

Alberta Crop Report



Alberta 2018 Crop Season in Review

Overview

This report presents a review of the crop season in Alberta and an analysis of crop production statistics for 2018. In addition, a precipitation map for the 2018 crop season is also attached for reference.

The 2018 Crop Season

The 2018 crop season started late due to cold weather in April, but eventually wrapped up two weeks behind normal at the end of October. Partly contributing to the delay was colder than normal temperatures since the end of August, resulting in frost, snow and sleet for six consecutive weeks from September to mid-October. In general, the season was also warm and dry. This resulted in lower than average yields, with a long, cold wet harvest season impacting crop quality.

More specifically, seeding was delayed in all regions due to lower than normal temperatures in April. However, warm dry weather in May was ideal for quick ground thaw, but led to some localized flooding across many areas in the province. Even so, seeding progress for the province was reported eight per cent in the first week of May, 38 per cent by mid-May and 95 per cent by the end of May. The warmer temperatures also contributed to quick germination and emergence, but impacted soil moisture. Surface soil moisture condition at the end of May was reported as 11 per cent poor, 28 per cent fair, 40 per cent good, 19 per cent excellent and two per cent excessive. Regionally, surface soil moisture was lower in the Southern and Central Regions, compared to the North East, North West and Peace Regions. In the Southern Region, surface soil moisture was rated at 45 per cent poor to fair, with only five per cent excellent. In the Central Region, it was 57 per cent poor to fair, with three per cent excellent.

Rain began in first week of June, bringing over 10 mm of precipitation to most areas of the province. Timely precipitation continued for the first couple of weeks, supporting active growth of both annual and perennial crops. By mid-June, 79 per cent of crops in the province were reported as in good to excellent condition (five per cent above the 5-year average). By the end of June, temperatures and precipitation across the province were highly variable, due to shifting weather patterns. In the North West, North East and most parts of the Peace Regions, substantial rain brought relief to crop advancement after a hot dry spell, unlike many areas in the Southern and Central Regions, which remained dry. Crop growing conditions as of June 26 were reported higher than the 5-year averages for the North East, North West and Peace Regions, and lower than the 5-year averages for the Southern and Central Regions. Provincially, crop growing conditions were rated at 77 per cent good or excellent, up six per cent from the 5-year average.

The month of July, was generally warm and dry. Despite some spotty precipitations, this was not enough. Soil moisture reserves across the province also deteriorated, which was pronounced in most areas in the Southern and Central Regions and some parts of the Peace Region. By mid-July, crops and forages were badly in need of moisture and started to show signs of stress in the aforementioned regions. Provincial surface soil moisture as of July 17 was reported as 10 per cent poor, 29 per cent fair, 42 per cent good and 18 per cent excellent, with only one per cent excessive.

By the end of July, hot dry weather and limited rainfall continued to impact surface soil moisture and crop condition ratings in the Southern and Central Regions, while most parts of the North East, North West and Peace Regions experienced significant rainfall. As of July 31, crop condition ratings for the Southern, Central and North West Regions were significantly below the 5-year averages at 40, 52 and 66 per cent, respectively, compared to the 5-year averages of 62, 61 and 69 per cent. For the North East and Peace Regions the crop condition figures were 80 and 86 per cent, higher than the 5-year averages of 76 and 60 per cent. Both surface and sub-surface soil moisture levels were relatively low in the Southern and Central Regions.

Hot temperatures and dry conditions in the Southern and Central Regions continued to put stress on crops and forages, leading to early maturity and lower than normal yields. Based on the first dryland yield estimates on July 24, yields in the Southern and Central Regions were 25 and nine per cent, respectively, lower than the 5-year averages. This was on par in the North East and North West Regions and 17 per cent higher in the Peace Region. August began with some rain showers across a large area in the North East, North West and some parts of the Central Regions, with spotty showers in the Peace, while most areas in the Central and Southern Regions remained dry. Unsettled weather conditions continued into the latter half of August and plagued the 2018 harvest season, as intermittent showers and rainfall affected all regions. Along with the moisture, cooler weather led to unwelcome frost and ended the long, hot dry spell. The first frost was reported on August 19, followed by another on August 25. Added to this was the smoke from the British Columbia wild fires, which was thick and widespread, blocking out sunlight and delaying crop maturity, especially in the Peace Region. The smoke also hindered sunlight from the drying of crops. By the end of August, about 11 per cent of crops across the province were in the bin, three per cent behind the 5-year average. Among regions, harvest was most behind in the Peace Region, with only one per cent combined, compared to the 5-year average of 15 per cent.

