season. It saves pasture and hay fields for fall and winter grazing, after forage growth has stopped. Stockpiled forage can be used from October to early December, or until weather and snow conditions prevent grazing. Stockpiled forage can also be used in early spring, before new growth pasture is available.

Why use Stockpiled Forage?

On the Canadian Prairies, winter feed is typically the major expense for cow herds. Stored feed is about double the cost of grazing forage. Using stockpiled forage to lengthen the grazing season can greatly reduce winter feeding costs.

What class of livestock benefits from stockpiled forage?

Stockpiled forage is primarily for mature, dry cows in early to mid-gestation. Stockpiled forage rarely meets the nutritional requirements of young, growing stock, early lactation or thin cows. This is particularly true as the season progresses or when there's inclement weather.

Is stockpiled forage quality adequate?

Three years of forage testing in southwestern Manitoba has shown that stockpiled grass has adequate nutritional quality from October to December for dry, mature cows in early- to mid-gestation. Stockpiled alfalfa has adequate nutritional quality from October until the end of November. Alfalfa quality depends on leaf retention. Once alfalfa sheds its leaves, forage quality declines rapidly. The nutritional value of stockpiled forage used in March and April does not meet the nutritional needs of all classes of cattle. Supplements are required if stockpiled forage is used in early spring.

How is stockpiled forage produced?

To produce quality, stockpiled forage, the field must be grazed or hayed in mid-summer and then allowed to regrow for winter or fall grazing. This method provides higher nutritional quality than forage that is not harvested at all during the growing season. The more mature the forage, the poorer the quality. Fully mature forage is too low in nutritional quality to maintain a dry cow.

To view the full fact sheet, click here.

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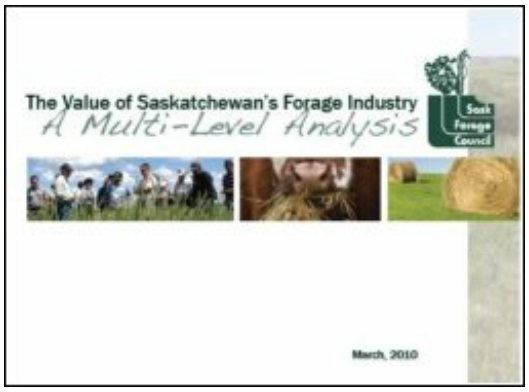
The Value of Saskatchewan's Forage Industry .....

"This report provides evidence that forages can be considered with equal importance alongside other agricultural commodities grown in this province. Through extensive research and stakeholder consultation, this study found the total value of the forage industry to be between $2 and $3 billion/year in Saskatchewan"

To view the *Saskatchewan Forage Industry Analysis* Report, click here.



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Upcoming Events

Inspiring Ag Innovation Annual Conference and AGM

January 7-8, 2016

Saskatoon, SK

Brought to you by Saskatchewan Young Ag Entrepreneurs, this event features speakers John Gormley, Tom Wolf, Shaun Haney and many more. Student and member discounts are in effect.
To view poster, click here.
To find out more, visit the website.

Saskatchewan Sheep Development Board Symposium and AGM

January 15&16, 2016

Regina, SK

This two-day event for the sheep industry will be held at the Ramada Plaza in Regina. Cost is $200/couple or $125/single participant and includes continental breakfast, breaks, lunch, education session and breakfast.
To see the full agenda, click here.
To register or for more details, visit the website.

Saskatchewan Beef Industry Conference

January 20-22, 2016

Saskatoon, SK

Saskatchewan's Premier Beef Event! The Beef Industry Conference will be held at the Saskatoon Inn from January 20-22. For more information or to register, click here.

2016 Western Canada Feedlot Management School (WCFMS)

February 2-4, 2016

Saskatoon, SK

Registration is now open for the 2016 Western Canada Feedlot Management School (WCFMS) on February 2-4, 2016 presented by the Saskatchewan Cattle Feeders Association, the University of Saskatchewan and the Saskatchewan Ministry of Agriculture. The theme for this

year's school is *The Keys to Backgrounding Success*-so if you are new to feeding calves, or if you are interested in hearing from producers and experts in the fields of animal health, nutrition and feedlot management, you won't want to miss this event!
To view the full agenda or to register, www.saskcattle.com.

Canadian Western Holistic Conference
February 15-17, 2016
Manitou, SK
Every farm and ranch is unique and holistic management enables you to deal with the uniqueness. Registration includes two coffee breaks, two evening meals and two lunches. Early registration cost is $185/person or $120 per student.
To find out more about the conference and registration, click here.

Restoration Training Workshop
February 16, 2016
Saskatoon, SK
The PCESC 2016 Planning Committee is very excited to announce that a Restoration Training Workshop will take place immediately preceding the 11th Prairie Conservation and Endangered Species Conference on Tuesday, February 16 at the Saskatoon Inn in Saskatoon, Saskatchewan. The full day Restoration Training Workshop, titled "Natural Processes for the Restoration of Drastically Disturbed Sites" will be lead by David Polster, R.P. Bio.
For more information or to register , visit the PCESC website.

Prairie Conservation and Endangered Species Conference
February 16-18, 2016
Saskatoon, SK
The 11th Prairie Conservation and Endangered Species Conference will be held February 16, 17 & 18, 2016 in Saskatoon, Saskatchewan. The theme is Prairie: It's a Happening Place! This year's event organizers are the Saskatchewan Prairie Conservation Action Plan.
For more information, visit the website at www.pcesc.ca.

International Rangeland Congress 2016
July 17-22, 2016
Saskatoon, SK
The future management of grazing lands in a high-tech world. Plan to join us! This all encompassing Congress will cover the Ecology, Management and Policy issues of all types of grazing lands around the world.
Event Registration is now open! Click here to register online today.
For more information, go to www.irc2016canada.ca.

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Saskatchewan Forage Council Membership

Be Sure Your Voice in the Forage Industry Counts!

- Incorporated under *The Co-operatives Act*, a membership fee for the SFC is a one-time cost of $25.00;
- The SFC has worked in the province on behalf of **ALL** forage industry stakeholders (and that's a very extensive and diverse group) for more than 20 years;
- If you are involved with production, management, protection, harvesting, storage, utilization or marketing of forage products, the SFC wants your involvement and input;
- The SFC is committed to placing a focus and awareness on the importance of forages in our province.

The SFC at a glance...

With a mandate to enhance the province's forage and grassland industry, the Saskatchewan Forage Council (SFC) strives to partner with all sectors of the industry - producers, industry organizations and companies, government and university.

Formed in 1988, our objectives are focused on the development and dissemination of information related to the production and utilization of all forage resources, prioritization of forage research and collaboration with governments to develop and implement effective policies and programs as they relate to forage production and marketing.

To learn more about becoming a member Click Here.

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We welcome questions about article submission or to find out more about sponsorship, *please contact the Saskatchewan Forage Council at:*

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The Saskatchewan Forage Council recognizes our Annual Supporters:


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