

Alberta Crop Report



Alberta 2020 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 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 2020 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 to develop provincial estimates. Yield and production estimates are on a wet weight basis.

Alberta 2020 Greenfeed and Silage Production

For the 2020 crop season, hay and pasture growth started well in spring. This was attributed to warm temperatures over the first three weeks of May, as well as good soil moisture in much of the province. However, the northern and western parts had excessive moisture. As of May 19, 2020, pasture growth conditions (tame hay growth conditions shown in brackets) were rated at 7 (7) per cent poor, 24 (26) per cent fair, 64 (62) per cent good and 5 (5) per cent excellent. By mid-May, pasture and tame hay fields showed reasonable growth. The turnaround in the temperature to older than normal over the second half of May impacted hay and pasture fields, but they remained in good shape.

Over the month of June, pasture and tame hay remained in fairly good shape across the province and was the best over the last five years, with the exception of some small lower areas that had flooding as a result of excessive rainfall. In mid-July, pasture and tame hay fields were still in a good shape for most of the province, particularly in the Southern Region, where blank areas from past dry years were slowly filling in. However in some wet areas, pastures were flooded and dying off. In these areas, hay fields were also soaked in water, making it impossible for producers to start haying. Provincially, as of July 14, 2020, pasture conditions (tame hay conditions shown in brackets) were rated as 1 (3) per cent poor, 7 (6) per cent fair, 66 (57) per cent good and 26 (34) per cent excellent. By the end of July, provincial forage crop

growth ratings remained high with tame pasture at 89 per cent good or excellent and hay reported as 90 per cent good or excellent.

First cut dryland hay was 23 per cent complete across the province in mid-July and 56 per cent by the end of July, behind the five-year averages of 47 per cent and 72 per cent, respectively. The estimated yield for dryland hay was 1.9 tons per acre (above the five-year average of 1.3 tons per acre), with quality rated as 65 per cent good to excellent, compared to the five-year average of 62 per cent. For irrigated hay, first cut was 88 per cent complete (down from the five-year average of 96 per cent), with yield at 2.4 tons per acre, on par with the five-year average. Quality was rated as 78 per cent good to excellent, compared to the five-year average of 79 per cent.

Pasture and tame hay growth conditions continued to be above average over the month of August, while first cut dryland hay across the province was 88 per cent completed as of August 11, 2020. At the beginning of September, pasture and hay condition ratings started to show some minor regression from good and excellent ratings to slightly increased fair and poor ratings. This was attributed to prolonged periods of low moisture in the Southern Region and counties in the southwestern portion of the Central Region over the month of August. Hence, vegetation browned off and second cut hay potential was greatly reduced in these areas. As of September 1, 2020, pasture was rated as 55 per cent good and 15 per cent excellent, still well above the five-year average of 33 and eight per cent respectively. Tame hay ratings were also above average, at 57 per cent good and 21 per cent excellent, compared to the five-year average of 37 and nine per cent, respectively.

As of September 8, 2020, second cut dryland hay across the province was 39 per cent completed (on par with the five-year average), while second cut haying was limited in the Southern Region. The provincial average yield for second cut dryland hay was estimated at 1.5 tons per acre, above the five-year average of 1.1 tons per acre. Also, the quality of baled dryland hay was rated as 30 per cent poor to fair, 57 per cent good and 13 per cent excellent. Second cut haying in irrigated fields was 71 per cent complete, with yield estimated at 1.6 tons per acre (below the five-year average of 1.9 tons per acre) and quality rated as 17 per cent poor to fair, 66 per cent good and 17 per cent excellent. The third cut hay was limited to the irrigated land hay in the Southern Region with the yield reported at 1.8 tons per acre and quality rated at 45 per cent good and 55 per cent excellent.

Pastures in mid-September were still mostly green, especially in the northern parts of the province, but growth slowed due to colder temperatures and shorter day length. As of September 15, 2020, pasture growing conditions were rated as 19 per cent poor, 24 per cent fair, 49 per cent good and eight per cent excellent. Similarly, tame hay growing conditions were reported at 15 per cent poor, 19 per cent fair, 51 per cent good and 15 per cent excellent. Pasture conditions further deteriorated by the end of September, with reports of grass going into dormancy or turning yellow due to lack of precipitation. As of September 29, 2020, the overall pasture conditions (five-year averages shown in brackets) remained strong for this time of year with 20 (26) per cent rated poor, 29 (31) per cent fair, 48 (39) per cent good, and three (four) per cent excellent.