The month of September was exceptionally cold across the province and, for many areas, unusually wet due to rain, hail, snow and sleet. Following the hard frost on September 4 in the Central, North West and Peace Regions, the cold arctic weather brought the first extensive snowfall on September 11, with up to 30 cm of mixed snow and rain to all regions excluding the south. This also marked the beginning of a long, cold, wet spell that lasted until October 15 and halted harvest progress in almost all areas of the province. By the end of September, provincially, harvest was behind the 5-year average by 29 per cent, with the Peace region delayed the most (48 per cent behind the normal), followed by the North East (41 per cent behind) and the North West (31 per cent behind) Regions. Harvest progress in the Southern and Central Regions were behind by 14 and 12 per cent, respectively.

The month of October started with another large snowfall on October 3, mostly in the Southern Region, followed by more snow from October 8 to 13 in almost all regions. This resulted in minimal harvest progress in

the first half of October. As of October 16, only 52 per cent of crops across the province were in the bin (38 per cent behind the normal). The cold snap ended in the second half of October, with higher temperatures and warm winds prevailing for two weeks, allowing harvest to resume in full swing. Provincially, as of October 30, nearly 95 per cent of crops were in the bin, with another three per cent in swath and only two per cent still standing. In recent years, harvest progress is typically wrapped up by the end of October, with the exception of 2016 when it was delayed into the last week of November.

Crop yields and quality were quite variable across the province. Provincial average yields for most major crops fell from 2017. Compared to their 5-year averages, regional yields for the Peace Region were above their averages (by 21 per cent), while the North East and North West Regions were on par. For the Southern and Central Regions, yields were below average by 26 per cent and three per cent, respectively.

Crop quality for all crops across the province were below their 5-year averages, with the exception of malt barley and the top two grades of durum wheat and dry peas, which were above their averages. By September, crop quality started to deteriorate due to wet conditions. Cereal quality was highly variable, depending on the time of harvest. Crops that were combined fairly early, prior to the snow and wet conditions, were of high quality. However, cold, wet weather over the six-week period from September until mid-October reduced the quality of cereals, as there were some sprouting reported for cereals and lodging that occurred from the heavy snowfall.

Insects and Crop Diseases

Grasshoppers in the Southern Region, flea beetles in the Central Region and bertha armyworm in the Peace Region were major issues in 2018. Wheat stem sawfly in the southern parts of the province as well as wheat midge in some parts of the Central Region were concerns. Incidentally, populations of pea leaf weevil, cabbage seedpod weevil and lygus were generally lower than in previous years.

Alberta Crop Production, 2018 (Statistics Canada Survey)

On December 6, 2018, Statistics Canada released their November estimates of crop production for 2018. Production of selected field crops (including forages) in Alberta was at 31.3 million tonnes, down 6.6 per cent from 2017, but still 3.3 per cent higher than the 10-year (2008-2017) average (See Table 1). Excluding forages, selected field crops production stood at 23.6 million tonnes, a decrease of 4.7 per cent from 2017, but still eight per cent higher than the 10-year average. The decline in production was mostly attributed to lower yields in 2018 (see Table 2). Total seeded area of principal field crops increased 1.4 per cent from 2017, while total harvested area remained almost unchanged due to a challenging 2018 harvest season.

2018 Production by Crop Type

In 2018, total production of spring wheat increased 0.6 per cent to 8.8 million tonnes -- the second highest on record. The slightly higher production stemmed from an increase in harvested area (up 6.6 per cent), compensating for a decline in yield (down 5.6 per cent). The provincial average yield was estimated at 52.4 bushels per acre, with a harvested area of 6.2 million acres.

For durum wheat, production increased 4.7 per cent to 1.1 million tonnes. The gain was due to a 7.9 per cent increase in harvested area to 1.2 million acres, more than offsetting the three per cent decline in average yield to 35.6 bushels per acre.

The production of winter wheat was down 43.2 per cent to 100,400 tonnes. This was a result of a 38.1 per cent decline in harvested area to 65,000 acres and the average yield falling by 8.2 per cent to 56.8 bushels per acre.

