

FORAGE MARKET PRICE DISCOVERY – SASKATCHEWAN



This document details the current market prices and general trends for forage products in Saskatchewan and nearby jurisdictions as at January 23, 2017. Information was obtained through a variety of methods including telephone interviews, personal interviews, electronic correspondence, social media communication as well as advertisements found on-line and in newspapers. The goal of this report is to provide an accurate assessment of forage prices across Saskatchewan at this current point in time. All data collected was as current and credible as possible, and each piece was carefully analyzed to determine its relevancy. The information reported in this document is for use by the Saskatchewan Forage Council. The Saskatchewan Forage Council, including the author of this report, have made every effort to ensure the accuracy of the data reported, however it does not guarantee and accepts no legal liability arising from or connected to the accuracy, reliability or completeness of any material contained in this document.

A sincere thank you goes out to all of the ***forage, dairy and beef producers*** that were contacted to share their insight and current perspectives on this valuable industry. ***Thank you*** for taking time out of your busy schedules!!

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1) Review of 2016 Growing Season and Forage Production

Hay yields were slightly above the long-term average, with the exception of greenfeed, however forage quality was reported to be below average across Saskatchewan in 2016. Table 1 shows Saskatchewan's dryland yield estimates for the 2016 growing season. Most of the province experienced favourable forage growing conditions during the spring and summer, with the exception of some dry conditions in west central and southeast parts of the province, however these localized dry spots did not persist. Showers and wet weather was common across most of Saskatchewan during haying season, causing significant delays in operations, and a reduction in quality.

There was not a lot of forage trading for any category of feed throughout the fall and into January. Many producers commented that they dropped their prices as the season went on and even still some have yet to sell any. A cold snap in early January led to a few more listings of hay for sale however most producers indicated that they had yet to find buyers.

Table 1. 2016 Saskatchewan Dryland Hay Yield Estimates (tons/acre)

Region	Date	Estimated 2016 Hay Yield (short tons/acre)				Quality	Supply
		Alfalfa	Alfalfa/Grass	Other Tame Hay	Greenfeed		
Southeast	Aug 8	1.6	1.7	1.3	2.9	85% Good	Adequate
Southwest	Aug 8	1.7	2.0	1.7	2.3	57% Good; 43% Fair	Adequate
East Central	Aug 8	1.8	1.6	1.3	2.2	67% Good; 33% Fair	Adequate to surplus
West Central	Aug 8	1.5	1.6	1.4	2.2	50% Good; 50% Fair	Adequate
Northeastern	Aug 8	2.2	1.8	1.7	2.5	50% Good; 50% Fair	Adequate to surplus
Northwestern	Aug 8	1.5	1.4	1.0	1.9	33% Good; 67% Fair	Adequate to surplus
Provincial AVG	Aug 8	1.7	1.7	1.4	2.4		Adequate to surplus

Source: Saskatchewan Ministry of Agriculture, August, 2016¹.

Alberta experienced similar above-average hay yields and forage and feed grain reserves were estimated as being adequate to surplus at the end of November, 2016. Forage reserves in Alberta were reported at 28% surplus, 62% adequate, 9% shortfall and 1% deficit (Alberta Agriculture and Forestry, 2016).

Manitoba also reported forage yields above the five-year average and below average quality. Prices reportedly softened throughout the winter months for both beef and dairy quality hay. The Manitoba Forage and Grassland Association reported January prices to range from 4-7 cents/lb for alfalfa; 2.5-4 cents/lb for beef quality alfalfa/grass hay; 2.5-5 cents/lb for beef quality grass hay; and <1-2.2 cents/lb for straw.

These provincial reports are also supported with yields as reported by Statistics Canada. Manitoba, Alberta & Saskatchewan all reported the highest annual yields in 2016 that have been realized out of the past five years.

Table 2. Tame Hay Yields in Manitoba, Saskatchewan, Alberta and Canada, 2012-2016

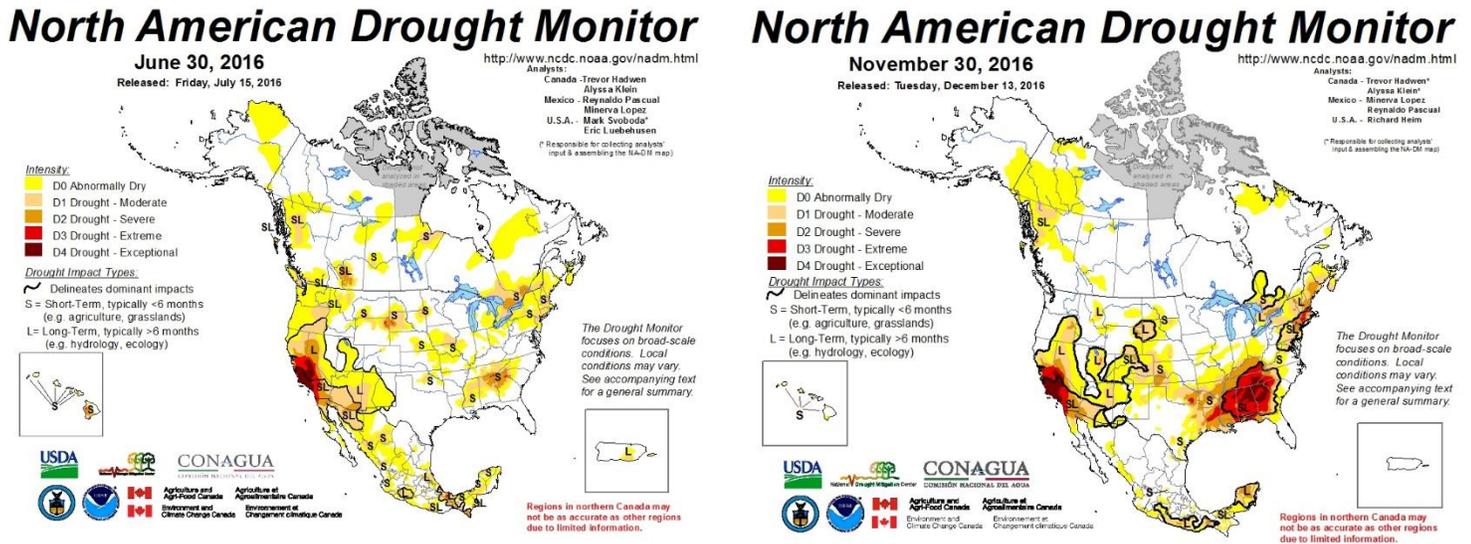
Location	Harvest	2012	2013	2014	2015	2016
Manitoba	('000 metric tonnes)	2,617	2,676	2,903	2,985	3,302
Saskatchewan	('000 metric tonnes)	5,121	4,990	5,012	3,642	5,338
Alberta	('000 metric tonnes)	7,711	7,589	7,258	4,971	7,819
Canada	('000 metric tonnes)	25,259	26,405	25,960	22,526	27,564

Source: Statistics Canada, 2017

Some Saskatchewan producers obtained second cuts or even third cuts, however wet weather was a challenge throughout the summer and into the fall. Many producers reported that their second cut alfalfa was valued similar to their first cut alfalfa, as swaths were rained on. There were several listings for silage bales that were noted this year, an increase from last year, as producers opted to produce bales at a higher moisture content, preserving them in plastic. Silage yields were reported as being higher than average with corn silage harvested in mid-September in many parts of the province. The late and challenging annual crop harvest resulted in a lot of unharvested, damaged crops, many that were cut and baled for greenfeed. The wet conditions however led to concerns regarding mycotoxins and many buyers and sellers indicated that they tested their feed for vomitoxin and other anti-quality factors. The late crop harvesting period also left many producers with other priorities and there are still bales left in the field, instead of hauled and stacked.