Based on the Statistics Canada report “Production of Principal Field Crops, December, 2020”, Alberta’s forage production was slightly up by 0.4 per cent from 2019, to 8.4 million tonnes, 0.4 per cent below the 10-year average. This stemmed from a 19.6 per cent increase in fodder corn production, more than offsetting a 4.4 per cent decline in tame hay production. Tame hay production decreased 4.4 per cent to 6.4 million tonnes, 9.1 per cent lower than the 10-year average. This was attributed to a 3.7 per cent reduction in average yield to 1.8 tons per acre, as well as a 0.8 per cent decline in harvested area to 3.8 million acres. For fodder corn, production set a new record high at two million tons, up 19.6 per cent from 2019, and 42.9 per cent higher than the 10-year average. The gain was due to a 49.2 per cent increase in average yield to 18.3 tons per acre, despite harvested area falling by 19.9 per cent to 121,500 acres.

In 2020, Alberta producers seeded an estimated 13.7 million acres of spring wheat, durum wheat, barley, oats, mixed grains, triticale and dry peas (see Table 1). About 90.6 per cent of this area was harvested as grains and pulses (down 3.4 per cent from 2019, and 4.2 per cent below the five-year average), 6.5 per cent as greenfeed and silage (up 51.4 per cent from 2019, and 44.3 per cent above the five-year average), 0.4 per cent was grazed (compared to 0.3 per cent in 2019, and the five-year average of 0.4 per cent) and three per cent was abandoned (up from 1.6 per cent in 2019, and the five-year average of 0.6 per cent).

Based on a survey conducted as part of the Alberta Crop Reporting Program, total production for greenfeed in 2020 was estimated at 908,500 tonnes, 40.7 per cent below 2019 (1.5 million tonnes), and 22.2 per cent below the five-year average of 1.2 million tonnes (See Table 2). This was attributed to a 26 per cent drop in average yield from 2019 and a 19.9 per cent decline in harvested area. Production for greenfeed barley was 287,300 tonnes, down 55.7 per cent from 2019. For spring wheat, greenfeed production was estimated at 22,400 tonnes (down 79 per cent from 2019), while for oats it was at 409,700 tonnes (down 14.7 per cent from a year ago).

The provincial average yield for greenfeed was estimated at 2.6 tonnes per acre, below 2019 (3.5 tonnes per acre), and the five-year average (three tonnes per acre). For greenfeed barley, the yield was estimated at 2.1 tonnes per acre, down 43.6 per cent from 3.7 tonnes per acre in 2019. Spring wheat yield averaged 1.6 tonnes per acre, a 15.2 per cent decline from 1.9 tonnes per acre in 2019. For greenfeed oats, yield fell 10.4 per cent to three tonnes per acre.

Total harvested area for greenfeed was estimated at 351,253 acres in 2020, down 19.9 per cent from 2019, and 12.4 per cent below the five-year average of 400,926 acres. Compared to 2019, harvested area for greenfeed barley declined to 137,700 acres (down 21.5 per cent). The harvested area for greenfeed spring wheat fell 75.2 per cent to 13,900 acres, while it was down 4.7 per cent for greenfeed oats to 134,800 acres.

Total silage production was estimated at 2.7 million tonnes, up 26.5 per cent from 2019 and six per cent above the five-year average of 2.5 million tonnes. Compared to 2019, the higher production stemmed from a 34.2 per cent increase in harvested area for silage, more than offsetting a 5.7 per cent decline in the average provincial yield for silage. Barley silage production was estimated at 1.8 million tonnes (up