Overall, all wheat production remained almost unchanged, with a 0.3 per cent increase from 2017 to 10 million tonnes, which is 10.4 per cent above the 10-year average. The marginal increase stemmed from a higher harvested area (up 6.1 per cent to 7.4 million acres), despite declining yield (down 5.5 per cent to 49.7 bushels per acre).

Total barley production rose 2.3 per cent to four million tonnes, driven by a 9.9 per cent increase in harvested area (to 2.7 million acres), more than offsetting a seven per cent decline in the average yield (to 66.8 bushels per acre).

Total oats production was up 14.9 per cent to 700,100 tonnes. This was attributed to a 20.5 per cent increase in harvested area (to 512,000 acres), despite average yield falling 4.5 per cent (to 88.7 bushels per acre).

Total canola production was down 14 per cent to 5.9 million tonnes. The lower production stemmed from a decline in both yield (down 11.2 per cent to 38.8 bushels per acre) and harvested area (down 3.1 per cent to 6.7 million acres).

Dry beans production increased 18.4 per cent to a record 72,800 tonnes, and was 47 per cent higher than the 10-year average. Driving this gain was a 21.6 per cent increase in harvested area to 60,800 acres despite average yield falling 2.6 per cent to 44 bushels per acre.

For lentils, production fell 24.5 per cent to 199,600 tonnes, but was still 33.4 per cent above the 10-year average. Lower production was attributed to a 13.1 per cent decrease in harvested area to 419,700 acres, coupled with a 13.2 per cent decline in average yield to 1,048 pounds per acre (17.5 bushels per acre).

Dry peas production was down 19.2 per cent to 1.6 million tonnes, but was still 26 per cent above the 10-year average. The decline was the result of a 17.3 per cent drop in harvested area (to 1.5 million acres) and a 2.4 per cent decrease in average yield (to 39.9 bushel per acre).

Sugar beets production increased 10.8 per cent to 854,500 tonnes, 40.6 per cent above the 10-year average, setting a new record. The higher production was due to a 5.8 per cent increase in harvested area to 27,500 acres and a 4.7 per cent increase in yield to 34.3 tons or 31 tonnes per acre.

Forage production was down 12 per cent from 2017 to 7.7 million tonnes and 8.1 per cent below the 10-year average. This was attributed to a lower production of tame hay, despite fodder corn production increasing. Tame hay production fell to six million tonnes, down 15.9 per cent from a 2017 and 15.3 per cent below the 10-year average. This was due to a 13.7 per cent decrease in yield to 1.6 tons per acre, as well as a 2.3 per cent decline in harvested area to four million acres. For fodder corn, production increased 6.1 per cent to 1.7 million tonnes, 33.4 per cent higher than the 10-year average. Despite yield falling by 5.5 per cent to 18.1 tons per acre, the gain was attributed to a 12.1 per cent increase in harvested area to 100,900 acres.

2018 Crop Production, Canada

Total 2018 Canadian production for selected major field crops increased from 2017. Estimates of Canadian production was 23.5 million tonnes for spring wheat, 5.7 million tonnes for durum wheat, 3.4 million tonnes for oats, 8.4 million tonnes for barley, 20.3 million tonnes for canola, and 3.6 million tonnes for dry peas.

Alberta Forage Production, 2018

Hay and pasture growth was slow in May due to delays in thawing of the frost layer. As of May 1, only 46 per cent of hay and pasture were rated in good or excellent condition. The delays also forced some cattle producers to feed their livestock, drawing down further on tight supplies that were negatively impacted by the colder than normal winter temperatures. For the most part, with some warmer than normal temperatures in May, hay and pasture started to green up. As of May 29, pasture conditions were rated as nine per cent poor, 30 per cent fair, 57 per cent good and four per cent excellent, with similar ratings reported for tame hay. Showers in the first half of June improved pasture and hay growing conditions in all regions, with the exception of the Southern, which received very little rain. By the end of June, pasture and tame hay growth was variable across the regions. This was due to highly varying soil moisture reserves across the province, from dry conditions in a large part of the Southern and Central Regions, to areas with sufficient soil moisture in the North West and Peace Regions.