The North American Drought Monitor shows that as of November 30, 2015, Saskatchewan is not experiencing drought conditions which is a much different scenario than at June 30, as shown below in Figure 1. These maps also portray the ongoing severe drought experienced along the West Coast.

Figure. 1 Comparison of North American Drought Conditions as at June 30 and November 30, 2016.



Source: North American Drought Monitor, 2016.

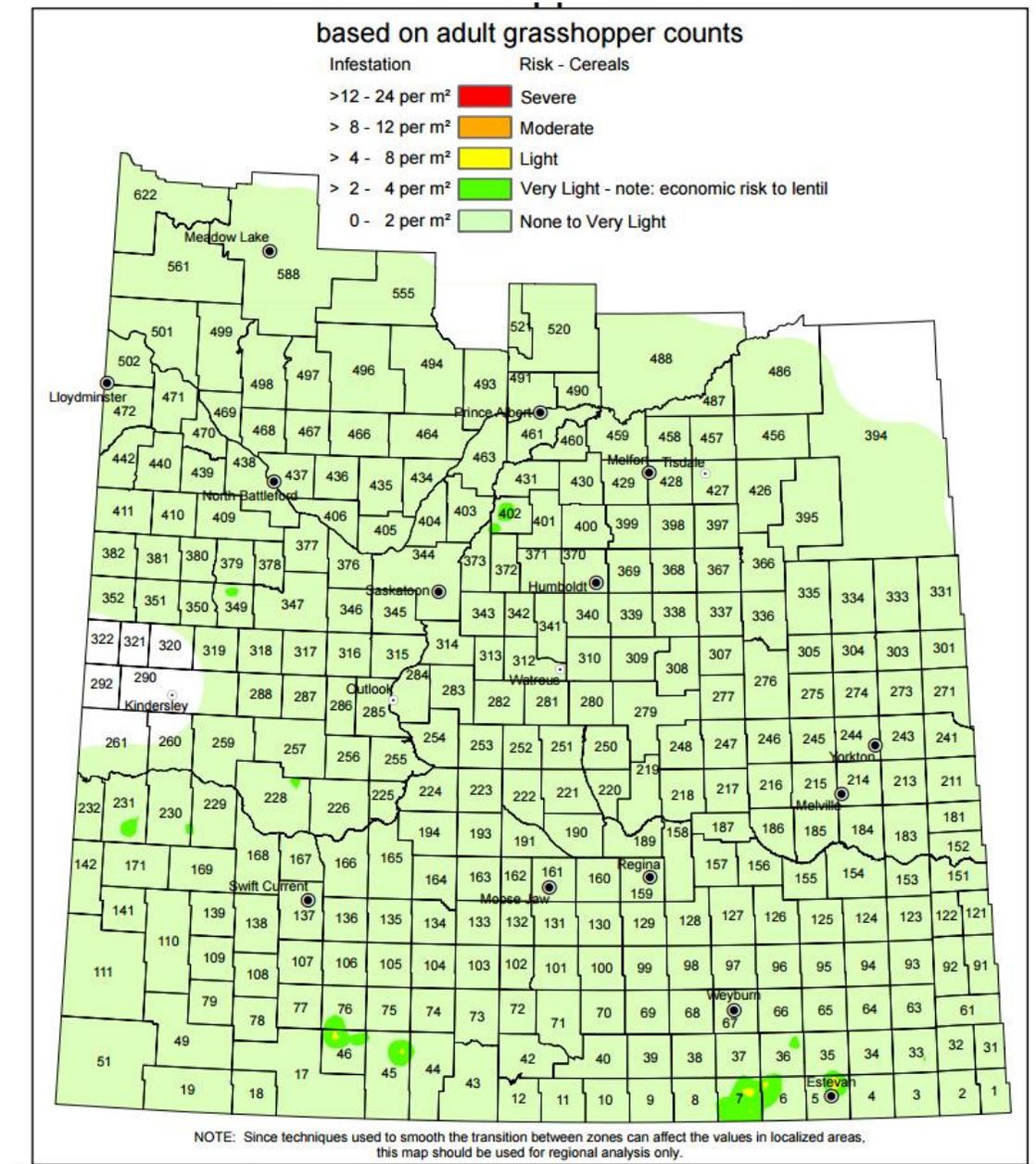
Although many parts of Saskatchewan and Western Canada received an early snowfall in October, the remainder of the fall was unseasonably warm into December. This enabled producers to conserve more forage than normal again, and pastures stayed green late into the fall in some parts of the province. Currently, most regions are reporting adequate and surplus forage supplies, partly due to the above average yields and mild fall weather. Neighbouring Manitoba and Alberta are both reporting lots of current hay inventory and slow forage trade.

Prices have gradually softened for most classes of hay across Saskatchewan since September, and are much lower than prices were at this time last year, but fairly similar to price listings two years ago.

2) Field Pest Impact and Projections for 2017 Growing Season

The Saskatchewan Ministry of Agriculture’s 2017 Grasshopper Forecast map demonstrates that the risk of grasshoppers in 2017 is negligible for most of the province, very light for a few small areas and light in a very few isolated pockets in the southeast and southwest regions, as seen in Figure 2. The forecast is an estimate based on available information in September and October of 2016 and spring weather conditions can also affect the development of grasshoppers for the 2017 forage growing season.

Figure 2. 2017 Saskatchewan Grasshopper Forecast



Source: Saskatchewan Ministry of Agriculture, 2017¹

Insects including alfalfa weevils, lygus bugs, alfalfa plant bugs and lesser clover leaf weevils all have the potential to cause economic damage to legume forages in Saskatchewan. In 2016, there were no reports of significant damage due to any of these pests.

While alfalfa weevils have caused problems in Saskatchewan in the past, they did not generally cause a lot of harm across the province in 2016. There were alfalfa weevils reported in some isolated areas in the northeast, north central, south central and southeast regions of Saskatchewan. Weevil populations were found to be somewhat low in many fields and quite high in others all within the same region. It's

unclear as to why weevils were a problem in some of those isolated areas. These areas may experience increased weevil activity in the 2017 forage season.

