

# Alberta Crop Report



## Alberta 2019 Greenfeed and Silage Production Survey Results

### Purpose of Survey

Official greenfeed and silage production statistics for Alberta are not available from Statistics Canada or any other source, despite the fact that producers in the province harvest significant acreages of annual crops for greenfeed and silage every year. To fill this data gap and meet client needs, the Statistics and Data Development Section of Alberta Agriculture and Forestry (AF) initiated a greenfeed and silage production survey in 2002. Since then, the survey has been conducted annually to develop selected statistics for the forage industry.

As in previous years, the 2019 survey was done in partnership with Agriculture Financial Services Corporation (AFSC). The survey collected data on greenfeed and silage acreage, yields and production at the municipal level. The information was then used, along with input from AF specialists, to develop provincial estimates. It should also be noted that the yield and production estimates shown in this report are on a wet weight basis.

### Alberta 2019 Greenfeed and Silage Production

Hay and pasture growth had a slow start due to lower than normal temperatures across the province in the first half of May. As of May 7, only 38 per cent of tame hay and 34 per cent of pasture were rated in good or excellent condition. The turnaround in the temperature over the second half of May benefited hay and pasture fields, but lack of precipitation deteriorated surface soil moisture and impacted pasture and tame hay growth. As of May 28, the provincial pasture growth conditions (tame hay growth conditions shown in brackets) were reported as 16 (12) per cent poor, 37 (34) per cent fair, 42 (50) per cent good and 5 (4) per cent excellent.

Over the month of June, most parts of the province received at least 80 mm of precipitation, with some areas receiving significantly more rain throughout thunderstorm activities. Although June precipitation benefited more recently established fields to recover in all regions, except for the Southern Region, it was too late for older forage fields. In July, cooler than normal temperatures prevailed across most of Alberta, combined with dry conditions throughout the South, East and Peace Regions and higher than normal precipitation along the foothills and North West Region. As a result, pasture and tame hay growth conditions remained highly varied across the province. As of July 30, pasture conditions (tame

hay conditions shown in brackets) were rated as 21 (10) per cent poor, 24 (24) per cent fair, 43 (50) per cent good and 12 (16) per cent excellent.

Haying operations were delayed in wet areas, with some hay in the swath suffering from rot, leading to deteriorating hay quality. By mid-July, only 22 per cent of first cut dryland haying was complete, compared to the 5-year (2014-2018) average of 53 per cent with similar time reference. Average provincial dryland yield was estimated at 1.2 tons per acre (below the 5-year average yield of 1.4 tons per acre) and quality was reported at 55 per cent good or excellent (much lower than the 5-year average of 75 per cent). First cut irrigated hay across the province was 74 per cent complete, compared to the 5-year average of 81 per cent. Average yield (5-year averages shown in brackets) was 2.1 (2.4) tons per acre and quality was rated at 79 (88) per cent good or excellent. By the end of July, haying was extremely difficult and the chance of a second cut diminished in many areas, due to late first cut.

By mid-August, pasture and tame hay conditions showed some improvements in the Central and North East Regions, while it declined in the Southern Region as a result of continued dry conditions and in the Peace and North West Regions, due to wet and cool conditions. Producers in some areas with excessive moisture started to silage their hay in order to prevent rotting. Provincially, as of August 13, pasture conditions were rated as 18 per cent poor, 28 per cent fair, 43 per cent good and 11 per cent excellent, with similar ratings for tame hay. By this time, only 62 per cent of haying was complete, while over the past five years, 94 per cent of first cut hay across the province would have been baled by this time. Haying was particularly behind in the North East, North West and Peace Regions. The provincial average yield for first cut dryland hay was estimated at 1.4 tons per acre, slightly above the 5-year average of 1.3 tons per acre, with the quality of the baled dryland hay rated as 43 per cent good to excellent compared to the 5-year average of 68 per cent good to excellent. Unlike dryland, haying operations for irrigated hay were complete, with the average yield at 2.2 tons per acre (down from the 5-year average of 2.4 tons per acre) and quality rated at 72 per cent good or excellent.