By the first week of July, pasture and tame hay growing conditions started to deteriorate. As of July 17, pasture conditions across the province were rated as 15 per cent poor, 31 per cent fair, 47 per cent good and seven per cent excellent, with similar ratings for tame hay conditions. Towards the end of July, hay supplies and pasture were a concern for livestock producers. This led to the pasturing of some of the poorer crops, as well as the cutting of several crops for feed. Provincially, by August 7, first cut dryland hay was 94 per cent complete, with an average yield (5-year averages shown in brackets) of one (1.5) ton per acre and quality rated at 59 (68) per cent good or excellent. Unlike dryland, haying operations for irrigated hay were complete, with the average yield at 2.2 (2.4) tons per acre and quality rated at 79 (78) per cent good or excellent.

Over the month of August, pasture and tame hay growing conditions across the province continued to deteriorate, with 36 per cent rated poor, 35 per cent fair, 27 per cent good and only two per cent excellent, as of August 28. In fact, the hot, dry weather limited the second cut of hay. As of September 4, the average yield for second cut hay was 0.9 (1.1) ton per acre for dryland, with quality rated at 67 (72) per cent good to excellent. For irrigated hay, average yield was reported at 1.6 (1.7) tons per acre, and quality rated at 74 (77) per cent good to excellent. A third cut was not taken off.

Based on a survey conducted by the Statistics and Data Development Section of Alberta Agriculture and Forestry, total production for greenfeed jumped 52.5 per cent in 2018 to an estimated 1.2 million tonnes, due to a 71 per cent increase in the total harvested area, despite a 10.8 per cent decline in greenfeed yield (Table 3). For greenfeed barley, production was 448,232 tonnes, more than doubled from 2017. Greenfeed production for spring wheat was 201,903 tonnes (up 225.7 per cent), while oats was 307,428 tonnes (down 3 per cent).

Total silage production was estimated at 2.4 million tonnes, down 5.5 per cent from 2017. Driving the decline was a 6.3 per cent drop in the average provincial yield for silage, which more than offset the 0.8 per cent gain in harvested area. Barley silage production was estimated at 1.5 million tonnes (down 5.4 per cent from 2017) and oats at 236,376 tonnes (down 45.5 per cent).

Total harvested area for greenfeed and silage was up 29 per cent from 2017, to 876,658 acres. Greenfeed harvested area jumped significantly by 71 per cent to 469,522 acres, while silage acreage increased marginally by one per cent to 407,136 acres. Compared to 2017, producers harvested more greenfeed in 2018, due to a shortage of hay across the province and a cold and wet harvest season. The provincial average yields for greenfeed and silage were estimated at 2.5 and 5.79 tonnes per acre, respectively (down 10.8 and 6.3 per cent from 2017).

Contact

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

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Table 1: Alberta Crop Production ('000 tonnes)									
Crops	2013r	2014r	2015	2016r	2017	2018p	10-year Average	% change	
								18 vs 17	18 vs Avg
Winter Wheat	288.5	296.1	225.9	318.4	176.9	100.4	269.1	-43.2%	-62.7%
Spring Wheat	10,169.6	8,369.1	7,247.6	8,204.4	8,720.0	8,771.6	7,906.7	0.6%	10.9%
Durum Wheat	870.9	707.6	816.5	1,583.9	1,083.2	1,134.1	890.8	4.7%	27.3%
All Wheat	11,329.0	9,372.8	8,290.0	10,106.7	9,980.1	10,006.0	9,066.5	0.3%	10.4%
Oats	601.5	542.9	393.3	624.6	609.2	700.1	552.6	14.9%	26.7%
Barley	5,545.4	4,131.3	4,289.2	4,398.0	3,906.0	3,996.3	4,521.8	2.3%	-11.6%
Fall Rye	36.3	30.9	33.0	59.7	33.5	30.0	42.8	-10.4%	-29.9%
Mixed Grains	13.3	12.9	12.2	30.6	33.0	-	27.0	-	-
Flaxseed	73.7	98.4	83.8	59.8	62.2	60.5	56.9	-2.7%	6.3%
Canola	6,168.9	5,796.9	5,851.3	6,157.5	6,826.6	5,870.6	5,393.8	-14.0%	8.8%
Corn for Grain	66.0	91.4	87.6	98.0	152.9	118.3	71.8	-22.6%	64.8%
Dry Beans	48.1	66.0	47.9	61.6	61.5	72.8	49.5	18.4%	47.0%
Fababeans	-	107.5	81.6	54.4	45.4	43.4	72.2	-4.4%	-39.9%
Dry Peas	1,321.3	1,475.1	1,314.5	2,271.2	1,991.5	1,608.4	1,276.8	-19.2%	26.0%
Lentils	110.3	84.4	176.4	451.8	264.4	199.6	149.6	-24.5%	33.4%
Mustard Seed	37.2	59.4	31.9	73.3	27.1	36.7	42.4	35.4%	-13.5%
Triticale	16.9	17.5	14.5	30.2	23.2	32.0	21.3	37.9%	50.1%
Sugar Beets	598.7	580.6	503.5	811.9	771.1	854.5	607.8	10.8%	40.6%
All Crops	25,966.6	22,468.0	21,210.7	25,289.3	24,787.7	23,629.2	21,887.4	-4.7%	8.0%
Tame Hay	7,588.6	6,976.3	4,640.2	7,239.3	7,175.8	6,035.7	7,125.5	-15.9%	-15.3%
Fodder Corn	1,551.3	1,251.9	1,388.0	1,814.4	1,564.9	1,660.4	1,245.1	6.1%	33.4%
All Forages	9,139.9	8,228.2	6,028.2	9,053.7	8,740.7	7,696.1	8,370.6	-12.0%	-8.1%
Total	35,106.5	30,696.2	27,238.9	34,343.0	33,528.4	31,325.3	30,323.5	-6.6%	3.3%

