



Saskatchewan Hay & Pasture Report

Volume 19, Issue 2

July 5, 2018

Note from the Saskatchewan Forage Council

July marks the second Hay and Pasture Report for the year, and the SFC wishes you the best this forage growing season. Haying is just getting underway in many parts of Saskatchewan, and many producers are hoping to replenish short feed supplies after a challenging 2017. In this issue we bring you information on both haying and grazing, as well as forage market information to keep you up to date on pricing and supply.

As always, we welcome your feedback and encourage anyone interested in being placed on our email distribution list to contact the SFC at office@saskforage.ca. Please visit our website www.saskforage.ca for regular news and information related to the forage industry.

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Saskatchewan Agriculture Crop Report

For the period ending June 25, 2018



Across the province, the majority of crops are in good condition and at their normal stages of development for this time of year, according to Saskatchewan Agriculture's Weekly Crop Report.

Many areas received rain showers this week, although amounts varied significantly. In some areas in the southwest, the rain has helped replenish top soil moisture. The Vanguard area received 80 mm of rain, the

Shaunavon area 49 mm, the Success area 39 mm, the Fife Lake area 23 mm, the Mossbank area 15 mm and the Tompkins area 18 mm. Other parts of Saskatchewan reporting significant rainfall include the Broadview area (56 mm), the Fillmore area (30 mm), the Jedburgh area (53 mm), the Humboldt area (38 mm), the Eyebrow area (42 mm) and the Tisdale area (32 mm).

Provincially, topsoil moisture conditions on cropland are rated as two per cent surplus, 64 per cent adequate, 30 per cent short and four per cent very short. Hay land and pasture topsoil moisture is rated as 55 per cent adequate, 35 per cent short and 10 per cent very short. Topsoil moisture is in shortest supply in the southwest.

Haying operations have started and five per cent of the hay crop has been cut and two per cent baled or put into silage. Across the province, quality is rated as eight per cent excellent, 44 per cent good, 38 per cent fair and 10 per cent poor.

[Read the full report here](#)

Hay Preservatives

Saskatchewan Ministry of Agriculture

Hay preservatives are additives that reduce hay drying times by allowing producers to bale hay at higher moisture content. The role of forage preservatives is to reduce losses due to moulds and heating after baling. The amount of preservative needed will depend on the moisture content of the forage in the swath.

The Effectiveness of Preservatives

- **Preservatives are effective when** - moisture content of the hay is between 20 and 30 per cent at harvest time.
- **Preservatives are not effective** - if the moisture content is greater than 30 per cent.

Although, there should be less leaf shatter and potentially better quality forage when baling at higher moisture content, as a rule, preservatives will not increase forage quality. Once quality deteriorates, adding a preservative will not enhance the quality. The exception may be where non-protein nitrogen, such as anhydrous ammonia, can slightly increase the crude protein levels in the hay. Some of the ammonia will bind with plant material and increase the overall protein content of the feed. However, this potential improvement is minor compared to the importance of proper hay making procedures.

There are three types of preservative:

- **Organic acids** - When applied, organic acids produce an acidic environment (low pH) that is not conducive for mould or bacterial growth. Generally, low pH does not affect hay intake. The two main types of acids that are used as preservatives are propionic and acetic acid. Propionic acid is more effective at controlling mould and bacterial growth and is more commonly. Combining the two acids has proven to be quite effective. These acids can be corrosive to the haying equipment if used in their pure form. Buffered acids are less corrosive but are less effective.
- **Bacterial inoculants** - Bacterial inoculants are similar to silage inoculants. Most contain lactic acid forming bacteria that compete with mould forming organisms and help maintain forage quality. Some inoculants contain combinations of bacteria and enzymes. The role of the enzyme is to break down plant cells, making more cellulose and starch available to the lactic acid forming bacteria.
- **Anhydrous ammonia** - Anhydrous ammonia is more commonly used to improve the feeding value of straw and chaff. It can also be applied to high quality forages to prevent heating and spoilage, when baled at high moisture content. Anhydrous ammonia binds to moisture, reducing the availability to mould and bacteria. It also reduces the number of mould forming bacteria through sterilization. However, anhydrous ammonia can create a toxic compound if it's applied to high quality forage such as alfalfa. Bales that have been treated with anhydrous ammonia should not be stored for long periods. It is recommended that the hay be used within one to two months.

