

FORAGE MARKET PRICE DISCOVERY – SASKATCHEWAN

SEPTEMBER 30, 2015



This document details the current market prices and general trends for forage products in Saskatchewan and nearby jurisdictions as at September 30, 2015. 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) Executive Summary

The September 2015 Saskatchewan Forage Market Price Discovery Report is a compilation of data and information collected from a diverse group of forage industry stakeholders in Saskatchewan as well as neighbouring provinces and states during August and September of 2015. This report presents a general overview of growing conditions for forage crops across Saskatchewan in 2015, as well as prices for different forage types and market trends as of this fall.

Saskatchewan experienced cool and extremely dry conditions this past spring, which resulted in well below average forage yields across most of the province. Many producers had some on-farm hay inventory remaining after the previous winter feeding period however 2015 yields from first cuts of hay were much lower than expected, prompting concern about feed supplies early on. Some producers were unable to harvest any forages due to the low yields, and some areas saw a lot of hay fields being grazed rather than hayed, as pasture conditions were also tight in the spring. Prices reached record-setting highs, and peaked around mid-July, coinciding with producer concerns over hay shortages and drought. The hay that was harvested was reported to be in good quality, as there was very little rain that fell across the province during haying operations.

A turning point came for many parts of Saskatchewan when rain started falling late summer and into September, slightly changing the forecast on forages and alternate feed supplies, including greenfeed and hauled crop residue. This put slight downward pressure on prices. The timely precipitation allowed many producers to achieve second cuts of forage, often in regions where it is seldom possible. Some dairy producers even reported taking third cuts of alfalfa off of dryland fields. Pasture conditions are also reported to be generally better at this time, due to the well timed rains, and many producers are hoping to extend their grazing into the winter thereby stretching winter feed supplies. Some areas of the province are still experiencing dry conditions, however, and some parts of the southwest, south east and west central regions are still reporting dry pasture conditions at this point in time.

Saskatchewan forage prices basically doubled those of previous years, proving this to be a very challenging season for producers looking to source feed. Alfalfa/grass mixed hay is worth \$177.35/tonne in 2015, compared with \$86/tonne in 2014. First cut and second cut alfalfa average prices are \$197/tonne and \$232/tonne respectively in 2015, which is almost double their 2014 values of \$98/tonne and \$118/tonne for the same forage crops. Grass hay is valued at \$163/tonne in 2015, compared with \$94/tonne a year ago. Greenfeed also increased greatly in 2015, currently priced at \$141/tonne compared with \$83/tonne in 2014. Straw remained fairly stable, however, increasing \$3/tonne from \$44/tonne in 2014 up to \$47/tonne in 2015. Many producers and cattle feeders indicated that they will be adjusting their rations to include more straw in order to offset the high cost of other forage sources.

Conditions and prices are similar in neighbouring provinces, with significant increases in prices reported in Alberta and Manitoba. These areas both experienced similar cool and dry conditions in the spring time, and some parts of Alberta are still experiencing drought, which is causing high forage prices to persist. Many Saskatchewan forage producers have been selling into Alberta with reports of hay being transported all the way from Manitoba, which is contributing to increased prices across both provinces. Dry spring conditions in Manitoba actually enabled producers to harvest native and slough hay in areas they aren't always able to access, resulting in some additional forage in that region. Drought was reported in Montana and North Dakota, and Conservation Reserve Program (CRP) land was opened up

for harvesting and grazing in some jurisdictions to help reduce pressure on pasture and hayland. In order to provide comparative price estimates, American forage prices are converted to \$CDN/tonne for the purposes of this report. When 2015 values are compared to those from 2014, the forage market in these states appear to have increased as well, however that is likely attributed more to the spread between the Canadian and US dollar, rather than the actual change in the US domestic forage market.

The forage situation in Saskatchewan has been extraordinary in 2015. Dramatic increases of this nature often take time to stabilize and the beef cattle market, fall precipitation levels and winter feeding conditions within Saskatchewan as well as surrounding areas will play a role in the short-term price of forages in the province. Looking long-term, moisture conditions in nearby provinces, particularly Alberta, will play a role in prices and some producers have even indicated an interest in seeding more forages in the future.

2) Saskatchewan Forage Production Trends for 2015

Across Saskatchewan, most forage producers commented that growing conditions were extremely dry and cool in the spring of 2015 with many regions experiencing hard frosts in late May and into early June. This weather had a negative impact on yields across the province, with production looking quite low particularly in late June and early July, when many producers were starting haying operations. The Saskatchewan Ministry of Agriculture reported below average forage yields for 2015, ranging from lows of 0.6 tons/acre in the southwest and west central regions of Saskatchewan to 1.2-1.3 tons/acre in south east and east central regions. Most producers interviewed indicated that their tame forage crops yielded a quarter to one third of what they normally expect to produce in an average growing season. In spite of poor yields, most forage was baled in relatively good condition and hay quality was above average, in part to the prolonged dry haying conditions.

A reduced provincial supply of forage has caused forage market prices to be close to double the yearly average across many regions of Saskatchewan. Recent record high beef prices may also be a factor in the rising cost of forages. Several Rural Municipalities across the province were designated as drought areas in July, thus qualifying producers in those regions to be allowed to participate in a livestock income deferral program from sales due to drought. In June, the Saskatchewan Ministry of Environment also responded to the dry conditions, opening up approximately 100,000 acres of Fish and Wildlife Development Fund for grazing from June through to September.

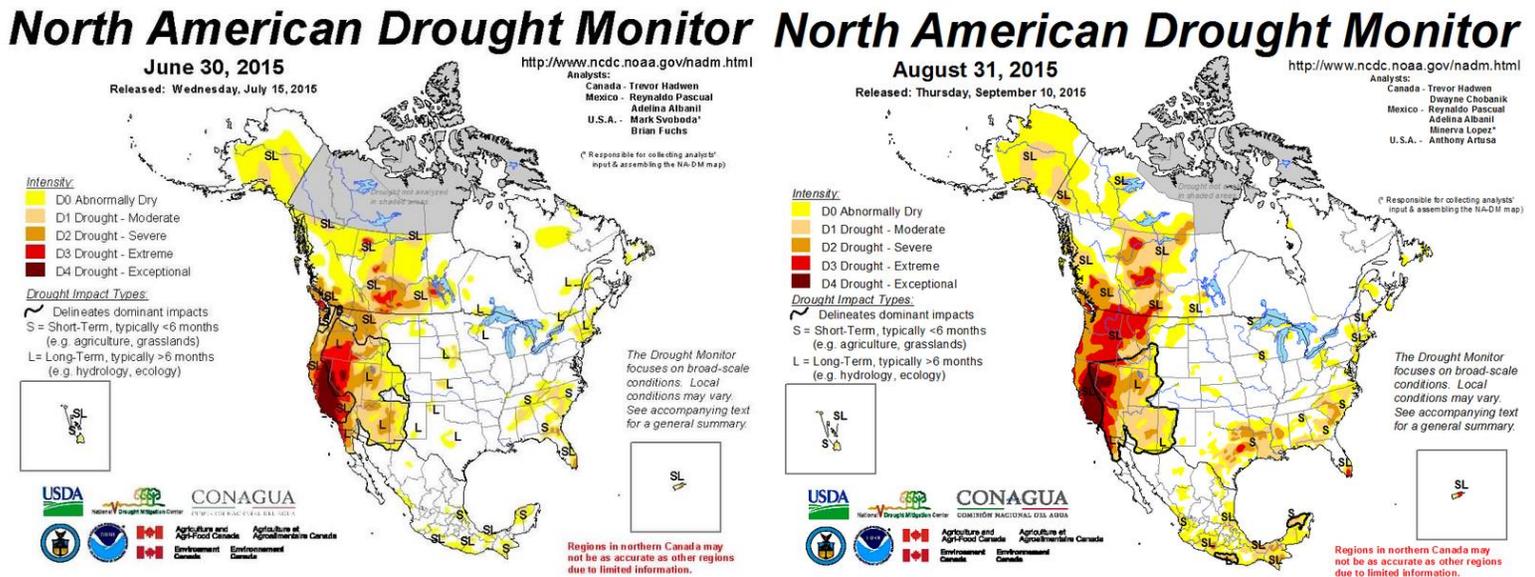
In the end of July, through August and into September, moisture conditions greatly improved in Saskatchewan. Areas that had only received 30-40mm of precipitation in the spring and early summer later received 300mm or greater in July, August and September. While some areas of the province remained dry, Saskatchewan generally received greater than average moisture during late summer and early fall. At the onset of haying season, when conditions were very dry and yields were low, prices were at their peak. After the unanticipated later summer and fall rains, forage prices softened approximately 10% across the province, with several forage suppliers indicating they had negotiated slightly from their asking prices. Many producers opted for a second cut of hay on their dryland alfalfa, including regions where it is typically not common, such as in west central and southwest parts of Saskatchewan. Ministry of Agriculture Forage Specialists reported an increase in inquiries about taking second cuts of hay from many producers. Issues with winterkill due to late second cuts may impact crops in the 2016 season, however there were no major winterkill problems identified in the 2015 season.