By the end of August, showers kept pastures and hay green, but warm and dry days were required for hay growth. As of August 27, pasture conditions (tame hay conditions shown in brackets) were reported as 17 (10) per cent poor, 32 (29) per cent fair, 38 (47) per cent good and 13 (14) per cent excellent. Second cut haying operations started in mid-August only in the Central and some areas of the North West Regions for dryland hay and in the Southern Region for irrigated. However, operations were limited, due to dry conditions in the southern parts of the province and wet, cool conditions in the remainder of the province. In some fields, inclement weather prevented any baling, despite the potential for second hay. By September, some producers were in need of livestock feed and crops across the province were silaged, baled and swath grazed to meet the shortage. Also, some producers started to consider cutting their annual crops for feed, due to low quality.

As of September 10, only 14 per cent of dryland second cut hay and 47 per cent of irrigated second cut hay were complete. For those producers with second cut hay, average yield on dryland was estimated at 1.2 tons per acre, with quality rated at 4 per cent poor, 30 per cent good, 64 per cent good and 2 per cent excellent. For irrigated hay, average yield was reported at 1.8 tons per acre, with quality rated at 5 per cent poor, 22 per cent fair, 55 per cent good and 18 per cent excellent. Third hay cut was also

reported in limited irrigated fields in the Southern Region, with yield at 1.8 tons per acre and quality rated at 45 per cent good and 55 per cent excellent.

Based on the Statistics Canada report “Production of Principal Field Crops, December, 2019”, Alberta’s forage production was up 8.7 per cent from 2018, to 8.4 million tonnes, two per cent above the 10-year average. This was attributed to a higher production of both tame hay and fodder corn. Tame hay production was up 10.6 per cent to 6.7 million tonnes, but still 2.5 per cent lower than the 10-year average. This was due to a 16.5 per cent increase in yield to 1.9 tons per acre, despite a 5.3 per cent decline in harvested area to 3.9 million acres. For fodder corn, production increased 1.6 per cent to 1.7 million tonnes, 24.6 per cent higher than the 10-year average. Despite yield falling significantly by 32.4 per cent to 12.3 tons per acre, the gain was attributed to a 50.2 per cent increase in harvested area to a record 151,600 acres.

In 2019, Alberta producers seeded an estimated 13.8 million acres of spring wheat, durum wheat, barley, oats, mixed grains, triticale and dry peas (see Table 1). About 93.8 per cent of this area was harvested as grains and oilseeds (down 1.2 per cent from 2018 and 0.1 per cent below the 5-year average), 4.3 per cent as greenfeed and silage (down 3.8 per cent from 2018 and 4.7 per cent below the 5-year average), 0.3 per cent was grazed (unchanged from 2018, but down from the 5-year average of 0.4 per cent) and 1.6 per cent was abandoned (up from 0.3 per cent in 2018 and the 5-year average of 0.6 per cent).

In 2019, total production for greenfeed was estimated at 1.5 million tonnes, a 30.4 per cent increase from 1.2 million tonnes in 2018 and 39 per cent higher than the 5-year average of 1.1 million tonnes (See Table 2). Compared to 2018, this was attributed to a 39.6 per cent increase in average yield, despite harvested area declining 6.6 per cent. Production for greenfeed barley was 648,864 tonnes, up 44.8 per cent from 2018. For spring wheat, production was estimated at 106,676 tonnes (down 47.2 per cent from 2018), while for oats it was at 480,158 tonnes (up 56.2 per cent from a year ago).

The provincial average yield for greenfeed was estimated at 3.5 tonnes per acre, compared to 2.5 tonnes per acre in 2018 and the 5-year average of 2.8 tonnes per acre. For greenfeed barley, the yield was estimated at 3.7 tonnes per acre, up 41.2 per cent from 2018 of 2.62 tonnes per acre. Spring wheat averaged 1.91 tonnes per acre, a marginal decline from 1.94 tonnes per acre in 2018. For greenfeed oats, yield increased 23 per cent to 3.39 tonnes per acre.