Plant diseases, including molds such as ergot and fusarium, continued to cause problems in Saskatchewan’s forage crops in 2016. While the full magnitude of disease was harder to detect during the growing season, many feed samples have been analysed in recent months with reports suggesting that mycotoxins due to fungi are a major concern this year.

In addition to reducing forage quality, molds have anti-nutritional properties for livestock and can cause health problems. There are hundreds of different mycotoxins however the common mycotoxins that feed testing labs analyse for include deoxynivalenol (i.e. vomitoxin), zearalenone, T-2 toxin, fumonsin B, aflatoxins and ochratoxin A. While ruminants are able to detoxify many mycotoxins, the toxins still pose a major threat, particularly in rapidly growing cattle, lactating cattle or animals under stress. Mycotoxins can affect reproduction, suppress immune systems, reduce feed intake and milk production and cause a reduction in rumen function. Care must be taken when feeding animals forages known to contain mycotoxins.

3) Current Forage Freight Rates in Saskatchewan

Forage transport rates were relatively stable this past season, differing little from a reported average of \$6.31/loaded mile in September to \$6.26/loaded mile at this current time. These prices are much more stable in comparison to last year which saw a shortage of forage freight options and a wide range in prices.

Discussions with transporters and hay sellers indicate there is little current demand for hay hauling and there has been little hay that has moved this fall and winter. Given that several bales are still out in the field, many drivers reported switching from a per loaded mile rate to an hourly rate to factor in poor travel and loading conditions in the field at this time of year. In general, terms vary greatly between companies, with some transporters charging different rates for short hauls compared with long hauls, some companies charging for empty (i.e. unloaded) kilometers, or additional loading or unloading charges depending on the scenario.

Diesel prices are typically a major factor in transportation costs. On December 27, 2016, Natural Resources Canada reported the average diesel retail price in Regina, SK to be \$0.978/liter. Last year at this time, the average diesel retail price in Regina, SK was \$0.895/litre.

There are not as many hay transporters in the province relative to other commodities such as grain. The boom in hay prices in the fall of 2015 saw a few more hay transporters become engaged in the business, however interviews indicated that in 2016-17 there has not been a lot of demand for hay transporters.

Table 3. January, 2017 Hay Transportation Costs in Saskatchewan

Region	Rate (\$/loaded mile)	Rate (\$/hour)
West/West Central	\$6.50	\$166.67
Central	\$6.29	\$120-185
East	\$7.00	\$140
South	\$5.83	\$130-170
Average*	\$6.26/loaded mile	\$151.94

*Note: province-wide average was obtained from all reported values across Saskatchewan regardless of region

Transporters were also surveyed to provide some context for prices outside of the province. While many Saskatchewan transporters hauled hay across the Prairie Provinces in 2015-16, none reported hauling hay to or from Manitoba or Alberta this year. The data is insufficient to report Alberta and Manitoba freight rates.

4) Current Saskatchewan Forage Prices

Prices were obtained throughout the fall and winter up until late-January, 2017. Prices were assembled from listings through the Saskatchewan Ministry of Agriculture Feed and Forage Listing Service, listings in the Western Producer, electronic sources such as Kijiji.ca, as well as many personal phone calls to producers, feedlots, hay growers, and transporters.

Average prices reported in Table 4 are those *collected from early to late January*. There were no values reported for organic hay during this period.

Reports from surveyed individuals indicate that forage prices have gradually softened since September. Abundant yields combined with a mild fall, as well as a prolonged crop harvest period contributed to downward pressure on the forage market. While there was an early snowfall in October across much of Saskatchewan, many producers still experienced an extended grazing season, with pastures staying green later than usual into the season, thus reducing their dependency and requirements for forage.

There have been few reports of settled prices for forage, greenfeed and straw throughout the fall and winter months. While there are several listings, many have carried forward from one month to the next and many producers report that they have even reduced prices to facilitate trade. Cold weather conditions at the beginning of January prompted a few more listings, however the weather has since been very mild, which alleviated any winter feed shortage concerns. Winter weather conditions will dictate price movement in the next few months, however, as producers move towards calving and potentially start using more of their stored feed. There is adequate to surplus forage reported across Saskatchewan, although a delayed spring, or very cold or dry conditions in early 2017 could increase demand once again.

Table 4. Average current forage prices in Saskatchewan as at January 23, 2017

Forage Type	Simple Average Price (\$/tonne)	Weighted Average Price (\$/tonne)	High (\$/tonne)	Low (\$/tonne)
Grass Hay	\$85.92	\$99.21	\$99.21	\$59.35
First Cut Alfalfa	\$92.49	\$82.18	\$157.47	\$70.86
Second Cut Alfalfa	\$106.23	\$112.98	\$157.47	\$88.18
Alfalfa/Grass mix	\$87.67	\$91.73	\$125.98	\$60.63
Greenfeed	\$75.54	\$77.94	\$92.45	\$64.84
Clover	NA	\$80.84*	\$80.84	\$80.84
Cereal Straw	\$54.61	\$51.10	\$80.17	\$35.00
Pulse Straw	NA	\$50.10*	\$50.10	\$50.10

*Weighted average only is available for this commodity

Grass Hay, as of January, 2017 has a current weighted average is \$99.21/tonne, although given the few tonnes that are listed, the simple average of **\$85.92/tonne** is likely the most accurate value. This time last year, the price was valued at \$112/tonne, however two years ago, the price was similar at \$87/tonne. Prices fluctuated in this category from August, 2016 until January, 2017, however they were generally higher in the fall, decreasing and levelling out to their current simple average of \$85.92/tonne. Quality and value of grass hay is particularly subjective, as some producers report seeded tame grass while other may actually be referring to slough hay.

First and second cut alfalfa: First cut alfalfa currently has a weighted average of \$82.18/tonne however a more appropriate price may actually be the simple average of **\$92.40/tonne**, given the number of listings and tonnes attributed to those listings. The weighted average for second cut alfalfa is **\$112.98/tonne** and appears to be relevant, given the number of listings and tonnes associated with those. At this time last year, first and second cut alfalfa were priced higher at \$102.06/tonne and \$131.80/tonne respectively, however prices in January of 2015 were similar at \$110/tonne.

Alfalfa/grass mix hay continues to have the most listings out of all forage types. As with other forage types, alfalfa/grass has steadily decreased in price since its September price of \$103.85/tonne and is currently listed at **\$91.76/tonne**. At this time last year, alfalfa/grass was reportedly trading for \$135.92/tonne, however the current January 2017 is more in line with the \$70-108/tonne that was reported in January of 2015.