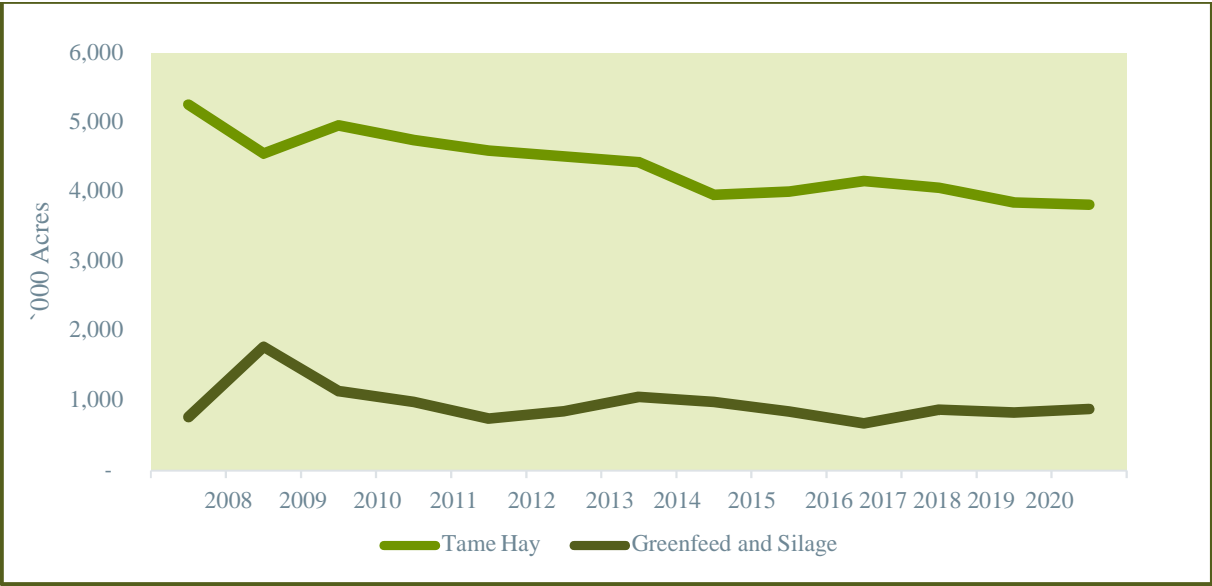
31.6 per cent from 2019), spring wheat at 317,800 tonnes (up 55.5 per cent from 2019) and oats at 293,600 tonnes (up 2.7 per cent from 2019).

The estimated provincial average yield for silage was estimated at five tonnes per acre, below 2019 (5.3 tonnes per acre) and the five-year average (5.7 tonnes per acre). Barley silage yield declined by 13.2 per cent to 4.8 tonnes per acre. For spring wheat silage, yield jumped 67.3 per cent from 2019 to 5.3 tonnes per acre, while oats silage yield was down 7.7 per cent to 5.5 tonnes per acre.

In 2020, total harvested area for silage increased to 534,900 acres, up 34.2 per cent from 2019 and 20.2 per cent above the five-year average of 445,000 acres. Compared to 2019, harvested area for silage barley increased significantly to 368,000 acres (up 51.7 per cent from 2019), while it declined 7.1 per cent for silage spring wheat to 60,000 acres. For silage oats, harvested area increased 11.3 per cent to 53,200 acres.

Total harvested area for both greenfeed and silage slightly increased to 886,200 acres (up 5.9 per cent). This was attributed to a 34.2 per cent jump in silage harvested area, which more than offset a 19.9 per cent decline in greenfeed acreage (See Figure 1). Compared to 2019, producers harvested less greenfeed, but more silage, mainly due to late seeding and wet conditions in the western and northern parts of the province. Compared to previous years, the wet conditions also led to more abandoned acres, which was the second highest over the last decade following 2016.

Figure 1. Harvested Area for Tame Hay and Greenfeed and Silage in Alberta, 2008 - 2020



Source: Statistics Canada and Alberta Agriculture and Forestry

Similar to previous years, the predominant crops harvested for greenfeed and silage in 2020 were barley and oats. Other crops harvested for greenfeed and silage included spring wheat, durum wheat, mixed grains and triticale. Barley accounted for 39.2 per cent of the provincial harvested area for greenfeed, while oats represented 38.4 per cent of the provincial harvested area and spring wheat at only four per cent. Mixed grains and triticale accounted for 10.7 and 7.4 per cent, respectively. Comprising the remaining 0.4 per cent were durum wheat. In terms of harvested silage area, 68.8 per cent of the provincial total was barley, 11.2 per cent spring wheat, 9.9 per cent oats, 7.4 per cent mixed grain, 1.7 per cent triticale and one per cent dry peas.