Total harvested area for greenfeed was estimated at 438,302 acres. Although total harvested area in 2019 fell 6.6 per cent from 2018, it was still 7.4 per cent above the 5-year average of 480,160 acres. Compared to 2018, harvested area for greenfeed barley slightly increased to 175,300 acres (up 2.5 per cent). While harvested area for greenfeed spring wheat declined 46.2 per cent to 56,000 acres, it was up 26.9 per cent for greenfeed oats to 141,500 acres.

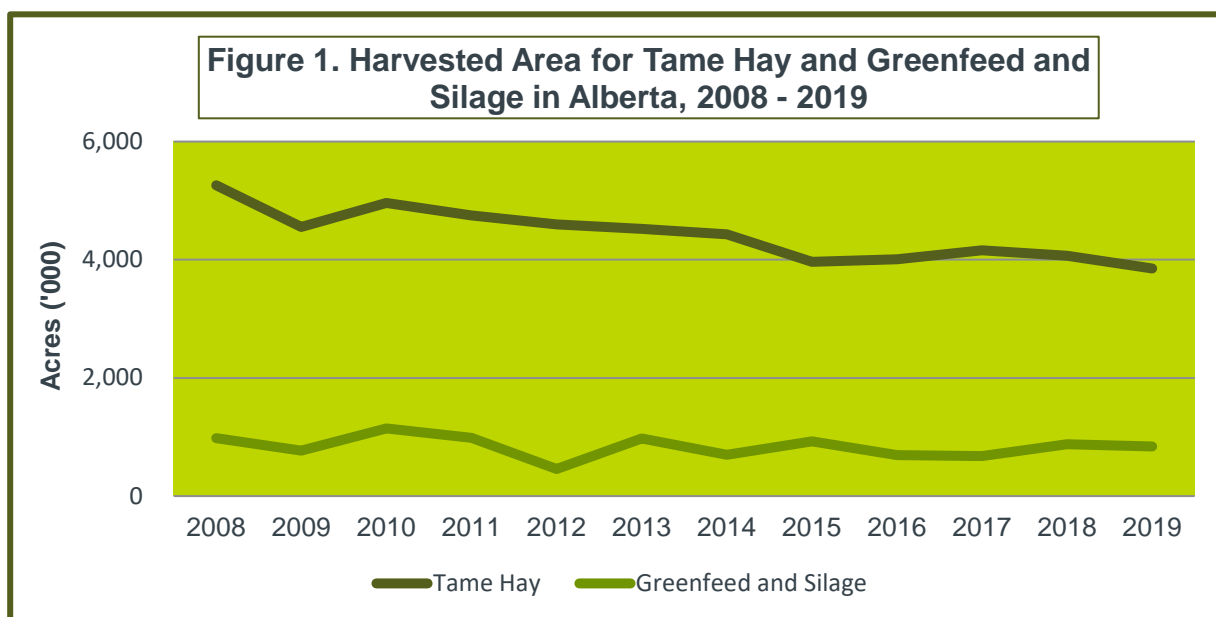
Total silage production was estimated at 2.1 million tonnes, down 10.5 per cent from 2018 and 26.5 per cent below the 5-year average of 2.9 million tonnes. Compared to 2018, the lower production stemmed from an 8.6 per cent decline in the average provincial yield for silage, as well as a 2.1 per cent drop in

harvested area. Barley silage production was estimated at 1.3 million tonnes (down 11.8 per cent from 2018), spring wheat at 204,400 tonnes (down 35.8 per cent from 2018) and oats at 285,960 tonnes (up 21 per cent from 2018).

The estimated provincial average yield for silage was estimated at 5.3 tonnes per acre, compared to 5.8 tonnes per acre in 2018 and the 5-year average of 6 tonnes per acre. Barley silage yield decreased 20.7 per cent to 5.5 tonnes per acre. For spring wheat silage, yield declined 12.8 per cent from 2018 to 3.17 tonnes per acre, while oats silage yield was up 10.2 per cent to 5.98 tonnes per acre.

Total harvested area for silage in 2019 dropped to 398,700 acres, down 2.1 per cent from 2018 and 17.3 per cent below the 5-year average of 482,058 acres. Compared to 2018, harvested area for silage barley increased 11.1 per cent to 242,600 acres, while it dropped 26.3 per cent for silage spring wheat to 64,600 acres. For silage oats, it was up 9.7 per cent to 47,870 acres.