Greenfeed was not advertised or traded as much as it was last year, which may be in part due to the late, and in some cases, failed annual crop harvest, as well as widespread concerns with mycotoxins. Most crops reported were typical greenfeed crops, including barley, triticale, wheat, and oats. Greenfeed is currently trading at **\$77.94/tonne**, and has dropped gradually since September when it was worth \$94.60/tonne. It is much more economically priced than it was one year ago when it was valued at \$110.66/tonne and is similarly priced to its January, 2015 reported value of \$81/tonne.

There was a noticeable increase in **silage bale** listings as producers tried to work around the wet and challenging haying conditions. Five listings were reported during January, 2017 for weighted average of \$88.18/tonne and a simple average of \$86.90. The high moisture content and subsequent increase in weight will be a consideration for anyone looking at purchasing silage bales.

Silage values have decreased since this time last year. Silage is currently valued by feedlots and private producers at an average of \$44.75/tonne for barley, and \$37.00/tonne for corn, compared to \$53-58/tonne as it was valued in January of 2016. Silage is rarely bought or sold, however it is useful for feedlots and producers to establish a market value on this commodity that is reflective of their investment and opportunity cost. Corn silage crops were harvested since our last report in September, 2016, and yields were reportedly above average across much of the province. The use of corn for silage and grazing has increased in Saskatchewan in the past five years, particularly as new varieties have become available. Corn provides a valuable source of forage for cattle, however individual costs vary greatly between operations, making it challenging to obtain average costs.

Straw average prices have fluctuated from \$40.42-\$63.11/tonne from September until January, and the current weighted average price of straw is **\$51.10/tonne**. In January of 2016, straw was priced at \$66.14/tonne, a high price that may have been supported by livestock producers opting to incorporate

lower value by-products to build a lower cost ration. In January, 2015, straw was reportedly worth \$40-47/tonne which is slightly less than what the current price is.

Clover prices have been almost nonexistent, with just one listing this season of **\$80.84/tonne**. Based on one price, it is difficult to establish an accurate value for this commodity, however the price is not unreasonable. Many producers use clover as a cover crop when establishing new forages and it was anticipated that more forage acres would possibly be established in 2016, however that was not the case.

There were no listings for **Certified Organic Hay** from September, 2016 through to January, 2017. There were some listings that claimed to be “organic” hay, however upon follow up, it was determined these forages were not certified. In interviews with organic beef producers, most (if not all) produce and source their own forage from their own operations so as to ensure their credibility and quality of product. Because the commodity doesn’t change hands, producers often don’t attach a value to organic hay, making it a challenge to properly perform a price discovery exercise. It has been suggested that organic products garner a premium of 25-40% so values for forage could be obtained by taking the relative price of conventional hay and increasing it by the suggested premium value.

Standing Hay was reported in September, 2016 as being worth approximately \$33-44/tonne for alfalfa/grass. This works out to approximately \$45-65/acre although specific prices vary by region and crop yield potential. These values did not change from September. Many producers have long-term contracts for standing forages, and some use per acre rates, per bale rates or other formulas specific to their arrangement.

Information on standing rates relative to the dehydrated alfalfa market can be found in a later section of the report.

Small Square Bales

The price for square bales reported is based on listings from December 19, 2016 to January 29, 2017 and were obtained primarily from on-line classified ads. Compared to listings in the September 2016 report, average square bale prices went down, however the average price of alfalfa/grass and straw did increase. Compared to this time a year ago, straw and unspecified hay have increased in value, while prices for the other categories have decreased.

Assuming an average square bale weight of 65lb/bale, average small square alfalfa and alfalfa/grass hay is priced at \$163.82/tonne and \$165.54/tonne respectively.

Table 5. Square bale asking prices across Saskatchewan from December, 2016-January, 2017

Forage Type	Average Price (\$/bale)
Alfalfa	\$4.83
Alfalfa/Grass	\$5.38
Grass	\$5.50
Unspecified Hay	\$5.00
Straw	\$4.05

Dehydrated Alfalfa and Timothy Products

There are currently only three alfalfa and timothy processing plants located in Saskatchewan, making it challenging to establish a benchmark for dehydrated products in Saskatchewan.

All plants produce a variety of sun-cured products (i.e. made from pre-baled alfalfa) and dehy products (i.e. made from standing alfalfa). Companies do not currently have a standing rate for raw product as it is the off-season, and payment terms differ greatly depending on the company. Two plants were paying \$35/metric tonne (raw product) at the truck scale for all standing and fresh delivered product after the plant does the harvesting and hauling. One plant pays \$45/metric tonne (raw product) for organic hay. Another plant purchases bales products only, not standing forage.

Table 6 depicts the average price for sun-cured and dehy products in Saskatchewan from the 2016 growing season. Products are sold by quality and not all facilities offer similar products.

Table 6. Average Saskatchewan Processed Alfalfa Product Prices for 2016-2017

Product Type	Price (\$/Tonne)
Dehydrated Alfalfa Pellet (17% Crude Protein)*	\$285.00
Dehydrated Alfalfa Pellet (16% Crude Protein)*	\$265.00
Suncured Alfalfa Pellets	\$252.50
Organic Suncured Alfalfa*	\$340.00
Dehydrated Alfalfa Cubes*	\$350
Dehydrated Timothy/Grass/Alfalfa Cubes*	\$400

*only one plant reporting.

At the current time there are no Saskatchewan processing facilities involved in exporting compressed timothy, however this is an active sector in Alberta. Timothy sales representatives commented that in general, there is an overabundance of lower quality timothy and high grade timothy is scarce. That is the case for their alfalfa products as well and report paying \$100-200/tonne for timothy and \$125-200/tonne for alfalfa that they dry into exported products. Some plants are also developing a new product for export that makes use of chopped corn silage dried down to 15% moisture. The raw product suppliers for this are limited by distance however, as it is uneconomical to transport high moisture silage a great distance.

Export to China has currently been suspended as Canadian export licenses expired on December 31, 2016. These licenses were mostly three or five year licenses that were set to automatically renew however that did not take place and since then, forage export has been temporarily stopped. It is anticipated that this should clear up shortly following the Chinese New Year.

Table 7 shows current price ranges for compressed timothy in Alberta as reported by retailers. Prices vary by quality, freight, and supply.

Table 7. Estimated Alberta Compressed Timothy Prices for 2016-2017

Product Type	Price (\$/tonne)
Premium compressed timothy	\$250-275
Choice compressed timothy	\$220-250
Standard compressed timothy	\$175-200
Utility compressed timothy	\$100-200

5) Regional Forage Conditions

Throughout the fall and winter months of 2016-2017, there were minor variations in forage pricing between regions of Saskatchewan. Feed was abundant across Saskatchewan as well as Alberta and Manitoba, therefore there was little difference between one region and the next compared to the 2015-16 season.