In early spring, pastures were under pressure from reduced rainfall and cool growing conditions, however Saskatchewan's current hay and pasture topsoil moisture conditions as of September 21, 2015 are reported as being adequate to surplus (Ministry of Agriculture, 2015). There are some areas experiencing shortages, including the extreme southwest (south of Maple Creek), south central (near Coronach) and south of Swift Current. Many producers are planning on extending their grazing season to help reduce their reliance on costly feed which will be helpful as long as pastures receive effective rest during the growing season next year prior to grazing. Forage prices may fluctuate greatly this winter depending on weather conditions, the severity of the cold temperatures, the availability of snow or stock water for winter grazing, and snow pack.

Existing hay inventories going into 2015 were relatively good, however many ranchers fed longer into the spring this year than predicted and this may have reduced their carryover. It is anticipated that a lot of the 2014 and 2015 hay crop will be used this winter, reducing on-farm inventories for 2016.

As demonstrated in Figure 1 below, as at June 30, almost the entire province of Saskatchewan was experiencing a drought with short-to-long-term consequences, as well as Alberta. The drought pervading the North American West Coast was projected to have long term effects. Two months later, however, much of Saskatchewan was downgraded from a drought, although parts of Alberta increased in severity. As at August 31, the impact of drought along the North American West Coast increased in severity.

Figure 1. Comparison of North American Drought Conditions as at June 30 and August 31, 2015



Source: North American Drought Monitor, 2015.

As America's drought region along the West Coast expanded its stronghold, a lot of Saskatchewan's previous years' forage crop moved south in the late winter and early spring months of 2015. With the American dollar able to purchase more feed than the prior year coupled with concerns over drought

conditions south of the border, many American ranchers sourced forage from Saskatchewan, possibly further reducing on-farm inventories within the province, especially in the south.

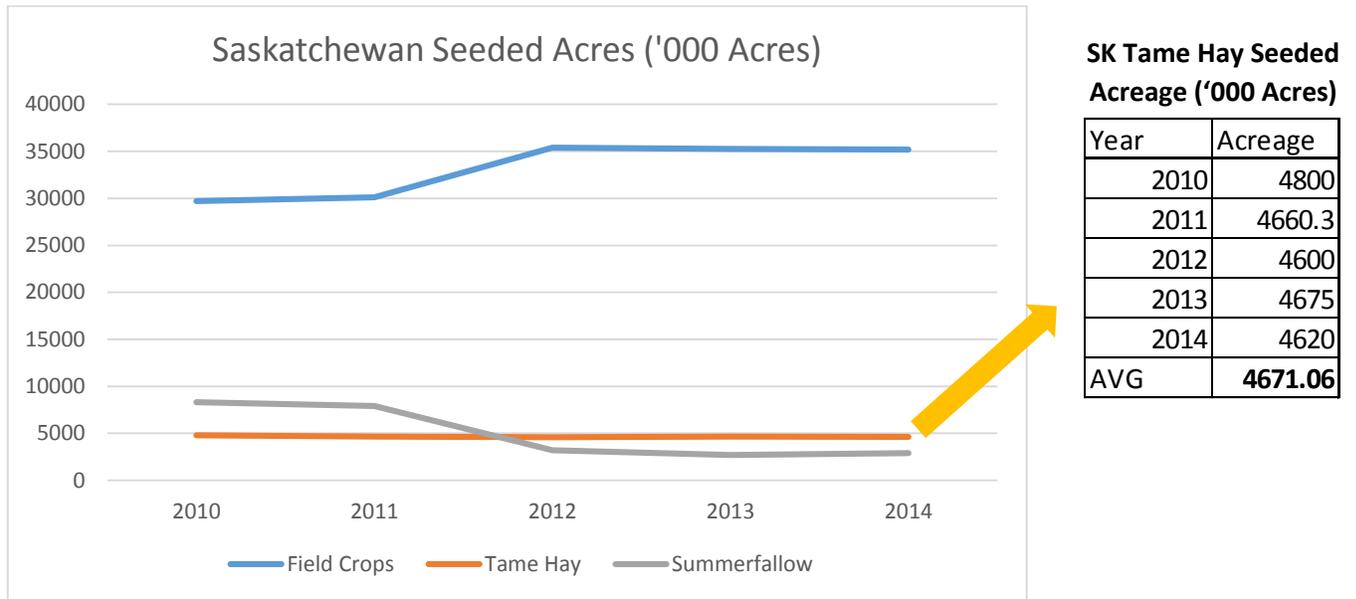
Canada's cattle herd continued to decline another 2.1% compared to the same time last year (Statistics Canada, 2015). The total national inventory of cattle and calves as at July 1, 2015 was estimated to be 13 million head. The number of farms in Canada that reported having cattle also decreased during the same time period. The provincial beef herd numbers showed a decrease of 3% for Saskatchewan, dropping from 2.8 million head in 2014 to just over 2.7 million in July, 2015. Nationally, beef heifers retained for breeding purposes continued to fall once again by 0.6%. This is consistent with observations across Saskatchewan this spring, as dry conditions caused many livestock producers to reduce their replacement female numbers early on. In 2014 and 2015, livestock producers realized record high profits in the beef sector which is likely contributing to continued herd liquidation and dispersals, and fueled by high priced forages. Many cow-calf producers commented that they will be culling breeding cows harder this fall to reduce feeding costly hay to unproductive animals. A continued reduction in the provincial beef herd may cause a shift in forage acreage at some point as well, although the current lower crop commodity prices and the high beef prices are likely buffering any major changes at this point.

Many producers opted to utilize alternative forage types this year, including greenfeed, yellow feed straw, pellets or crop residue (including hauled crops). While greenfeed prices are reported as being almost double those of last year, some producers reported being able to source lower quality grain bales for very low rates, so there are opportunities for those who are able to get creative. Cattle backgrounding and feedlot operations particularly will be looking at ways to reduce reliance on expensive hay however many feedlots are reporting very high yielding silage crops, particularly corn silage, which will moderate their need for roughage. Several producers were also offering previous years' hay for sale, trying to capitalize on the high market. Generally, previous years' hay was trading for approximately 5-6 cents/lb or \$110.23-\$132.28/metric tonne.