Total harvested area for both greenfeed and silage decreased 4.5 per cent to 837,000 acres from 2018. This was attributed to a 6.6 per cent decline in greenfeed harvested area as well as a 2.1 per cent drop in silage acreage (See Figure 1). Compared to 2018, producers harvested less greenfeed and silage, mainly because more greenfeed and silage acres were abandoned compared to previous years. This was the second highest following 2016, with respect to abandoned greenfeed and silage acres. Additionally, in 2019, producers grazed more land than what was planned earlier in the season, due to low quality and shortage.



Source: Statistics Canada and Alberta Agriculture and Forestry

Similar to previous years, the predominant crops harvested for greenfeed and silage in 2019 were barley and oats. Other crops harvested for greenfeed and silage included spring wheat, durum wheat, mixed grains and triticale. Barley accounted for 40 per cent of the provincial harvested area for

greenfeed, while oats represented just about one-third of the provincial harvested area at 32.3 per cent and spring wheat at 12.8 per cent. Mixed grains and triticale accounted for 11.2 and 3.3 per cent, respectively. Comprising the remaining 0.4 per cent were durum wheat and dry peas. In terms of harvested silage area, 60.8 per cent of the provincial total was barley, 16.2 per cent spring wheat, 12 per cent oats, 9.1 per cent mixed grain and 1.8 per cent triticale.

Estimates of greenfeed and silage production for previous years in Alberta, (back to 2010), are also shown in Table 1.

## Contact

For additional information relating to this report, please do not hesitate to contact the author.

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**Table 1: Alberta Greenfeed and Silage Production, 2010-2019**

		Total Seeded Area	Harvested Greenfeed Area	Harvested Silage Area	Average Greenfeed Yield	Average Silage Yield	Total Greenfeed Production	Total Silage Production
		('000 acres)			(tonnes/acre)		('000 tonnes)	
<b>2019</b>	Spring Wheat	6,588	56.0	64.6	1.91	3.17	106.7	204.4
	Durum Wheat	775	1.9	0.0	1.09	0.00	2.1	0.0
	Barley	3,563	175.3	242.6	3.70	5.50	648.9	1,334.0
	Oats	899	141.5	47.8	3.39	5.98	480.2	286.0
	Mixed Grains	163	48.9	36.3	5.47	7.13	267.3	258.9
	Triticale	36	14.4	7.0	1.88	3.75	27.0	26.1
	Dry Peas	1,800	0.3	0.4	1.46	5.22	0.4	1.9
	<b>Total</b>	<b>13,824</b>	<b>438.3</b>	<b>398.7</b>	<b>3.50</b>	<b>5.30</b>	<b>1,532.6</b>	<b>2,111.2</b>
<b>2018</b>	Spring Wheat	6,265	104.0	87.7	1.94	3.63	201.9	318.3
	Durum Wheat	1,185	7.0	0.0	1.36	0.00	9.5	0.0
	Barley	3,114	171.0	218.3	2.62	6.93	448.2	1,513.0
	Oats	795	111.5	43.6	2.76	5.43	307.4	236.4
	Mixed Grains	179	60.0	51.4	2.75	5.17	164.8	265.8
	Triticale	37	15.8	6.1	2.73	4.19	43.2	25.8
	Dry Peas	1,511	0.3	0.0	1.81	0.00	0.5	0.0
	<b>Total</b>	<b>13,086</b>	<b>469.5</b>	<b>407.1</b>	<b>2.50</b>	<b>5.79</b>	<b>1,175.7</b>	<b>2,359.3</b>
<b>2017 r</b>	Spring Wheat	5,860	22.9	35.7	2.71	5.75	62.0	205.6
	Durum Wheat	1,090	10.9	5.8	1.04	4.99	11.4	28.8
	Barley	2,850	86.4	258.2	2.49	6.20	214.7	1,599.9
	Oats	690	99.6	67.3	3.18	6.44	317.0	433.8
	Mixed Grains	135	45.6	31.0	3.30	7.64	150.5	236.6
	Triticale	35	9.3	5.7	1.61	3.50	15.0	20.0
	Dry Peas	1,800	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Total r</b>	<b>12,460</b>	<b>274.6</b>	<b>403.8</b>	<b>2.81</b>	<b>6.25</b>	<b>770.6</b>	<b>2,524.6</b>
<b>2016 r</b>	Spring Wheat	5,729	39.5	28.6	2.53	6.11	100.0	174.9
	Durum Wheat	1,102	2.6	0.0	2.04	0.00	5.4	0.0
	Barley	3,414	118.1	289.5	3.08	6.34	363.3	1,835.8
	Oats	822	116.9	65.0	4.34	7.02	507.0	456.7
	Mixed Grains	242	70.0	98.1	4.84	7.68	339.3	753.7
	Triticale	50	8.3	14.2	3.92	6.50	32.5	92.3
	Dry Peas	1,910	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Total</b>	<b>13,268</b>	<b>355.5</b>	<b>495.5</b>	<b>3.79</b>	<b>6.69</b>	<b>1,347.5</b>	<b>3,313.3</b>
<b>2015 r</b>	Spring Wheat	5,910	137.1	53.2	1.82	3.83	250.0	203.6
	Durum Wheat	890	5.4	2.1	0.73	2.36	3.9	5.0
	Barley	3,500	171.9	339.5	2.16	4.28	371.0	1,453.7
	Oats	725	122.9	61.3	2.63	5.20	323.3	318.8
	Mixed Grains	115	23.3	51.6	2.40	5.32	56.1	274.4
	Triticale	35	5.2	10.0	1.20	3.10	6.3	31.1
	Dry Peas	1,515	0.9	2.0	2.61	1.37	2.2	2.8
	<b>Total</b>	<b>12,690</b>	<b>466.7</b>	<b>519.9</b>	<b>2.17</b>	<b>4.40</b>	<b>1,012.9</b>	<b>2,289.6</b>