r - Revised p - Preliminary - Not available 10-year average refers to 2008-2017

Source: Statistics Canada Prepared by: Alberta Agriculture and Forestry, Statistics and Data Development Section

Table 2: Alberta Crop Area and Yield									
Crops	2017	2018p	2017	2018p	2017	2018p	10-year	Yield % change	
	Seeded	Seeded	Harvested	Harvested	Yield	Yield	Avg Yld	18 vs 17	18 vs Avg
	('000 acres)		('000 acres)		(bu/acre)				
Winter Wheat	105.0	67.9	105.0	65.0	61.9	56.8	56.4	-8.2%	0.7%
Spring Wheat	5,860.0	6,265.0	5,775.0	6,156.1	55.5	52.4	50.3	-5.6%	4.1%
Durum Wheat	1,090.0	1,184.8	1,085.0	1,170.5	36.7	35.6	43.9	-3.0%	-18.8%
All Wheat	7,080.0	7,544.8	6,965.0	7,391.6	52.6	49.7	49.7	-5.5%	0.1%
Oats	690.0	795.1	425.0	512.0	92.9	88.7	80.6	-4.5%	10.0%
Barley	2,850.0	3,114.1	2,500.0	2,746.9	71.8	66.8	67.6	-7.0%	-1.2%
Fall Rye	45.0	39.6	25.0	22.4	52.8	52.8	44.4	0.0%	18.9%
Mixed Grains	135.0	179.0	25.0	-	64.6	-	59.7	-	-
Flaxseed	85.0	91.6	85.0	91.6	28.8	26.0	30.2	-9.7%	-13.9%
Canola	6,930.0	6,810.0	6,890.0	6,679.2	43.7	38.8	39.2	-11.2%	-1.1%
Corn for Grain	60.0	35.0	45.0	32.2	133.8	144.6	110.7	8.1%	30.6%
Dry Beans	50.0	62.5	50.0	60.8	45.2	44.0	39.9	-2.6%	10.2%
Fababeans	35.0	34.7	34.0	33.3	49.0	48.0	47.4	-2.0%	1.3%
Dry Peas	1,800.0	1,511.4	1,790.0	1,479.9	40.9	39.9	40.2	-2.4%	-0.7%
Lentils	485.0	420.2	483.0	419.7	20.1	17.5	29.3	-13.2%	-40.3%
Mustard Seed	95.0	122.1	93.0	118.1	12.8	13.7	18.3	6.9%	-24.9%
Triticale	35.0	36.7	15.0	22.4	60.8	56.3	53.0	-7.4%	6.1%
	(tons/acre)								
Sugar Beets	26.0	28.6	26.0	27.5	32.7	34.3	27.9	4.7%	22.8%
Tame Hay	4,460.0	4,325.5	4,160.0	4,066.0	1.9	1.6	1.7	-13.7%	-4.7%
Fodder Corn	130.0	201.1	90.0	100.9	19.2	18.1	17.1	-5.5%	6.1%
Total	24,991.0	25,352.0	23,701.0	23,804.5	---	---	---	---	---

p - Preliminary --- Not applicable - Not available 10-year Avg Yld refers to 2008-2017 average yield