In a quest to source feed, many producers turned to social media (i.e. Hay/Feed for sale in Saskatchewan/Alberta/Manitoba Facebook page) in order to buy and sell hay. Producers also seemed to rely more on online advertising through local classified websites as well as mainstream websites such as kijiji.ca or craigslist.com rather than traditional classified ads in newspapers. Many people also took to social media to air their fears about the higher than average hay prices and the concern that buyers or sellers are not being fair to one another.

The following chart depicts seeded acreage of crops, including tame forage, across Saskatchewan over the past ten years. Field crops (i.e. flax, canola, cereal crops) have increased in the past five years, with 35,195,000 reported as being seeded in 2014, while acres left in summerfallow have decreased over the same time period. Tame hay acres appear to be relatively level over the past five years, averaging at 4,671,060 acres seeded annually. Although they are just one subset of forage users, a recent survey of cow-calf producers across Western Canada showed that 38% of respondents rejuvenate their forage stands every eleven years or more, and 25% of respondents do so every 6-10 years (Western Beef Development Centre, 2015). Through personal communication, it was reported that some producers intended to seed forage in 2015, however the lack of early spring moisture caused them to hold off. Estimates of seeded acreage for 2015 will not be available until November.

Figure 2. Estimates of Saskatchewan Seeded Acreage for Field Crops, Tame Hay and Summerfallow Acres from 2010-2014

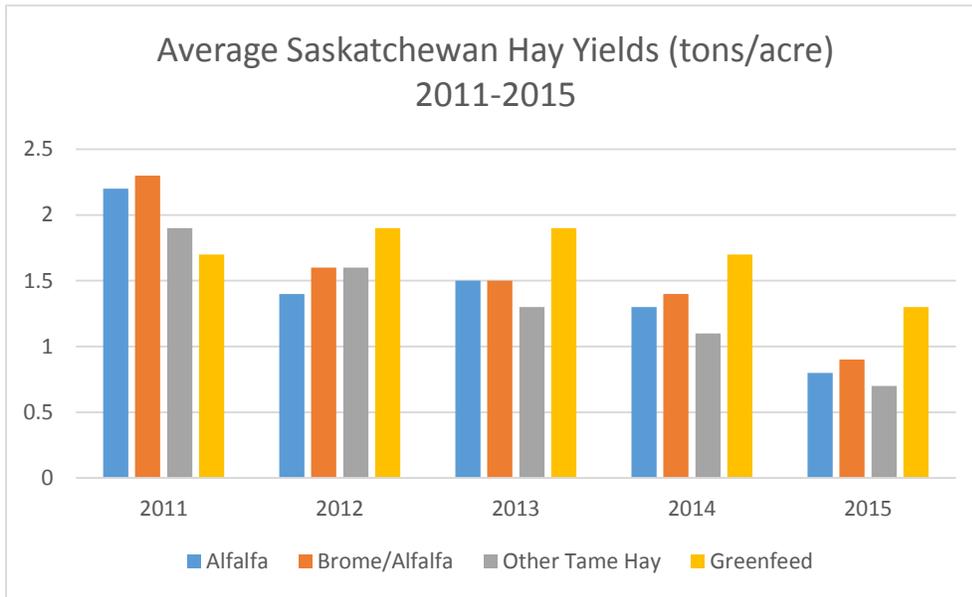


Source: Saskatchewan Ministry of Agriculture, November, 2014.

The Ministry of Agriculture reported that as at July 20, 2015, approximately 54% of the hay crop was baled or ensiled with another 18% cut and ready for baling, compared with 42% at the same time in 2014. This is consistent with many interviews and several producers indicated that they started haying operations earlier in the season than normal.

The following figure demonstrates the lower yields that were realized in 2015 for all forage crops. For alfalfa, alfalfa/brome, and tame hay, provincial yields were almost half of what the five year average is. Alfalfa yielded approximately 0.8 tons/acre; alfalfa/brome yielded 0.9 tons/acre; and other tame hay yielded 0.7 tons/acre. Greenfeed yields, while somewhat lower, were 1.3 tons/acre, as compared with the five year average of 1.7 tons/acre. Timely rains likely contributed to a greater yield for greenfeed.

Figure 3. Average Saskatchewan Hay Yields (in short tons/acre) from 2011-2015



Source: Saskatchewan Ministry of Agriculture Crop Reports, 2011-2015

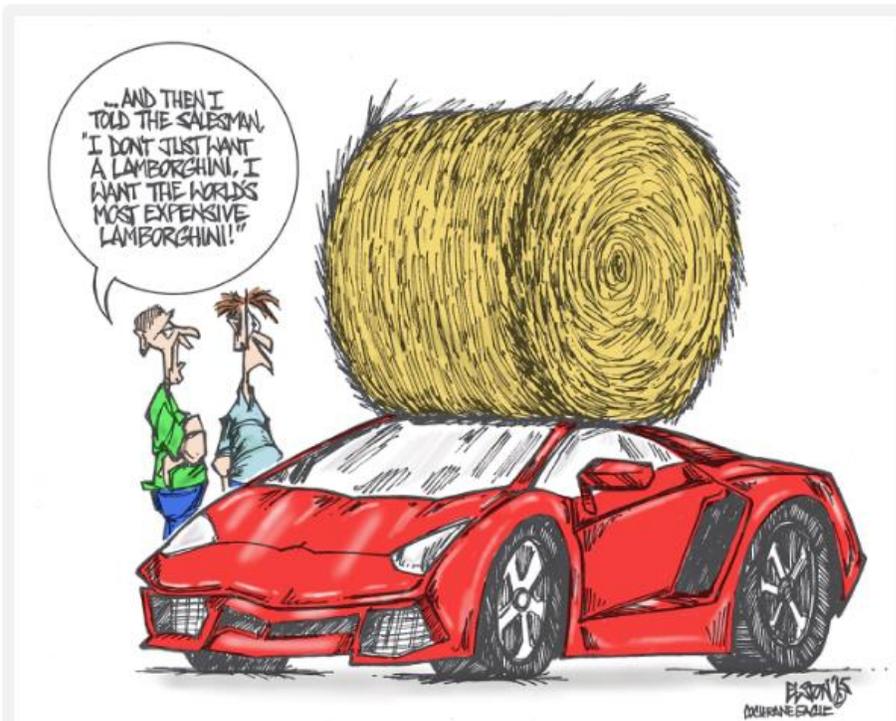
Forage conditions across Western Canada and the Northern United States were relatively similar. All areas reported dry and cool springs with some late summer rains to help reduce pressure on pastures, forage and greenfeed supplies and subsequently putting slight downward pressure on the record-breaking prices. Rains were spotty, however, and many areas throughout Alberta in particular are in a continued drought, including north of the Peace Region, north of Edmonton, west of Calgary and around Medicine Hat. This year, Alberta forage conditions likely have the most impact on Saskatchewan forage prices this year and hay has reportedly been trading at prices greater than \$275/metric tonne. Hay from across Saskatchewan and even as far away as Dauphin, Manitoba is being transported into the region.