r - Revised

Note: Yields and production are reported on a wet weight basis. Totals may not add up due to rounding

Source: Statistics Canada and Alberta Agriculture and Forestry

**Table 1 (Cont'd): Alberta Greenfeed and Silage Production, 2010-2019**

		Total Seeded Area	Harvested Greenfeed Area	Harvested Silage Area	Average Greenfeed Yield	Average Silage Yield	Total Greenfeed Production	Total Silage Production
<b>2014 r</b>	<b>Spring Wheat</b>	6,095	75.1	22.4	1.95	5.83	146.4	131.0
	<b>Durum Wheat</b>	580	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Barley</b>	3,250	158.6	394.6	2.85	6.69	451.8	2,638.4
	<b>Oats</b>	670	193.6	104.3	2.57	6.70	497.0	698.2
	<b>Mixed Grains</b>	140	38.2	61.1	2.40	6.59	91.9	402.6
	<b>Triticale</b>	30	8.7	1.7	2.31	6.22	20.1	10.4
	<b>Dry Peas</b>	1,355	0.3	0.0	1.80	0.00	0.5	0.0
	<b>Total</b>	<b>12,120</b>	<b>474.5</b>	<b>584.1</b>	<b>2.55</b>	<b>6.64</b>	<b>1,207.7</b>	<b>3,880.6</b>
<b>2013 r</b>	<b>Spring Wheat</b>	6,440	9.0	9.0	2.16	5.96	19.4	53.7
	<b>Durum Wheat</b>	620	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Barley</b>	3,700	140.8	335.8	4.33	7.38	609.3	2,477.0
	<b>Oats</b>	580	194.0	58.3	4.53	7.23	878.3	421.8
	<b>Mixed Grains</b>	140	41.0	58.8	4.88	7.05	200.0	414.7
	<b>Triticale</b>	25	4.5	3.9	3.34	9.07	15.1	35.1
	<b>Dry Peas</b>	1,040	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Total</b>	<b>12,545</b>	<b>389.3</b>	<b>465.9</b>	<b>4.42</b>	<b>7.30</b>	<b>1,722.1</b>	<b>3,402.2</b>
<b>2012 r</b>	<b>Spring Wheat</b>	5,825	7.4	3.7	0.91	1.29	6.7	4.8
	<b>Durum Wheat</b>	600	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Barley</b>	3,800	87.2	244.1	2.47	5.91	215.1	1,443.6
	<b>Oats</b>	675	216.2	95.7	2.74	5.99	592.3	573.0
	<b>Mixed Grains</b>	105	50.4	36.6	2.30	6.32	116.1	231.5
	<b>Triticale</b>	25	3.8	1.6	2.51	6.70	9.4	10.5
	<b>Dry Peas</b>	1,075	1.4	0.0	1.74	0.00	2.4	0.0
	<b>Total</b>	<b>12,105</b>	<b>366.3</b>	<b>381.7</b>	<b>2.57</b>	<b>5.93</b>	<b>942.0</b>	<b>2,263.4</b>
<b>2011</b>	<b>Spring Wheat</b>	5,972	2.0	0.0	2.09	0.00	4.2	0.0