Preservative	Mode of action	Application Method	Moisture Content of Hay	Pros & Cons
Propionic acid	Controls mould and bacterial growth by altering pH.	Liquid - Added before swaths are baled.	Up to 30%	<ul style="list-style-type: none"> • Can be stored • Corrosive

Acetic acid	Controls mould and bacterial growth by altering pH.	Liquid - Added before swaths are baled.	Up to 30%	<ul style="list-style-type: none"> • Can be stored • Corrosive • Not as effective as Propionic
Buffered Acid (ie: Ammonium propionate)	Controls mould and bacterial growth.	Liquid added before swaths are baled.	Up to 30%	<ul style="list-style-type: none"> • Not as corrosive as concentrated acids • Not as effective as concentrated acids
Bacterial Inoculants	Competes with other microorganisms in the hay	Liquid added before swaths are baled	Up to 23%	<ul style="list-style-type: none"> • Can't be stored • Designed for silage production (aerobic condition with moisture content of 45% or more)
Anhydrous Ammonia	Binds to moisture in hay making it unavailable to bacteria.	Injected into bale or released into covered bale stack.	Up to 30%	<ul style="list-style-type: none"> • Increases CP • Can't be used on all hay crops • Can't store treated hay for long periods

[View the original article here.](#)

For more information, contact the Agriculture Knowledge Centre at 1-866-457-2377.

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Grazing knowledge and research

Every livestock operation and grazier has a slightly different take on the best grazing models and systems to maximize livestock and forage health and production. Below are excerpts from some articles to help those looking for advice on implementing new grazing systems or thinking of changing some grazing strategies.

Discoveries from a leading grazing researcher

By: Alan Newport, Beef Producer, October 30, 2017

www.beefproducer.com

In his years of studying great graziers, Texas A&M range scientist Richard Teague has come up with some valuable observations.

Teague has watched and mixed with top grazing managers his entire career, but began in earnest about 10 years ago to define and measure the methods and results of those that use managed grazing. He and cooperating researchers have published articles in scientific journals and are now conducting research all over the world to measure the effects on soil health and forage components.

Teague was one of the first, if not the first, to use the phrase "adaptive multi-paddock grazing" (AMP) to describe the adaptive nature necessary for success of multi-paddock grazing. Teague recently summarized some of his findings in three sets of tips:

AMP grazing research shows these six things

1. Ecological function and profitability increase with increasing number of paddocks.
2. Short periods of grazing with adequate recovery gave the greatest profit and ecological function.
3. Adjusting grazing management with changing conditions increases ecological function and profitability.
4. Fixed management protocols reduce benefits.
5. Profitability decreases if recovery is too short or too long.
6. Stocking rates can be increased without damaging ecological function as the number of paddocks is increased.

[Read the full article at beefproducer.com.](http://beefproducer.com)

Range Grazing ForageBeef.ca

Range management is the art and science of obtaining sustainable animal production on native rangeland while also maintaining the natural resources.

There are four basic principles of range management:

- Balance the number of animals with available forage supply.
- Obtain a uniform distribution of animals over the range.
- Alternate periods of grazing and rest to manage and maintain the vegetation.
- Use the kinds of livestock most suited to the forage supply and the objectives of management.



The principles of range management are based on two fundamental ecological principles:

- Physical factors, plants, and animals function as a unit and any change in one factor, such as that caused by fire or grazing, changes the whole system.
- Vegetation changes are natural phenomena, which follow certain patterns.

Soil and vegetation on native rangelands developed together over time under the prevailing climate. The vegetation community that develops on a specific soil under a specific climate is called the climax community. This plant community is relatively stable, capable of perpetuating itself, and fully uses the available moisture, nutrients, and solar energy.

Four natural laws help explain range ecology:

- If we keep down the shoot, we kill the root. Green leaves make the food that sustains plant roots. If too much leaf area is repeatedly harvested, the root starves and shortens, limiting the plants ability to reach moisture and soil nutrients. Eventually plants die.
- Native stands abhor a vacuum and try to keep soil covered with vegetation. If grazing removes taller, more productive grasses, forbs, shrubs and unpalatable plants and low-growing grasses will fill the empty spaces.
- Changes in vegetation proceed until there is a combination of plants that fit the soil and climate so perfectly that no other plants can move in. This is the climax community.
- The principal factor limiting growth in grassland climates is water supply. More water is stored in soil covered with vegetation or a mulch of old growth than in bare soil. Bare soil increases moisture losses from evaporation and run off. Moisture conservation is critical on rangeland.

[Read the full article and find links to other range grazing research here.](#)

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Advantages of Rubber Roll Conditioning

Many producers choose the gentle conditioning of rubber chevron intermeshing rolls to save the delicate, highly nutritional leaves from their hay crop. This system is best for legume crops and crop mixtures, because it prevents material from wrapping around the rolls. The rubber rolls provide full-stem crimping and cracking with a scrubbing action, while carefully handling the leaves which are high in feed value, making this the ideal solution for alfalfa and clover.