Manitoba experienced a dry start and cool weather this past spring, particularly in the northwest, southwest and Interlake regions. Warmth and moisture improved throughout the season, resulting in average or above average second cut yields and normal to slightly below normal hay prices within Manitoba according to the Manitoba Forage and Grazing Association (2015). Hay quality varied due to challenges with rainfall and high humidity however there are some excellent corn silage crops reported in the area.

North Dakota experienced lower than average forage yields especially early in the season. Just less than half of pasture and range conditions are rated as being good however most stock water supplies are rated as being adequate or surplus (United States Department of Agriculture, 2015). Montana experienced dry weather as well which resulted in counties in northwest Montana opening CRP land for use for grazing or hay for drought stricken farmers (The Prairie Star, 2015).

The high forage prices were certainly on the radar for producers and hay growers, however the situation also attracted media attention, with reports of theft of high-valued hay across western Canada. Figure 4 depicts a political cartoon related to the sharp increase in hay prices.

Figure 4. Political cartoon referring to high forage prices.



Source: Elston, 2015. First appeared in Cochrane Eagle newspaper (used with permission)

3) Weeds, Field Pests and Disease Impacts in 2015

With the increased movement of hay from some jurisdictions into others, the risk of moving invasive alien plant species also increases. In years when forage supplies are tight, farmers may make use of hay from ditches and rights-of-ways, or bring hay of questionable quality or origin onto their farm. Of the producers who were interviewed, many expressed concern over the movement of weeds, however no one had a specific example of having experienced it this year.

Some regions, including central and west central Saskatchewan, indicated a minor presence of alfalfa weevils however the amount found was certainly below the economic threshold for damage in those areas. In southeast Saskatchewan, alfalfa weevil populations have returned to “normal” levels (i.e. reduced in numbers) although there were a few scattered fields reporting damage and subsequent management through early cutting or spraying.

Regions like the northwest, west central and southwest areas of Saskatchewan have been reporting increased grasshopper populations although few noted major damage incurred during the 2015 growing season. There is concern among producers that next year the grasshoppers in those areas may have a negative impact on pastures and hay.

The dry, cool spring seemed to mitigate any potential issues with forage diseases such as fusarium or ergot this year and Ministry of Agriculture Regional Forage Specialists did not note any issues.

4) Saskatchewan Hay and Forage Freight Rates

Hay transport rates were reported to be quite variable across Saskatchewan and neighbouring provinces. Some rates were provided based on weight, such as 1-1.25 cents/lb while most rates are based on a per loaded mile basis. According to the Government of Saskatchewan's 2014-15 Farm Machinery Custom and Rental Rate Guide for self-unloading bale movers (suitable for short hauls), an appropriate hourly custom rate of \$123.07 is reported. In Saskatchewan, average forage freight rates were reported as low as \$3/loaded mile in East Central Saskatchewan up to \$6.83/loaded mile in south central Saskatchewan, with an average cost of \$5.59 which is actually lower than the average reported for 2014. The most consistent transport rate reported during interviews was \$6/loaded mile even though the calculated average is slightly lower than that. One factor that may point to a reduction in rates is the increased abundance of hay transporters due to recent transporter layoffs in the energy sector. Table 1 breaks down the rates per region and Table 2 includes similar information from out of province.

Table 1. 2015 Hay Transportation Costs in Saskatchewan

Region	Rate (\$/loaded mile - long hauls)
North East	\$4.45
North West	\$5.50
South Central	\$6.83
South East	\$5.00
South West	\$5.75
East Central	\$4.50
West Central	\$5.97
Average*	\$5.71/mile

*Note: province-wide average obtained from all reported values from across Saskatchewan.

Table 2. 2015 Hay Transportation Costs in Neighbouring Provinces

Region	Rate (\$/loaded mile - long hauls)	Rate (\$/hour – short hauls)
Alberta	\$6.37	\$130
Manitoba	\$5.25	-

5) Current Saskatchewan Forage Prices by Crop and Sector

The 2015 hay crop yields across Saskatchewan were greatly reduced due to the dry and cool spring conditions as well as late season frosts. First cuts were very low yielding, resulting in early price predictions of hay trading at \$275/tonne or greater. Exceptional and unusual late summer and early fall rains covered Saskatchewan and many second cuts of hay yielded above average. Some areas even saw third cuts taken off from dryland while other regions experienced second cuts that normally would not occur.

Hay quality was relatively good, with many producers starting hay operations in late June. Humidity was not a major issue for dry-down time in 2015 and areas such as the northwest region reported that hay took 2-3 days to cure when it can normally take up to 6-7 days.

Demand for hay this season was high and prices more than doubled those of previous years and reached record-breaking levels. That being said, when assessing the highs and lows within each forage category, there was a wide range in prices. Prices also peaked earlier in the season in August, prior to good rainfall events that hit most of the province, therefore accounting for some of the range and diversity of prices.

Price information was collected through phone surveys of livestock producers, hay producers, hay brokers, dairy producers, livestock auction markets and feedlots. Data was also collected from electronic scans through online classified sales (i.e. Kijiji.ca, hayexchange.com), Facebook hay trading pages and the Ministry of Agriculture forage listing service. Simple averages for forage prices was calculated, as opposed to a weighted average, as there was a lack of available weight data available for forage that was trading. There were more listings for forages than normal although few buyers and sellers associated weights with them. The simple average is a credible value, however, given the volume of data collected for each forage category. Table 3 illustrates the major forage crops that were trading in 2015 along with a simple average price.

Table 3. Average 2015 forage prices in Saskatchewan

Forage Type	Average Price (\$/Tonne)*	High (\$/Tonne)	Low (\$/Tonne)
Grass Hay	162.98	220.46	105.82
First Cut Alfalfa	197.23	220.46	128.01
Second Cut Alfalfa	232.33	330.69	169.59
Alfalfa/Grass Mix	177.35	286.6	106.15
Greenfeed	140.96	192.9	45.04
Yellow Feed	141.92	176.37	110.23
Straw	47.99	70.15	35.4
Yellow Sweet Clover	192.90	220.46	165.345
Hailed Crops	145.75	146.97	143.3

*average reported is a simple average of all reported prices, including asking, buying and settled, across the province for that particular forage type

First and second cut alfalfa averaged \$197.23/tonne and \$232.33/tonne in 2015 respectively, compared to \$98/tonne and \$118/tonne at the same time last year. **Alfalfa/grass** hay averaged \$177.35/tonne compared with \$86/tonne this time last year. Supplies were lower across the province for alfalfa and alfalfa/grass hay, although following the late summer and early fall rains, supplies picked up as second and even third cuts of hay were taken off with above average yields.

Grass hay averaged \$162.98/tonne in 2015 compared with \$94/tonne in 2014. There wasn't a lot of grass trading again in 2015 and there is a large variety of pricing, quality and species for this forage type. Yields were lower than average, contributing to the high pricing and there is no potential for second cuts as there are with crops including legumes.

Greenfeed prices also increased dramatically and in 2015 were valued at \$140.96/tonne compared to \$83/tonne in 2014. Early in the summer when hay prices peaked, several listings of greenfeed were noted, particularly in regions of extreme drought, including neighbouring jurisdictions like southeast Alberta. As the window for crop harvesting is closing on cereals, greenfeed listings have subsided although there are reports of livestock producers still swathing and baling portions of fields for their

crop farming neighbours in spots slow to ripen. **Yellow feed**, annual crops which have been sprayed with glyphosate prior to cutting and baling, was also noted in listings this year, and the average price was \$141.92/tonne, slightly higher than greenfeed (although the sample size for yellow feed is much smaller). There were also some opportunities early in the summer for standing hauled crops and three listings for those crops were noted, averaging \$143.30/tonne.