	<b>Durum</b>	536	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Barley</b>	3,610	150.0	390.0	3.13	6.40	469.5	2,497.9
	<b>Oats</b>	892	210.0	115.0	3.15	7.28	661.1	837.7
	<b>Mixed Grains</b>	202	45.0	55.0	3.38	7.91	152.3	435.1
	<b>Triticale</b>	41	5.0	15.0	2.91	5.78	14.5	86.8
	<b>Other Crops*</b>	6,778	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Total</b>	<b>18,031</b>	<b>412.0</b>	<b>575.0</b>	<b>3.16</b>	<b>6.71</b>	<b>1,301.5</b>	<b>3,857.5</b>
<b>2010</b>	<b>Spring Wheat</b>	6,020	50.0	5.0	2.51	6.27	125.6	31.4
	<b>Durum</b>	360	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Barley</b>	3,730	195.0	380.0	3.04	6.74	592.6	2,561.4
	<b>Oats</b>	940	245.0	120.0	2.99	6.94	733.5	832.8
	<b>Mixed Grains</b>	180	80.0	55.0	3.38	7.91	270.7	435.1
	<b>Triticale</b>	40	5.0	10.0	2.96	7.56	14.8	75.6
	<b>Other Crops*</b>	6,485	0.0	0.0	0.00	0.00	0.0	0.0
	<b>Total</b>	<b>17,755</b>	<b>575.0</b>	<b>570.0</b>	<b>3.02</b>	<b>6.91</b>	<b>1,737.3</b>	<b>3,936.3</b>

\* Other crops include canola and dry peas r - Revised

Note: Yields and production are reported on a wet weight basis. Totals may not add up due to rounding

Source: Statistics Canada and Alberta Agriculture and Forestry

**Table 2: Five-Year Average of Alberta Greenfeed and Silage Production, 2014-2018**

		Total Seeded Area	Harvested Greenfeed Area	Harvested Silage Area	Average Greenfeed Yield	Average Silage Yield	Total Greenfeed Production	Total Silage Production
<b>5-year average</b>	<b>Spring Wheat</b>	5,972	75.7	45.5	2.19	5.03	152.1	206.7
	<b>Durum Wheat</b>	969	5.2	1.6	1.03	1.47	6.0	6.8
	<b>Barley</b>	3,226	141.2	300.0	2.64	6.09	369.8	1,808.2
	<b>Oats</b>	740	128.9	68.3	3.09	6.16	390.3	428.8
	<b>Mixed Grains</b>	162	47.4	58.6	3.14	6.48	160.5	386.6
	<b>Triticale</b>	37	9.5	7.5	2.35	4.70	23.4	35.9
	<b>Dry Peas</b>	1,618	0.3	0.4	1.24	0.27	0.7	0.6
	<b>Total</b>	<b>12,725</b>	<b>408.2</b>	<b>482.1</b>	<b>2.76</b>	<b>5.96</b>	<b>1,102.9</b>	<b>2,873.5</b>

Note: Yields and production are reported on a wet weight basis. Totals may not add up due to rounding.

Source: Statistics Canada and Alberta Agriculture and Forestry