The large diameter rubber rolls fit together to crimp and crack stems evenly along the entire length of the plant for fast drydown. Making roll gap and pressure adjustments are critical because they allow producers to customize their equipment to suit their needs. When roll gap and pressure are set properly, you can expect even crop flow through the rolls and event, fast-drying windrows.

To learn more about New Holland's conditioning systems, visit www.NewHolland.com



Importance of Feed Testing and How to Obtain a Proper Sample

Saskatchewan Agriculture video

Regional Livestock Specialist Naomi Paley and Regional Forage Specialist Todd Jorgenson discuss the importance of feed testing and demonstrate how to obtain a proper feed sample in this short video from Saskatchewan Agriculture.

[Watch the video on YouTube at https://www.youtube.com/watch?v=D65zEgVP9HA](https://www.youtube.com/watch?v=D65zEgVP9HA)

Milk Production Performance in High Producing Dairy Cows Fed a Barley Silage-Based Diet with Adding Enzyme Additive Solution

Sask Ministry of Agriculture Strategic Feed Research Chair Program

By: Dr. Peiqiang Yu, Professor and Ministry of Agriculture Strategic Feed Research Chair
Department of Animal and Poultry Science,

Introduction

Recently, University of Sask researchers [Basim Refat, Dave A. Christensen, John J. McKinnon, Aaron D. Beattie, and Peiqiang Yu] carried out dairy milk production and metabolic trials to study the effect of barley-silage variety, in vitro digestibility and enzymatic additive on rumen fermentation, omasal nutrient flow, and lactational performance in high producing dairy cows fed a barley silage-based diet in western Canada. This project was funded by various funding agencies ADF, WGRF, SFN and NSERC and strongly support by industries: SaskMilk, AB Vista, and Sask Forage Network.

In this article, we give you a brief report on one of the studies on milk production performance in high producing dairy cows when we fed a barley silage-based diet with adding enzyme additive solution.

Research Results in Milk Production Performance Study

The key findings and results are presented in Tables 1, 2 and 3.

Table 1 shows the effect of adding enzyme additive solution on milk yield in early lactating dairy cows fed a barley silage-based diet. The result showed that adding enzyme solution numerically increase milk yield but not statistically different.

Table 1. Milk yield in early lactating dairy cows fed a barley silage-based diet with adding enzyme additive solution

Item	Diet with barley silage without enzyme additive solution (control)	Diet with barley silage with enzyme additive solution
Yield, kg/d		
Milk	53.83	55.53
Fat corrected milk	57.35	58.31
Energy-corrected milk	55.30	56.61
Fat	2.10	2.12
Protein	1.54	1.62
Lactose	2.45	2.53
Solids-not-fat	4.51	4.69

Sourced and adapted from Basim Refat 2019. PhD Thesis University of Saskatchewan

[Read the full article here.](#)

A plug for grass-legume mixes for grazing

By: Heather Smith-Thomas

Canadian Cattlemen, April 18, 2018

Research over the years in various regions has looked at the potential and advantages of grass-legume mixtures for pasture. A diversified pasture stand allows for different plants to thrive in different conditions, adding drought resistance. Legumes have a deep tap root and can penetrate deeper into the soil profile where there's more moisture. Pastures with few or no legumes run the risk of depletion earlier in the grazing season and the producer must feed hay earlier. Without legumes you may have less pasture and a lower quality of forage.

Karin Lindquist, a forage beef specialist from Stettler, Alta., says the ideal pasture will depend on the goals of the producer as well as location and soil type. This will affect the selection of forage species of grass and legumes.

Lindquist, beef and forage specialist Grant Lastiwka and economist Anatoliy Oginsky are part of an Alberta team doing studies with sainfoin in grass-legume mixes over the past five-plus years. A two-year high legume pasture project was just completed. "The project was built around a number of objectives but based on a comment by rancher Doug Wray during a presentation. He wondered what an ideal pasture would look like, if you seeded it correctly and then managed it properly," says Lastiwka.

"We thought about the needs of the soil below, and the need for a highly productive pasture above ground - looking at profit per acre. Our 12 sites, and some of the experienced high-legume grazing mentors who provided their pasture and financial records to be analyzed by Anatoliy Oginsky, were the subject of workshops we held during the summer of 2016 all across Alberta - from High River (partnering with Applied Research and Extension Associations in Alberta and the Peace River Forage Association of B.C.) to Fort

Vermilion," he says.

The grazing mentors presented at 10 workshops in 2016, and some additional workshops in 2017 and 2018. "The idea is to try to help people realize the potential opportunity of having more legumes in a pasture - and the need to generate more profit per acre from pastures.

"Stocking rate is highly correlated to profit, but we can only stock sustainably if we do not exceed carrying capacity. We must have high forage productivity to allow for continual regeneration of profit, and keep adding to soil wealth below the ground," he says.