A) South Central and Southwest Regions

Abundant precipitation late through the 2016 growing season allowed livestock producers to keep cattle on pasture late into the fall. Most producers grazed well into November, with some grazing into December. Many producers have started using corn or aftermath (i.e. crop residue) grazing and the fall was very favourable for this, thus reducing the usage of baled feed. An early snowfall in October created challenges for some producers, however once the snow melted, livestock continued to graze on pastureland. In many situations grass was green even into November due to the warm temperatures and abundant late-season moisture, which alleviated pressure on forage prices as the fall continued. The warm temperatures enabled producers to meet livestock requirements without having to provide costly forages for longer than normal, reducing the demand for baled hay considerably.

Producers are reporting lots of inventory from the 2016 growing season. While there is no shortage of hay in quantity, the quality is lacking. This may be an issue as producers get closer to calving when cattle nutrient requirements increase. Feed quality is reduced compared with other years as there was a lot of hay that was rained on in the swath. Also, the prolonged hay harvest resulted in situations where the forage was too mature at time of cutting, again reducing forage quality.

In addition to forage that is low in nutritional quality, there have been increased reports of mycotoxins due to fusarium and ergot in many greenfeed and perennial grass hay samples as well. In particular, triticale crops in the southwest were hit hard with ergot and there are also reports of T2 (fusarium) toxins in stands of grazing corn.

Similar to other areas, there has been very little hay sold or trading at this point. What is selling appears to be selling at around \$88.18/tonne. There appears to be a price premium on any second cut hay that was not rained on. Due to the issues of fusarium and ergot, straight alfalfa hay, which is typically not affected by mycotoxins, may be expected to garner a premium.

At this point, there is no indication that there will be either a decrease or increase in forage acres seeded in south central or southwest Saskatchewan in 2017.

B) South East Region

Most of the region experienced abundant moisture in the fall, including an early snow storm in October. There was a lot of snow, particular in the far southeast corner and further east, although once it melted, the fall was warm and longer than normal. The majority of bales appeared to be hauled in.

Hay inventory is reported to be adequate although quality of hay is lower, given that a lot of hay was rained on prior to baling. Silage production was generally very good throughout the region.

There are few reports of hay trading hands, and price discovery is a challenge because of this. There is concern, similar to other areas of the province, regarding mycotoxins. A pelleting plant in the region is rejecting cereal screenings due to concerns with fusarium which is creating challenges for producers looking to move screenings.

Producers appeared to use crop residue and other extended grazing methods this fall. There was a potential concern with fusarium affecting standing corn for grazing but the situation turned out to be fine.

At this point there is no indication regarding farmers' plans to seed tame forages this upcoming spring. Weather conditions and prices for competing crops will likely dictate how many new acres of hay are planted.

D) Northeast Region

Harvest conditions in the northeast were relatively favourable through late June and into early July. Hay harvested later was at risk of some rain damage depending on locations of showers. Quality also declined due to the maturity of hay at that point as well as rain-damaged swaths.

Yields were average for the region and second cut yields on stands that were cut early in the season were good. Silage and greenfeed yields in the region were good. Straw was available, however the late harvest season and early snowfall meant some producers were not able to harvest all their cereal crops and straw may be in short supply.

Producers are expected to add to their inventories this year, however there have been periods of extremely cold weather and supplies may be fed if cold conditions persist. There is currently not a lot of hay moving in the northeast although some has been advertised for approximately \$66-\$88/tonne.

There appeared to be a slight increase in the number of acres seeded to perennial forage in 2016 so that will be something to observe going into 2017.

Pastures were in good condition and surface water was abundant going into the fall, meaning that spring conditions look favourable barring any extreme weather issues.

E) Central and East Central

Hay supplies within the region are adequate to surplus although quality is lower due to rain, maturity of crop and disease (i.e. fusarium, ergot) issues. August and September rains created a situation where there was the opportunity to take a second cut, or in some cases, extended the first cut period. The central region reported average hay yields and with very little to no carry over from the previous year while the east central region saw carryover and above average yields. Straw continues to be a challenge

to source within the region, however most producers do have an adequate straw supply on hand. Producers who were short on quality hay have compensated by securing straw and supplements to winter the cow herd. Most of the feed supply in the region is providing adequate (50-55 % TDN) to lower than required energy levels and adequate protein for a cow (9-10 % CP) at mid-pregnancy. As calving season approaches, supplementation will be needed with nearly all feed supplies in the region. The lower energy levels are likely due to the later cutting dates and later maturity of the forages. Very little to no hay is advertised in the central region with more advertised in the east central region, although the asking prices for alfalfa hay have been ranging from \$85-100 per tonne with grass/alfalfa hay trading around \$75-85 per tonne.

Moisture levels were good to excessive going into winter. Winter was late, which kept fields open for late season grazing well into November and December provided water sources were available. Colder than normal temperatures through December and early January resulted in more feed being delivered or supplementation to the cow herd. Going into winter, hay land and pasture topsoil moisture conditions were adequate in the central region to excessive in parts of east central region. A lack of snow in the central region means that early spring moisture or more snow cover will be needed to get pastures off to a good start in 2017.

The frustrations of a wet haying season increased inquiries about silage and bale silage. There is also an increased interest in corn silage. Average corn silage yields in the central region ranged from 14 to 18 tons per acre based on 65 % moisture. Irrigation and dryland silage yields were similar.

Producers have been concerned about mycotoxin levels, and have been submitted feed samples for testing and analysis. Fusarium is a concern in feed grains. Ergot was of lesser concern this year but there were a few cases where pastures had ergot bodies because of late re-growth combined with ideal weather conditions for ergot bodies to develop.

There have been few inquiries regarding forage seeding intentions for 2017, however more are anticipated in the spring. The upcoming season is the last year to take advantage of the Beneficial Management Programs currently offered under Growing Forward 2 which includes the seeding of forages on erodible and saline soils. It's expected that some producers will take advantage of this program and plan for seeding this spring.

F) West Central

Across the region there was not a shortage of hay or feed of any type, however most of it was low or mid-quality. Many producers are supplementing their poor quality hay with grains or pellets. There was so much precipitation during haying operations that lots of hay was put up wet or it had laid in the swath for a few weeks. There have been reports of hay heating and many feed tests had low protein values and high mold counts and there was an increase in the number of feed tests performed.

The challenging and wet hay conditions led to several inquiries about bale silage, the use of hay preservative, as well as wrapping high moisture bales post-baling. There were many concerns with greenfeed that was baled at too-high moisture contents. More producers in the area are experimenting with silage, seeing the benefit of "instant" feed that can be harvested at higher moisture content. An early snowfall in October caused further problems as some producers were still baling feed at that time. The snow, moisture and disease also meant that a lot of damaged annual crops were salvaged for feed.

Some of these crops were mature at baling however, and there is concern about bloat and acidosis where cattle may be fed higher levels of mature grains. There were a lot of reports of ergot and vomitoxin in greenfeed, grains and salvaged crops, particularly in the southern part of the region. The volume of salvaged crops put a downward pressure on hay prices toward the end of the year.

Weather was warm late into the fall and more producers than normal were making use of fall grazing. Tame and native pastures were in good condition this fall. While lots of bales were left out in the fields due to moisture, the general lack of snow allowed some producers to get their bales hauled off the field.