Straw increased slightly, however given the tumultuous market for other forages, it remained fairly stable, and was valued at \$47.99/tonne in 2015 compared to \$44/tonne in 2014. There is a lot of price diversity in this category across regions of the province, with straw valued highest in southwest Saskatchewan and lowest in east central Saskatchewan.

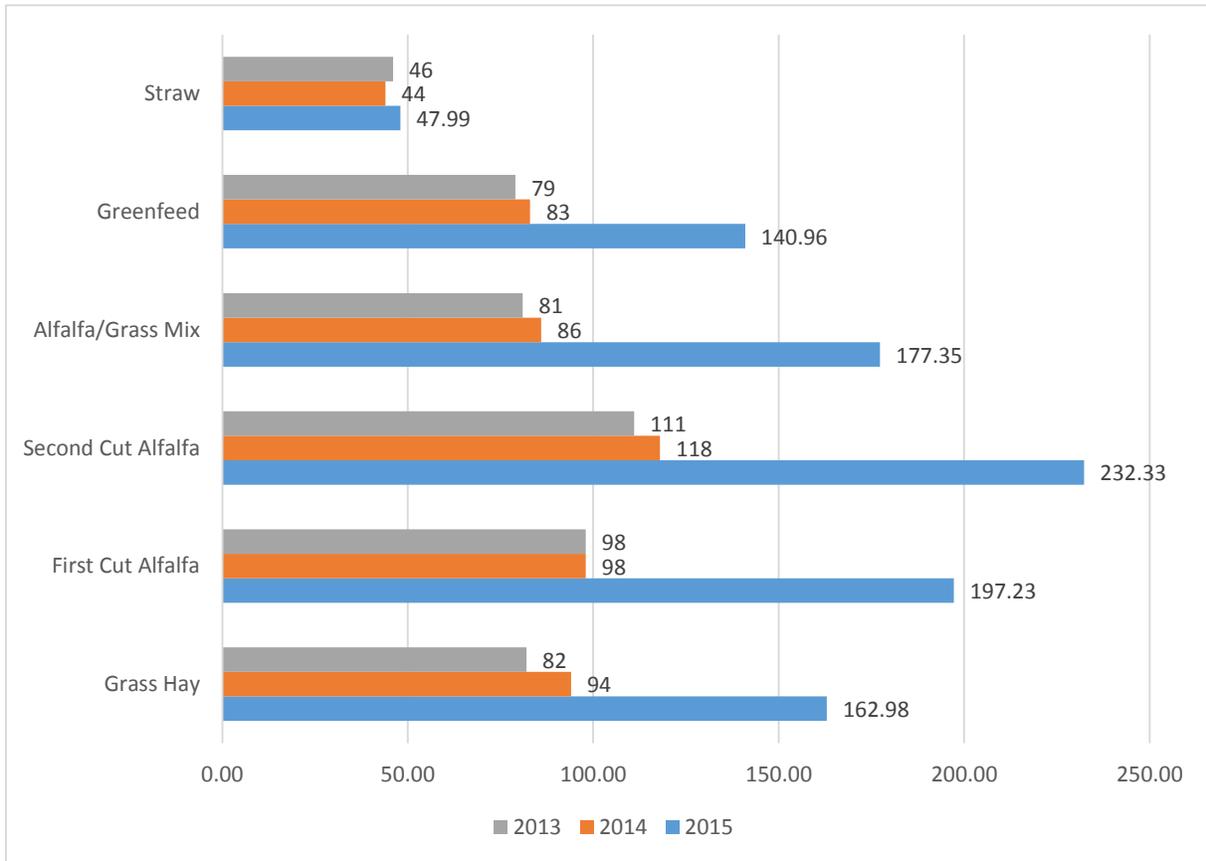
There were only two listings noted for **yellow sweet clover** across the province, with the average of both prices valued at \$192.90/tonne. Sweet clover is often included in newly seeded forage crops. With the dry spring, many producers who had planned on seeding forages did not, therefore that may be why there are few listings to compare.

A comparison of forage prices for 2013-2015 can be viewed in Table 4 below and a graphical analysis is in Figure 5.

Table 4. Average forage prices in Saskatchewan from 2013-2015

Forage Type	2015 Average Price (\$/Tonne)	2014 Average Price (\$/Tonne)	2013 Average Price (\$/Tonne)
Grass Hay	162.98	94	82
First Cut Alfalfa	197.23	98	98
Second Cut Alfalfa	232.33	118	111
Alfalfa/Grass Mix	177.35	86	81
Greenfeed	140.96	83	79
Yellow Feed	141.92	-	-
Straw	47.99	44	46
Yellow Sweet Clover	192.90	-	-
Hauled Crops	145.75	-	-

Figure 5. Average Saskatchewan Forage Prices (reported in \$/Tonne) from 2013-2015



Data Sources: Saskatchewan Forage Council, 2013, 2014

A) Standing Hay

Standing hay was challenging to price in 2015 due to inconsistency in terms of sales. Some standing hay is sold by the acre while other reports are by the tonne. Most seem to be pre-arranged agreements where the buyer is responsible for cutting and baling the hay and then takes a share of the hay (i.e. half or a third of the bales). Another challenge with pricing standing hay was that at the time of baling in 2015, prices were very volatile and likely at their peak due to the low yields. Those factors made it difficult to establish what a fair price was for standing forages and while a few asking prices were listed, it is uncertain as to whether those prices were realized.

Prices obtained from East Central Saskatchewan through personal communication showed standing rates of 1.75 cents/lb for average alfalfa/grass mixed stands and 2.5 cents/lb for stands with a higher proportion of alfalfa. That is equivalent to approximately \$34.72/ac and \$49.60/ac assuming the provincial average of 0.90 tonne/acre was achieved. This is consistent with 2015 prices obtained from conservation agencies who contract standing hay, with bids in the range of \$30-40/acre up to a bid of \$80/ac for mixed hay. A standing price for alfalfa/grass hay of \$121.25/tonne was obtained from the

southwest region of Saskatchewan which would cost the producer approximately \$169.75/tonne once cutting and baling was factored in (using an average \$38.50/tonne costs as per 2011 Ministry of Agriculture values).

Some greenfeed standing prices were also obtained. In East Central Saskatchewan, a producer reported a rate of \$107/acre. If that crop yielded the provincial average of 1.3 tonne/acre, the greenfeed would be worth approximately \$139.10/tonne. Another listing, also in East Central Saskatchewan, was obtained for greenfeed oats valued at \$250/acre although it is unclear if that amount was realized and given the high rate, it was not included in the valuation.

B) Small Square Hay Bales

Small square hay bales are typically offered for sale on a per bale basis. The bales are often purchased by small scale or recreational farmers or acreage owners to be used for horse feed or by livestock auction marts to be used for their pens. Due to their smaller size and higher labor input for stacking and moving, they are typically much more expensive on a metric tonne basis than large round or large square bales. Most prices were obtained from on-line classified ads (i.e. Kijiji) from across all regions of Saskatchewan. Most square bales are offered with no specified bale weight although it is estimated that small square hay bales weigh 50-60 lb/bale and small square straw bales weigh approximately 40 lb/bale. Table 5 below shows average prices for small square hay and straw offered on a per bale basis.