Estimates of greenfeed and silage production for previous years in Alberta, (back to 2011), 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, 2011-2020

		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)	
2020	Spring Wheat	6,314	13.9	60.0	1.61	5.30	22.4	317.8
	Durum Wheat	1,012	1.3	0.0	0.50	0.00	0.7	0.0
	Barley	3,662	137.7	368.0	2.09	4.77	287.3	1,756.0
	Oats	881	134.8	53.2	3.04	5.52	409.7	293.6
	Mixed Grains	171	37.6	39.4	2.55	5.74	95.8	226.3
	Triticale	40	26.0	9.2	3.57	5.72	92.5	52.5
	Dry Peas	1,650	0.0	5.1	0.00	4.95	0.0	25.3
	Total	13,730	351.3	534.9	2.59	4.99	908.5	2,671.6
2019	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
	Total	13,824	438.3	398.7	3.50	5.30	1,532.6	2,111.2
2018	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
	Total	13,086	469.5	407.1	2.50	5.79	1,175.7	2,359.3
2017	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
	Total	12,460	274.6	403.8	2.81	6.25	770.6	2,524.6
2016	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
	Total	13,268	355.5	495.5	3.79	6.69	1,347.5	3,313.3

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, 2011-2020

		Total Seeded Area	Harvested Greenfeed Area	Harvested Silage Area	Average Greenfeed Yield	Average Silage Yield	Total Greenfeed Production	Total Silage Production
2015	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
	Total	12,690	466.7	519.9	2.17	4.40	1,012.9	2,289.6
2014	Spring Wheat	6,095	75.1	22.4	1.95	5.83	146.4	131.0
	Durum Wheat	580	0.0	0.0	0.00	0.00	0.0	0.0
	Barley	3,250	158.6	394.6	2.85	6.69	451.8	2,638.4
	Oats	670	193.6	104.3	2.57	6.70	497.0	698.2
	Mixed Grains	140	38.2	61.1	2.40	6.59	91.9	402.6
	Triticale	30	8.7	1.7	2.31	6.22	20.1	10.4
	Dry Peas	1,355	0.3	0.0	1.80	0.00	0.5	0.0
	Total	12,120	474.5	584.1	2.55	6.64	1,207.7	3,880.6
2013	Spring Wheat	6,440	9.0	9.0	2.16	5.96	19.4	53.7
	Durum Wheat	620	0.0	0.0	0.00	0.00	0.0	0.0
	Barley	3,700	140.8	335.8	4.33	7.38	609.3	2,477.0
	Oats	580	194.0	58.3	4.53	7.23	878.3	421.8
	Mixed Grains	140	41.0	58.8	4.88	7.05	200.0	414.7
	Triticale	25	4.5	3.9	3.34	9.07	15.1	35.1
	Dry Peas	1,040	0.0	0.0	0.00	0.00	0.0	0.0
	Total	12,545	389.3	465.9	4.42	7.30	1,722.1	3,402.2
2012	Spring Wheat	5,825	7.4	3.7	0.91	1.29	6.7	4.8
	Durum Wheat	600	0.0	0.0	0.00	0.00	0.0	0.0
	Barley	3,800	87.2	244.1	2.47	5.91	215.1	1,443.6
	Oats	675	216.2	95.7	2.74	5.99	592.3	573.0
	Mixed Grains	105	50.4	36.6	2.30	6.32	116.1	231.5
	Triticale	25	3.8	1.6	2.51	6.70	9.4	10.5
	Dry Peas	1,075	1.4	0.0	1.74	0.00	2.4	0.0
	Total	12,105	366.3	381.7	2.57	5.93	942.0	2,263.4
2011	Spring Wheat	5,972	2.0	0.0	2.09	0.00	4.2	0.0
	Durum	536	0.0	0.0	0.00	0.00	0.0	0.0
	Barley	3,610	150.0	390.0	3.13	6.40	469.5	2,497.9
	Oats	892	210.0	115.0	3.15	7.28	661.1	837.7
	Mixed Grains	202	45.0	55.0	3.38	7.91	152.3	435.1
	Triticale	41	5.0	15.0	2.91	5.78	14.5	86.8
	Dry Peas							
	Total	11,253	412.0	575.0	3.16	6.71	1,301.5	3,857.5

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, 2015-2019

		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)	
5-year average*	Spring Wheat	6,070	71.9	54.0	2.18	4.50	144.1	221.4
	Durum Wheat	1,008	5.6	1.6	1.25	1.47	6.5	6.8
	Barley	3,288	144.5	269.6	2.81	5.85	409.2	1,547.3
	Oats	786	118.5	57.0	3.26	6.01	387.0	346.3
	Mixed Grains	167	49.6	53.7	3.75	6.59	195.6	357.9
	Triticale	39	10.6	8.6	2.27	4.21	24.8	39.0
	Dry Peas	1,707	0.3	0.5	1.18	1.32	0.6	0.9
	Total	13,066	400.9	445.0	2.95	5.69	1,167.9	2,519.6

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

* 5-year average refers to 2015-2019

Source: Statistics Canada and Alberta Agriculture and Forestry