There hasn't been a huge interest in producers seeding forages this year yet, however annual crop disease and herbicide resistant weeds are causing grain farmers to consider the valuable role that forages may play to reducing these issues.

G) Northwest and North Central

Feeding and pasture conditions in fall and winter of 2016 were good across the region. Fall was warm, there was little frost, and grass stayed green well into October, allowing many producers to graze later than normal. A significant snow fell in early October which caused some producers to bring cattle in early, however weather was warm into November. Producers had a late crop harvest in the region and were combining late into the season, and hauled bales after ground was frozen.

Hay inventory seems to be adequate given average or slightly above average yields for the region, although quality is reduced. There has not been a significant amount of hay movement so far and there hasn't been any indication about 2017 forage seeding plans.

Many grain crops were diverted to feed after the damage from the prolonged harvest conditions. There are a lot of available alternate feed sources however there are some reports of issues with fusarium and other mycotoxins. Producers have been testing their feed samples and finding variable results, some samples contained toxins while others did not. A lot of grazing corn was affected by molds, some fusarium and some not, although no widespread problems with this have been reported.

So far the weather has been quite favourable during the 2016-17 feeding season, other than a couple weeks of cold weather. Generally speaking, there is not a lot of snow in the northwest, about 10-16cm, and producers can still get to bales or access feeding sites away from their headquarters.

6) Current Alternative Feedstuff Prices

The late and challenging crop harvest lead to many alternative feedstuffs and by-products on the market this winter. There have been many concerns about disease and mycotoxins in these supplements however, and issues with mycotoxins are reportedly widespread although variable.

Feed barley is currently priced at \$120.29/tonne, compared with the price at this time last year reported as \$162.92/tonne (Saskatchewan Ministry of Agriculture, 2017²). Reported averages for pellets vary according to plant location but are generally lower than last year. Table 8 lists average prices for a variety of alternative feed sources in Saskatchewan, unless otherwise specified, they are reported as Freight on Board (FOB).

Table 8. Alternative Feedstuff Prices and Availability as at January 31, 2017

Commodity	Price	Details	Availability
Barley Pellets	\$180-228/tonne \$206/tonne average	Barley pellets, up to 20% CP, fortified with vitamin, minerals and Rumensin	Good
Canola Meal	\$315-330/tonne	Loose	Average
Canola Meal	\$315/tonne	Pellets	Average
Alfalfa Pellets	\$265-285/tonne	16-17% CP – premium dehydrated	Good
Alfalfa Pellets	\$240-265/tonne	15% CP – suncured	Good
Oat Hulls	\$10-30/tonne		Abundant supply
Organic Oat Hulls	\$80/tonne		Abundant supply
Grain and Grain Screening Pellets	\$125-\$165/tonne \$143.75/tonne average	12-14% CP, bare with no add-ins	Abundant supply. Most facilities claim to use pulse screenings although some are using cereal screenings and testing for vomitoxin.
Fortified Grain and Grain Screening Pellets	\$140-\$245/tonne \$176/tonne average	12-13% CP, fortified with Rumensin, vitamin/mineral mix	Good availability, wide range in pricing between facilities.
Fortified Grain and Grain Screening Pellets	\$171-\$228/tonne \$197/tonne average	14% CP, fortified with Rumensin, vitamin/mineral mix	Good availability, wide range in pricing between facilities.
Fortified Grain and Grain Screening Pellets	\$197-219/tonne \$206/tonne average	High Energy, fortified with Rumensin, vitamin/mineral mix	Good availability. This formula suited for heifer development or other high energy uses.
Fortified Grain and Grain Screening Pellets	\$303-591/tonne \$414/tonne average	Bull Development and Show Rations, 12-20% CP, fortified with Rumensin, vitamin/mineral mix	Good availability. Wide range in pricing.
Corn Dried Distillers Grains	\$185-195/tonne		
Wheat Dried Distillers Grains	\$160-185/tonne		Good. Price varies among three sources.

Grain screenings include cracked or broken grain and pulse seeds as well as chaff, weed and other crop seeds. Many grain handling facilities contract their screenings out ahead of time to existing customers

and unprocessed screenings are usually moved out quickly. Prices and availability for screenings is regionally dependent. Due to vomitoxin concerns, many pelleting plants were rejecting wheat screenings entirely while plants that were using them report testing every batch to ensure vomitoxin levels are within appropriate ranges. Reported average screen pellets range from \$143.75/tonne for bare pellets up to \$414/tonne for high energy, high protein rations.

Canola meal is the protein-dense product left remaining after canola is crushed for oil. There are several canola crushing facilities across Saskatchewan including facilities in Nipawin, Yorkton and Clavet. As of January 25, 2017, the Saskatchewan Ministry of Agriculture reported that canola was trading for \$485.72/tonne, up slightly compared with \$448.25/tonne a year ago. Current canola meal prices in Saskatchewan \$315-320/tonne so there is a minimal range of prices, however some retailers sell wholesale product only.

Alfalfa pellets include dehydrated alfalfa or suncured alfalfa pellets. Prices are currently at \$240-\$285/tonne depending on quality and whether product is dehydrated or suncured. These are relatively similar to last year's reported prices. The USDA Kansas City Ag Market News is reporting alfalfa pellets valued at \$185-210USD/ton, which is approximately \$265-301/tonne at the current Bank of Canada exchange rate (2017).

Grain and grain screening pellets are available to producers from a number of different retailers across Saskatchewan. It is a challenge to compare one product to another due to variability in product consistency, amount of grain present, guaranteed percentage of crude protein (CP) and distance for freight. Pellets may be fortified with vitamins, minerals and an ionophore additive (such as Rumensin™), which adds an additional cost of approximately \$15-20/tonne. Pellets may be used in feedlot, backgrounding, cow-calf, range or finishing operations and availability is fairly good this year although there are concerns with mycotoxins from cereal crops in particular this year. The average reported price across facilities for bare grain/screening pellets is \$143.75/tonne which shows a \$50/tonne decrease since this time last year. Fortified pellet prices have decreased for 12-14% crude protein pellets which average out at \$176-197/tonne compared to \$215/tonne in January of 2016. There seems to be enough supply for the product compared to this time last year, although reports vary across province on availability and prices. Livestock producers have expressed concern over the quality of pellets due to increased levels of ergot and fusarium which may perhaps be reducing demand for product.

Barley malt sprout pellets are comprised of the dried mash left remaining after the fermentation process. Typically barley malt sprout pellets are nutritious enough to meet the demands of a beef cow. There is one plant in Saskatchewan and pricing is currently unavailable. In 2016, the average price in Saskatchewan was \$165/tonne.