Table 5. 2015 Square bale asking prices across Saskatchewan

Forage Type	Average Price (\$/bale)
Alfalfa	7.88
Alfalfa/Grass	6.34
Grass	6.88
Unspecified Hay	5.58
Straw	2.35

C) Dairy Sector

Forage prices have increased for the dairy sector as well although producers interviewed did not have trouble sourcing forage and many also sold hay into the dairy market. First cuts yielded poorly across the province, however most producers took a second and even in some cases, a third cut of alfalfa which helps bolster hay supplies. Up until this year, dairy forage was reportedly sold at a rate of approximately \$0.80/Relative Feed Value (RFV), which is demonstrated in the following calculation:

$$140 \text{ RFV} \times \$0.80/\text{RFV} = \$112/\text{ton or } \$123.46/\text{tonne}$$

This year prices have increased with reported values of \$1.25-\$1.50/RFV in central Saskatchewan up to \$1.27-1.57/RFV around south central Saskatchewan near Regina and Moose Jaw. Table 6 shows equivalent and reported prices across regions of Saskatchewan and Table 7 demonstrates prices noted in neighbouring locales.

Table 6. Saskatchewan Provincial Average of Dairy Quality Hay (assuming 140 RFV)

Region	\$/Tonne
North West	220.46
Central	191.07
East Central	217.71
South Central	242.51
AVG	\$217.94

Table 7. Average Asking Prices for Dairy Quality Feed Reported in Neighbouring Jurisdictions

Region	\$/Tonne
Manitoba	275.58
Alberta	297.62
Montana	275.58
AVG	282.9267

Silage is an important forage for the dairy industry in Saskatchewan and most areas reported good yields on barley and corn silage, with lower than average yields on alfalfa silage. Some producers are attempting to take off two silage crops in a season, first silaging an early barley crop with which oats is seeded into the crop residue for a later silage crop, although it is unclear how many acres may be using this unique approach. Silage is reportedly valued on-farm at anywhere from \$38-44/tonne up to \$47-53/tonne (all numbers based on a 35% dry matter basis).

D) Organic Hay

Very few organic prices for baled forages were obtained in spite of interviewing several organic producers. Most registered organic producers put up their own feed to ensure it meets their organic status criteria and few sell extra, preferring to retain that as carryover. One producer assembles and sells organic hay into the sun-cured dehydrated alfalfa market and reported that he received a 25% premium over conventional alfalfa hay prices. Of the prices obtained for organic alfalfa hay, they were all sourced from east central Saskatchewan and the average for 2015 was \$191/tonne which is consistent with 2014 reported values of \$184-202/tonne.

E) Dehydrated Alfalfa and Timothy Products

There are currently three alfalfa and timothy processing plants located in Saskatchewan: Canpro Ingredients Ltd., located in north east Saskatchewan near Arborfield; Elcan Forages (now owned by an out-of-province company), located in west central Saskatchewan near Broderick; and Western Alfalfa Milling, located in east central Saskatchewan, near Norquay.

Prices have increased for all processed products compared with values in 2014. Dehydrated alfalfa pellets are processed from freshly chopped green alfalfa, sun-cured alfalfa products are derived from cured/baled alfalfa and cubes are derived from cured/baled forage as specified in product type. Products are sold by quality and not all facilities offer similar products, however average prices are available in Table 8.

Table 8. Saskatchewan 2015 Processed Alfalfa Product Prices

Product Type	Price (\$/Tonne)	Quality
Dehydrated Alfalfa Pellet	\$255	15% Crude Protein
Dehydrated Alfalfa Pellet	\$320	17-19% Crude Protein
Suncured Alfalfa Pellets	\$257.5	15-17% Crude Protein
Organic Suncured Alfalfa	\$340	15% Crude Protein
Dehydrated Alfalfa Cubes	\$350	15% Crude Protein
Dehydrated Timothy/Grass/Alfalfa Cubes	\$400	12% Crude Protein

Regarding compressed timothy for export markets, facilities in Alberta were contacted for prices, however pricing is currently unavailable. Sales representatives at these facilities did indicate that the current prices are low due to an oversupply from American timothy growers at this time. The current timothy crops were noted as being average in Alberta, however due to current market conditions and a reported large supply, it was unclear as to what pricing would stabilize at.

F) Silage

Several producers and feedlot operators were surveyed regarding 2015 silage crop conditions and market value. Much of the corn silage has not been harvested at this time, although many producers are anticipating greater than average yields. Everyone surveyed produces and uses their silage within their own operation, therefore these values are for calculating rations and valuing net worth rather than for buying or selling purposes. In 2015, feedlot and private producers reported their silage to be valued at an average price of \$40/wet metric tonne (i.e. on a 65% moisture basis). This is relatively close to the average 2014 price of \$41/tonne and the 2013 price of \$41-42/tonne.

As the final corn silage numbers are accounted this fall, pricing silage may remain a challenge however there are some helpful factors to consider including a multiplier formula. A rule of thumb for calculating silage values are to multiply the value of feed barley by a factor of 12 to obtain an approximate silage value. Currently, feed barley is trading at \$3.50-3.80/bushel (as per Rayglen Commodities current market contracts, 2015). Multiplied by 12, that would provide an approximate value of \$42-45.60/metric wet tonne of silage, indicating that early personal estimates may be slightly low.

6. Regional Forage Pricing Trends

As per usual, there was a great variation in forage pricing between regions of Saskatchewan. Generally, prices were higher in southwest, south central and west central regions of the province and lower in the east central and north east regions. Table 9 shows the variation in pricing by forage crop and region in Saskatchewan.

Table 9. 2015 Saskatchewan Forage Crop Prices across Regions

Region of Saskatchewan	\$/Tonne							
	Alfalfa	Grass	Alfalfa/ Grass	Greenfeed	Yellowfeed	Straw	Yellow Sweet Clover	Hailed Crops
South West & South Central	220.46	110.23	229.58	173.64	-	57.12	220.46	-
South East	179.12	138.56	166.79	167.03	-	-	165.35	-
East Central	199.74	153.78	156.40	121.80	110.23	37.89	-	-
Central & West Central	330.69*	220.46	212.39	158.00	176.37	-	-	145.756
North West/North Central	132.28	172.98	169.44	154.32	-	48.37	-	-
North East	148.80	163.24	178.37	125.72	140.54	-	-	-

*sole data point for exclusively alfalfa forage type in West Central region and it was second-cut dairy quality, therefore may not have been representative of general alfalfa prices.

A) South Central and Southwest Regions

The weather was extremely dry from April through June, as well as cooler than expected which caused significant yield reductions. Prior to the 2015 haying season, producers in the region retained inventory from 2013 and 2014 crops, as there was above average forage yields in the south west during those years. It's estimated that producers were able to carry over 25-50% of their winter feed supply prior to the 2015 haying season, although that varies greatly between producers.

In 2015, most hay was put up in above average conditions as very little precipitation fell in the region during haying operations. Producers reported yields of about one third of what they normally would expect. Some producers were even unable to harvest hay from older stands because the productivity was so low. Generally, producers in the southern part of the southwest region had better yields, with producers in the north and west portions of the region experiencing poorer yields. Demand in the extreme southwest, near Consul and Maple Creek, as well as nearby Medicine Hat was affecting prices and movement of hay in this region.

There were no major disease or insect pressures on yields.

Due to rains that fell in July and August, there was significant regrowth on pastures and hayland, which resulted in a softening of prices. Some farmers were able to obtain a second cut of hay which yielded better than their first cut.

Few new acres of forage were established across the region due to the dry spring weather. There are reports of producers sourcing alternative feeds such as greenfeed, straw, and hailed crops in order to meet their needs.