[Read the full article at CanadianCattlemen.ca.](#)

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Saskatchewan Hay Market Report

As of March 31, 2017 the Saskatchewan Agriculture Forage, Feed and Custom Service Listing site has been discontinued.

According to the latest crop report, only 2% of Saskatchewan hay has been baled or ensiled to date, so there is very little new crop hay available for sale in Saskatchewan. Internet hay price listings were a mixture of old crop and new crop offerings. Average asking prices were:

Alfalfa-Grass Hay: \$264/metric tonne (1 offering)

Alfalfa Hay and Grass hay: no listings

Small Square Bales: \$6.80/bale average, with a range of \$5-\$10/bale

There were a number of listings for old and new crop hay for sale, with no associated price.

Hay wanted ads in June are mainly requests for standing hay, or for greenfeed to cut and bale. No prices were listed. There are ads for pasture wanted and pasture for rent. \$20/acre rent was the only price listed, and the details and arrangements for the pastures are varied. As more hay is put up, pricing and supply will become clearer.

Note that very few ads include detailed forage quality analysis, or offer to provide these details. Before purchasing hay, be sure to ask for this information.

USDA Market News Service Hay Report June 28, 2018

Wyoming Hay Report

Compared to last week comparable sales sold steady on a thin test. Some producers are finished with first cutting with many in the Western side of the state just getting started. Rain across most areas of hay production the last week. Some reports that the barley crop looks really good in several areas of Western WY. Been some talk with producers and dairy men on the price per point but nothing set in stone on the final price. Valley Video hay auction had another sale Thursday and there prices can be found at https://www.ams.usda.gov/mnreports/to_gr325.txt on Friday. All prices are dollars per ton FOB the field or hay barn unless otherwise noted. Prices are from the most recent reported sales. Read the full report [here](#).

South Dakota Hay Report Compared to last week: Hay prices continue to hold at mostly steady levels. Demand moderate at best, as end-users are currently only wanting to purchase feed as they need it. Interest is moderate, however buyers are very reserved and seeming to wait for 2nd cutting to be ready as 1st cutting in many areas did not test near as high as they were hoping. Much of the state has received adequate or abundant moisture in the past week. Weather has been less than ideal for getting hay to dry, as temps and humidity levels have been very high. Many areas of SE SD have experienced low land flooding in the past week, as rainfall totals in the past 10 days have been over 8 inches for some locations. West River looks very good, as rains have fallen out there as well. Drought monitor map still shows 2 big pockets of inadequate moisture, with just over 35 percent of the state experiencing Abnormally Dry to Severe Drought Conditions (D0-D3) All hay and straw sold by the ton FOB, unless otherwise noted. Read the full report [here](#).

Weekly Montana Hay Report Compared to last week: Hay prices sold fully steady. Hay sales are light this

week, however some producers are selling hay straight out of the field. Rain has stopped most producers from finishing 1st cutting or from starting in the first place. Many stands in eastern Montana are starting to look very mature. With good weather conditions expected over the next few weeks producers look to get very busy as they are behind schedule due to rainy conditions. New crop contracts continue to come in and prices are steady with two weeks ago. Colorado buyers continue to pick up Montana hay on contract for late summer and early fall delivery. With extreme drought conditions seen in both Colorado and New Mexico, buyers are looking to Northern states to help fill needs. All prices are dollars per ton and FOB unless otherwise noted. Read the full report [here](#)

USDA Hay Prices for June 28, 2018

	Wyoming	Pipestone, MN	South Dakota	Montana
<i>Alfalfa</i>				
<i>Supreme</i>	-	-	200	200-250*
<i>Premium</i>	160	-	180 200*	150-175 150-170*
<i>Good</i>	125-165	-	170-175 120-150*	150-165*
<i>Fair-Good</i>	125-150	-	150 140*	102-125*
<i>Utility</i>	-	10-100* 115**	-	-
<i>Grass</i>				
<i>Premium</i>	-	-		-
<i>Good</i>	-	135*	125*	-
<i>Fair</i>	-	85-100*		110
<i>Utility</i>	-	30-65*		100*
<i>Timothy</i>				
<i>Premium</i>	-	-		210-240**
<i>Alfalfa/Grass</i>				
<i>Premium</i>	180		180	
<i>Good</i>	140-150	-	150 100-135*	150-160
<i>Fair-Good</i>	130	95-115*	135	150-160
<i>Utility</i>		50-85*		
<i>Straw</i>	-	-	110	-

*large rounds **small squares

All prices per ton and FOB stack, unless otherwise noted

To read the full reports and to view the hay quality designations - physical descriptions [click here](#).

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