Distillers grain products are the by-products remaining following ethanol production. Different distillers products that can be used as livestock feed supplements include wet distillers grains, dried distillers grains and distillers syrup. The current average price for wheat distillers grains are \$160-185/tonne which is lower than last year's average price of \$200-205/tonne. The average price of corn distiller's grains is \$185-195/tonne. Most facilities contract their by-products in advance.

Feed grains impact both forage and livestock prices and are slightly lower than last year. From the Ministry of Agriculture's Market Trends for Crops and Livestock report, current feed barley prices are reported as being \$120.29/tonne, compared with \$162.92/tonne in January of 2016 (Saskatchewan

Ministry of Agriculture, 2017²). Current feed wheat prices are at \$159.94/tonne compared to \$186.70/tonne last year at this time.

7) Forage Price Trends in Neighbouring Jurisdictions

Alberta and Manitoba both experienced above average hay yields in 2016. Montana and North Dakota did not experience any major problems leading to lower than normal hay supplies in 2016, although North Dakota has experienced an exceptionally cold, stormy winter which may impact their local hay market although it has not had an effect on the Saskatchewan market.

There are few hay listings in Alberta or Manitoba, compared with Saskatchewan. Stateside, there are few listings in Montana, however there are several listings for North Dakota compared to other surveys, indicating that perhaps the extreme winter conditions are prompting producers to buy and sell more hay at a higher price. The winter conditions have also made access to hay a challenge in North Dakota, with many producers unable to access their feed stack to use or sell.

Table 9. Forage (Asking) Prices in Adjacent Provinces and States

Forage Type	Alberta		Manitoba		Montana*		North Dakota*	
	Price Range	Avg Price (\$/Tonne)	Price Range	Avg Price (\$/Tonne)	Price Range	Avg Price (\$/Tonne)	Price Range	Avg Price (\$/Tonne)
Alfalfa (1 st cut)	\$79- \$132/T	\$106	\$92- 110/T	\$101	\$108- 158/T	\$138/T	\$120- 164/T	\$133/T
Alfalfa (2 nd cut)	\$121- 132/T	\$130	\$110/T	\$110	-	-	\$121- 184/T	\$145/T
Alfalfa/ Grass	\$88- 169/T	\$110	\$37- 102/T	\$81	\$143- 158/T	\$148/T	\$89- 164/T	\$116/T
Grass	\$68- 119/T	\$93	\$44- 91/T	\$62	\$108- 239/T	\$155/T	\$72- 186/T	\$115/T
Straw	\$47- 66/T	\$56	\$46- 60/T	\$56	\$57/T	\$57/T	\$70- 77/T	\$73/T
Green- feed	\$44- 99/T	\$75	\$79/T	\$79	\$93- 131/T	\$117/T	\$67- 143/T	\$115/T

*American prices have been converted to January 30, 2017 current CDN currency values at \$1USD = \$1.3012CDN

Alberta

There were some dry areas in Alberta in early spring of 2016, however generally Alberta experienced above-average hay yields with adequate to surplus forage and feed grain reserves reported at the end of November, 2016. Compared with Saskatchewan, there did not seem to be as many listings for forage trade and not a lot of hay is reportedly moving at this point. The North American Drought Index shows that there were a few abnormally dry areas in Alberta as at November, 2016, however the winter has also been relatively warm, with the exception of some very cold periods, which has helped to reduce the need for forage. As well, an early October snowfall that impacted a lot of Alberta led to an oversupply of feed grains and other supplement opportunities, albeit there is a concern with mycotoxins.

Alberta forage prices in 2017 compared to a year ago are much softer and there is much less pressure of hay, greenfeed, and straw. Current average asking price of mixed hay is \$110/tonne compared to the January, 2016 price of \$187/tonne. Greenfeed asking prices are variable, however they currently

average \$75/tonne compared to \$143/tonne at this time last year. The average price of cereal straw is \$56/tonne compared to \$70/tonne as reported last year.

Manitoba

Manitoba also reported forage yields above the five-year average but quality is below average quality. Prices reportedly softened throughout the winter months for both beef and dairy quality hay. There were not a lot of listings for forage in Manitoba however there were several noted on American forage buy/sell online listing sites, indicating that perhaps Manitoba producers are shifting focus and trying to sell hay to their American counterparts.

Forage asking prices in Manitoba are currently softer than they were reported a year ago. Currently mixed hay is averaging \$81/tonne compared to its January, 2016 price of \$92/tonne. Greenfeed and straw are trading for \$79/tonne and \$56/tonne respectively, and there were no values to compare to in January of 2016.

Montana

Montana reports a steady hay trade as producers are buying hay for feeders and soon to be calving cows. A recent break in the winter weather allowed some producers to access their stacks and fill orders or tend to new markets, and supplies are reportedly moderate in most locations. The mild weather forecast will likely lead to continued trade. Straw demand has been slightly higher due to the extreme cold winter that has been experienced in parts of Montana.

North Dakota

North Dakota has experienced an extremely tough winter with lots of snow and several blizzards. There were numerous listings for hay in North Dakota indicating that there is an active forage trade there. In spite of this, hay prices are slightly softer than they were last year. As well, the state has lost a reported 100,000 acres of hayland over the past year and fewer acres being seeded to forage, which may have long term effects on hay prices in the future.

Once again, there is a disparity between the Canadian dollar and US dollar make it challenging to compare the current Canadian forage market to the United States market now and in the past. As of January 31, 2017, the CDN\$ was trading at \$0.7685 USD compared to \$0.6971 USD in January, 2016.

8) 2017 Provincial Forage Market Projections

Saskatchewan reported average to slightly above average hay yields in 2016 however quality was generally low for most classes of forages across the province. While there was abundant precipitation to facilitate growing conditions, when it came time to harvest the forage, numerous storms and excessive precipitation resulted in a prolonged hay season, swaths that were rain damaged, and hay that was harvested at overly mature stages, all contributing to a reduction in quality. There was an increase in baled silage reports and use of preservative as producers attempted to harvest their hay during the wet conditions while maintaining quality.

The fall and winter of 2016-2017 started out with an early snowfall in October followed by a warm and mild November and December. Many producers were able to let cattle graze long into the fall, reducing

their usage of stored hay. The early snowfall also caused damage to a lot of standing annual crops that had not been harvested yet. Much of these damaged crops were salvaged for feed.

A major concern across Western Canada was the presence of mycotoxins in both hay and cereal greenfeed and straw. There were widespread reports of issues due to plant diseases such as fusarium and ergot, although levels of mycotoxins in feed samples were reportedly variable. The wet conditions were favourable to the development of molds and livestock producers are encouraged to carefully watch and test their feed supplies to prevent animal health issues.

Currently, many regions across Saskatchewan are reporting adequate or slightly surplus forage supplies. Producers took their supplies fairly tight during 2015-16 when supplies were low and prices were at an all-time high, so farmers may choose to use this abundance of forage to build on-farm inventory.