Most pastures were very dry early in the season and cattle grazed carryover because pasture growth was reduced due to the cool, dry weather. Pasture conditions are much better heading into the fall, however, and many cattle producers will be extending their grazing season to reduce their winter feeding period as much as possible.

B) South East Region

Moisture conditions were extremely dry with the exception of the far east portion of the region. Rain did not complicate haying operations and forage quality is reported as being in good condition. Going into the 2015 haying season, many producers in the southeast had a lot of 2013 and 2014 hay inventory on hand, although that wasn't the case for everyone. Many producers are already concerned about next year's forage yields. Dry and cool conditions persisted throughout May and June, resulting in yields that were about half of what was expected. Few producers are obtaining second cuts, although there were some fields, particularly new stands, where second cuts were harvested, or other examples where producers took an early cut in June to facilitate second cuts later in July.



Prices are higher than normal for forages and most producers are resistant to paying and therefore will be sourcing alternative feeds, such as greenfeed, feed grain, pellets, screenings, crop residue or straw. The length and severity of the winter feeding period will dictate prices as winter progresses. There were reports of hay moving from the region into southwest Saskatchewan.

Alfalfa weevils were present in the region although they were back to "normal" levels. Most alfalfa/grass stands had some low numbers and a few scattered alfalfa fields throughout the region had quite high numbers of weevils that warranted early cutting or spraying, particularly in the Broadview region. There were no reports of diseases such as ergot.

Many pastures were dry early in the season and continue to be dry going into the fall. Water and snow will be necessary and pasture conditions remain tight.

C) East Central Region

It was a cool and dry spring in east central Saskatchewan prompting producers to be concerned about feed shortages. Most forage was baled in good condition. Hay yields were significantly lower than previous years which caused forage prices to increase dramatically. The region received a lot of rain in late summer, causing some pasture and hayland to be reporting a slight surplus of moisture, however pastures were in fair condition prior to the rainfall therefore the moisture was welcome in many areas. As the growing season progressed, pastures went from being reported as fair to good condition.

A lot of hay was reported as being transported out of the region, with many hay trucks on the road delivering hay west, some as far as Alberta.

No major disease or insect pressures were impacting forages in east central Saskatchewan.

Some cropland was diverted into greenfeed, particularly as the late summer rains delayed grain harvest operations. Some yellow feed was also reported in the region as an alternative feed source.

D) Northeast Region

Rain in July and August delayed cutting of some hay, although most will be put up in good condition. Some hay was baled at a later stage of maturity due to the challenges with moisture during cutting. Yields were lower with producers reporting 50-75% of normal production. Many producers had lots of inventory on hand carried forward from previous years however there are producers in the eastern part of the region that are looking for hay. Many mixed producers typically seed oats or barley and many of those acres were put up as greenfeed. Greenfeed and silage yields were average across most parts of the region and later seeded cereal crops were boosted by rains that fell in July and August. It is expected that there will be more greenfeed than normal used in the region and producers may also use more straw.

Not a lot of acres have moved out of or into forage production in the region in the past few growing seasons. Pasture conditions were also buoyed by the later summer rains that fell in July and August.

E) Central and West Central

Spring frosts delayed growth of hay crops and pastures, negatively impacting alfalfa fields in particular. Very little rainfall fell throughout May and June although July and August saw some rains fall through the regions. Hay quality varies but most is good quality. Yields were significantly reduced and farmers cut and baled ditches, right-of-ways and other sometimes unused areas to help bolster their inventories. Some forage crops were not harvested at all due to lack of growth. Second cuts are reported in the region after yields improved following late summer rains, with producers willing to risk injury to fields in order to obtain enough forage. Many producers in the region had little carryover on hand from the previous winter feeding season and will be relying on alternative feeding sources do to the lower than expected yields. Low yields have caused a major increase in prices although not a lot of hay movement has occurred in the central region with some movement of hay going into Alberta in the west central region. The later summer rains also caused prices to soften slightly.

It is difficult to estimate the number of acres that have moved into or out of tame forage in the region, although the prolonged dry spring conditions did cause some producers to postpone planned tame forage seedings for this year. The high crop prices from a few years ago have subsided, reducing the pressure on forage acres to be converted to cropland. Alternately, this season's high forage prices may prompt some fields to be seeded to forages in 2016.

There was no major disease or insect pressures on forage crops however there were some fields surveyed for alfalfa weevils that were determined to be below the economic threshold for control.

Grain crops are fair to good in the region and greenfeed yields range from average to half of what was expected. Many crops were diverted towards greenfeed and many haled crops are being salvaged into greenfeed or silage. The availability of greenfeed may be putting downward pressure on hay prices which have been very high. Straw is available in the region however it will come at a cost. Producers able to source straw will likely use it as a component in their rations this year. More acres of annual crops would be used for silage however access and timeliness of custom silage operators continues to be a limiting factor.

Pasture conditions remain in good to fair condition. Pastures improved upon rainfall, however grazing management and the effects of the early season dry conditions will be seen next year for fields that

didn't retain adequate carryover. Pastures in the west portion of this region may not last far into the fall although there haven't been any reports of early take-out from pastures at this point.

F) Northwest and North Central

Haying was delayed due to the very dry spring and many producers chose to graze their hayland. Some producers took off an early cut and were rewarded with a higher-yielding second cut. Haying weather was reported as good, with high heat during the day and not dew or humidity throughout the night, resulting in advanced drying conditions. Yield varies across the region and generally quality is below average, due in part to the advanced maturity of baled forages. There were no significant disease or insect pressures with the exception of grasshoppers reported around Meadow Lake.



There is not as much carryover in the region from previous years as what many producers would like, putting more pressure on the 2015 crop. Prices are much higher than average with some forage moving locally as well as into west and south regions of the province and neighbouring jurisdictions. Forage supplies will likely be built up through the use of greenfeed crops, which are demonstrating acceptable yields, as well as slough hay.

Silage crops are reported as being above average for the region, particularly for corn drops.

While forage acres are remaining relatively static across the region, there are reports of tree and shrub encroachment in some hayfields.

Pastures were in reduced condition by late July however rains across the region fell in late summer which allowed for some recovery. Rains have been variable across the region, however.

7. Forage Price Trends in Neighbouring Jurisdictions

Forage conditions were relatively similar in adjacent provinces and states, where dry and cool springs were reported followed by some timely late summer rains to help reduce pressure on pastures, forage and greenfeed supplies. Rains were spotty however, and many areas continue to be in a drought situation, particularly throughout Alberta. Areas including north of the Peace Region, north of Edmonton, west of Calgary and around Medicine Hat are experiencing current drought levels identified at a frequency of less than-25-year-dry levels according to current Alberta Climate and Atlas Maps (2015). Southeast Alberta forage conditions likely have the most impact on Saskatchewan forage prices this year and hay has been reported as trading at prices greater than \$275/metric tonne. Much of the hay that is being transported out of Saskatchewan is going to Alberta with reports that hay from as far away as Dauphin, Manitoba is being trucked into the region. However, late harvest conditions in Alberta have resulted in some potential greenfeed availability with some acres of cropland being repurposed.

Manitoba experienced a dry start and cool weather this past spring, particularly in the northwest, southwest and Interlake regions. Warmth and moisture arrived and second cuts of forage were average or above average across the province which lead to normal to slightly below normal hay prices within

Manitoba. Producers were also able to access native and lowland hay acres that they often aren't able to do as these areas are often saturated with water and native hay baling continues into September (McGregor, 2015). Hay quality varied due to challenges with rainfall and high humidity however there are some excellent corn silage crops reported in the area. According to the Manitoba Forage Situation Survey for September, wet grain harvesting conditions are making it a challenge to bale straw and straw supplies may be reduced.

North Dakota experienced lower than average forage yields especially early in the season. Currently 45% of pasture and range conditions are rated as being good and stock water supplies are rated as being 82% adequate or surplus (United States Department of Agriculture, 2015¹). Montana experienced dry weather as well which resulted in counties in northwest Montana opening Conservation Reserve Program (CRP) land for use for grazing or hay for drought stricken farmers (The Prairie Star, 2015). Hay continues to be transported into Montana to help ranchers meet their winter needs although pastures are in good condition, and predictions are that the fall calf run will start later this year than normal (United States Department of Agriculture, 2015²). The hay market has softened slightly, stabilizing in Montana, as cattle ranchers are experiencing lower calf prices which also puts pressure on hay markets (United States Department of Agriculture, 2015³).

The following table demonstrates price averages for various forage types across Western Canada and into the U.S. The table is based on data collected from a variety of online sources, including the respective government forage listing services, kijiji.ca, craigslist.com, haycountry.com, and hayexchange.com

Forage Type	Alberta			Manitoba			Montana*			North Dakota*		
	Price Range	# of Listings	Avg Price (\$/Tonne)	Price Range	# of Listings	Avg Price (\$/Tonne)	Price Range	# of Listings	Avg Price (\$/Tonne)	Price Range	# of Listings	Avg Price (\$/Tonne)
Alfalfa	\$220.46-\$270/T	4	\$252.66	\$146.97-180.38/T	4	\$164.83	\$160.05-\$218.26	3	\$191.58	\$207.86-247.36	4	\$232.63
Alfalfa/Grass	\$181.09-330.69	8	\$253.43	\$88.18-176.37	10	\$133.08	\$181.88-218.26	3	\$194.01	\$116.40	1	\$116.40
Grass	\$181.09-274.73	4	\$242.88	\$128.27-155.62	2	\$141.93	\$145.50-309.20	2	\$227.35	\$87.30-171.96	2	\$129.63
Straw	\$71.65-80.17	2	\$75.91	\$17.58-42.09	2	\$29.83	\$65.48-72.75	2	\$69.11	\$80.03	1	\$80.03
Green-feed	\$106.42-220-46	7	\$171.26	\$44.10-132.28	2	\$133.08	\$105.82-189.16	3	\$156.53	\$145.50	1	\$145.50

Table 10. 2015 Forage prices in adjacent provinces and states

*American prices have been converted to current CDN currency values at \$1USD = 1.322CDN

Alberta prices have risen dramatically compared to 2014 forage prices for all forage types. Manitoba forage prices have also risen when compared with 2014 values, however the increase was perhaps less substantial than that of Alberta's.

In Montana and North Dakota, prices for forage crops have all appeared to increase in value in 2015, although for this report, values are converted to Canadian dollars. In September, 2014, 1 USD = 1.11 CDN, whereas at this current point in time, 1USD = 1.322CDN, therefore while Montana and North Dakota forage prices appear to have increased, this increase may actually be attributed to the difference

in spread of the Canadian dollar between 2014 and 2015. Comparing 2015 forage prices for both states in strictly USD would perhaps show that forage prices remain fairly steady between 2014 and 2015.

It should be noted that generally, Conservation Reserve Program (CRP) hay, which is harvested during emergency drought conditions only, is often valued lower than other grass hay, presumably because this hay contains old growth from previous years which may contribute to variability in quality.

8. Saskatchewan Pasture Rates

Saskatchewan producers were also interviewed regarding private pasture rates for this survey. Rates vary greatly depending on the arrangements made between the livestock owner and the landowner as well as whether the leasing arrangement is a long-term or short-term agreement. Most cattle producers prefer long-term leasing arrangements and many pay to install fencing and invest time and money in maintenance and upkeep provided they are able to rent the pasture from one year to the next. Other arrangements involve supervised grazing (i.e. land owner supervises and/or moves cattle, maintains fence) or dictate a minimum number of days that cattle must be pastured, while still other agreements, such as custom grazing, involve the land owner treating cattle for illness, making breeding arrangements, and providing salt and mineral.

The current private pasture rates in Saskatchewan (as per our interview results) is \$0.725/head/day for yearling cattle, with a range in rates from \$0.65/head/day up to \$0.80/head/day. The current pasture rates for pairs is \$1.06/pair/day across the province, with a low of \$0.75/pair/day reported up to a high of \$1.50/pair/day.

The Saskatchewan Ministry of Agriculture administers a Crown Lease program whereby producers rent grazing land, typically on a long-term basis. Lease rates are set annually using a market-driven formula that takes into consideration the price of cattle the fall prior to the grazing season. For example, the 2016 Crown lease rates will be based on the 2015 calf market. Rates are set using Animal Unit Months (AUMs) which is the amount of forage a 1000-lb cow, with or without a calf, can consume in one month.



Because cattle prices have almost doubled from the 2013 calf run compared to the 2014 calf run, the rates subsequently increased from \$6.42/AUM for the 2014 grazing season up to \$11.19/AUM for the 2015 grazing season. As the grazing rates are based on AUM's, each pasture is rated at an appropriate carrying capacity, which will vary according to ecoregion. For example, in the dry brown soil zone, native prairie grassland pasture carrying capacity, at the very best, will support 0.25 AUM/ac; the moist brown zone will support 0.35 AUM/ac; the dark brown soil zone is rated on average at 0.45 AUM/ac; and the black soil zone is rated at 0.55 AUM/ac.

Using the dry brown soil zone as an example, a 160ac pasture at 0.25 AUM/ac will support approximately 40 animals for 1 month, 20 animals for 2 months, or 10 animals for 4 months. Rated at 0.25 AUM/ac, that pasture will cost $40 \times \$11.19/\text{AUM}$ or \$447.60 to rent for the grazing season. If the producer chooses to manage a herd of 10 cows there for 4 months (or 120 days), that equates to a rate of \$0.37/hd/day. The leaseholder is also responsible for paying the land taxes and improvements over and above that fee, and taxes vary according to region. AUM ratings also vary for tame grass pasture and will be higher than those for prairie rangeland as they are deemed to support more cows.

The Ministry of Agriculture also administrates a community pasture network called the Saskatchewan Pasture Program (SPP). Rates are reviewed annually, and livestock producers have to apply to be patrons in the pasture and meet a variety of criteria. The SPP has many benefits and challenges, as reported by producers. The SPP looks after breeding and health management of the animals while they are at the pasture, which is typically for a 5-6 month grazing season, however cattle are comingled with other herds, meaning individual patrons must adhere to a strict herd health program and brand cattle entering the system. Rates for the 2015 season were set at \$0.66/cow/day, with a season price of \$35/calf. Patrons can supply bulls, thereby reducing their bull breeding fees, however grazing rates of \$0.70/bull/day apply. Patrons will also be charged additionally for veterinary treatments, salt and mineral and municipal taxes which can add a minimum of \$18/cow/season to the overall cost.

The Agri-Environment Services Branch is currently phasing out the former PFRA Community Pasture system, which was a federally-managed community pasture program. Each year, a number of pastures are transferred to the provincial government and will continue to be the case until all pastures are transitioned across the province by 2017.

Similar to the SPP, the federal community pasture program runs for about five months of the year and patrons must apply annually. Current grazing rates for the pastures are \$0.55/head/day for breeding cattle, \$0.70/head/day for bulls and a flat rate of \$30/calf for the season. Veterinary treatments are extra, as are breeding fees.