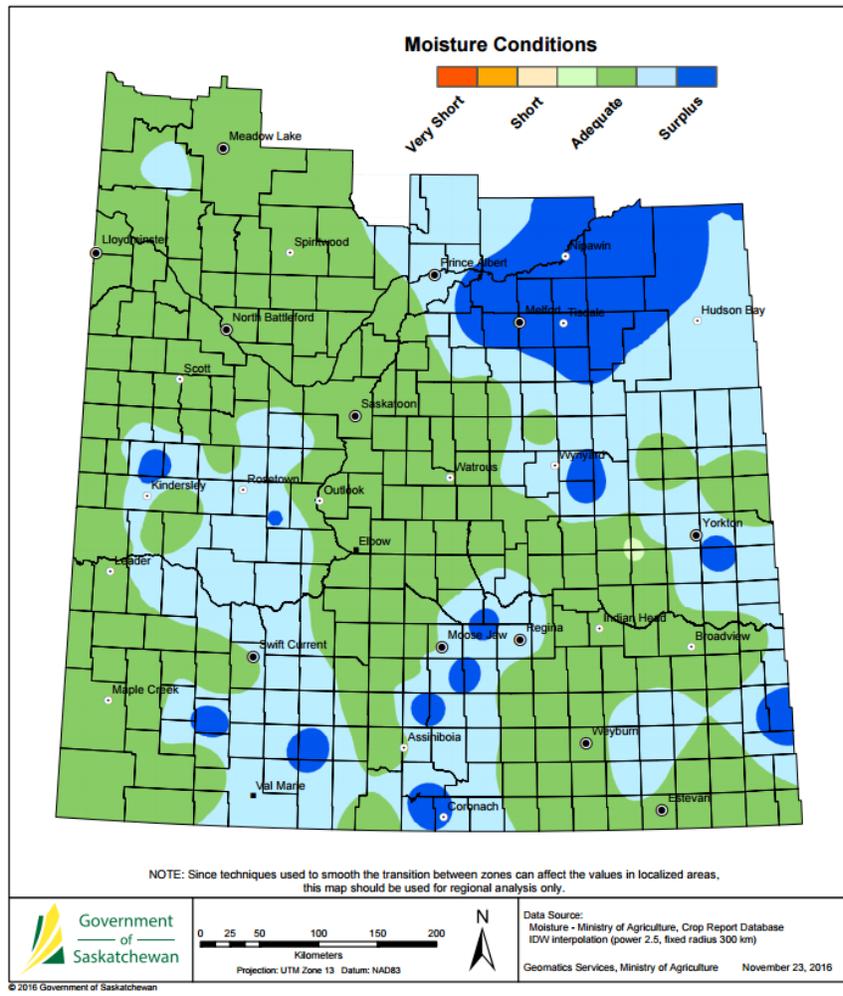
Domestic demand for forage is relatively slow, with many producers unable to sell forage even after they've reduced their prices month over month. Some producers indicated they were planning to export to the United States to make use of the purchasing power that the USD currently has. Other producers indicated they would sit on the forage for a year if necessary before reducing their prices further. Surveys indicated that little hay is actually moving, however, and there were not a lot of listings as the fall and winter continue.

The record high forage prices realized in 2015 are still on many producer's minds, however there did not seem to be an increase in conversion of cropland to tame perennial forage as crop commodity prices are still in favour of annual cropping. This coming year will be the final year for the Growing Forward 2 forage establishment and saline land conversion program so that may play a factor in increasing forage seeded acres in the coming year.

Cattle prices dropped significantly since the previous year, and were reduced 30-40% from 2015 to the fall of 2016. While prices remained relatively high from a historical perspective, this price reduction likely hurt any potential chance of a strong forage price for the 2016-17 year.

As demonstrated in Figure 3, hay and pasture topsoil conditions were reported as adequate or surplus for the entire province as of November 21, 2016. The wet conditions will be helpful to start the 2017 forage crop off right, although there may be acres lost to flooding in regions where surplus moisture was realized this past fall. Weather will remain the biggest factor affecting forage yields, pests, diseases, growing conditions and subsequent prices for the 2017 season. If the 2017 crop is average in yield, prices will likely remain similar to this year. If quality is improved in 2017 or supplies are reduced due to drought, flooding, or pests, hay prices may increase slightly in 2017.

Figure 3. Hay and Pasture Topsoil Moisture Conditions as at November 21, 2016



Source: Saskatchewan Ministry of Agriculture, 2017³

9) Forage Seed Prices

The average retail price of commonly purchased and seeded forage species in Saskatchewan is presented in Table 10. This information is meant to reflect general forage seed prices at the current time. Prices represent certified #1 seed, unless otherwise specified, and were obtained from four major seed retail companies in Saskatchewan. Prices were obtained in January of 2017 and were effective for the fall and winter of 2016/2017.

Native seed prices listed are current January 2017 prices as per the major forage retailers however prices fluctuate regularly for these species depending on demand and availability. There are several native seed growers who harvest and market seed directly across western Canada. A listing of native seed producers may be found through the Native Plant Society of Saskatchewan at http://npss.sk.ca/docs/2_pdf/Native_Plant_Source_List_2013_-_revised.pdf

Producers should contact seed companies or distributors for specific information related to product attributes and availability as well as any guarantees of quality, certification or other parameter that are specific to that company, species or variety.

Table 10. Forage Seed Prices in Saskatchewan as at January 23, 2017

Class	Species	Average Price (\$/lb)
Grasses	Carlton Smooth Brome***	\$4.81
	Smooth Brome (Common)***	\$5.47
	Fleet Meadow Brome***	\$5.12
	Meadow Brome (Common)***	\$5.83
	Hybrid Brome**	\$5.42
	Russian Wildrye	\$7.07
	Tall Fescue	\$3.29
	Fairway Crested Wheatgrass	\$6.09
	Kirk Crested Wheatgrass	\$4.87
	Crested Wheatgrass (Common)*	\$4.40
	Legumes	Alfalfa - hay variety
Alfalfa - creeping root		\$4.89
Alfalfa (Common)***		\$4.63
Cicer Milk Vetch		\$6.10
Sainfoin		\$4.36
Alsike Clover***		\$4.33
Norgold Sweet Clover***		\$2.96
Common Sweet Clover		\$2.50
Hairy Vetch**		\$4.33
Native	Western Wheatgrass	\$13.03
	Northern Wheatgrass	\$17.21
	Slender Wheatgrass	\$3.56
	Green Needlegrass***	\$29.55
	June Grass***	\$30.21
	Canada Wildrye***	\$20.65
	Purple Prairie Clover (legume)***	\$51.59

*one company reporting

**two companies reporting

***three companies reporting

In general, forage seed prices have decreased across the board for all species with the exception of native species, which increased for northern and western wheatgrass, green needle grass, Canada wildrye, and purple prairie clover. Forage seed prices increased 20-40% for some species between 2014-15 and 2015-16, so a slight decrease in forage seed prices for this season was not unexpected.

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