Source: Statistics Canada Prepared by: Alberta Agriculture and Forestry, Statistics and Data Development Section

Table 3: Alberta Greenfeed and Silage Production

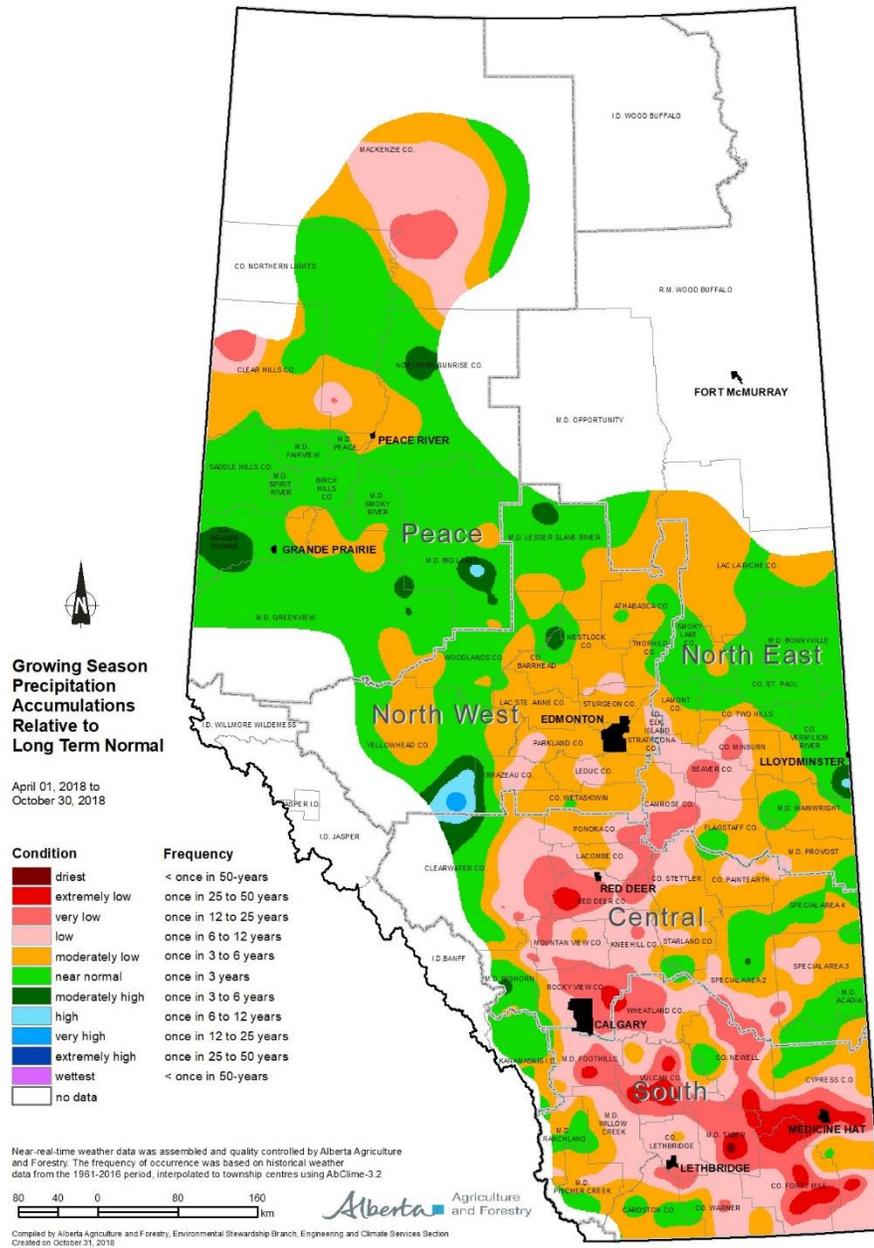
		Total Seeded Area	Harvested Greenfeed Area	Harvested Silage Area	Average Greenfeed Yield	Average Silage Yield	Total Greenfeed Production	Total Silage Production
		('000 acres)			(tonnes/acre)		('000 tonnes)	
2018	Spring Wheat	6,265	104.0	87.7	1.94	3.63	201.9	318.3
	Durum Wheat	1,185	7.0	0.0	1.36	0.00	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
Durum Wheat		1,090	10.9	5.8	1.04	0.00	11.4	0.0
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	6.18	770.6	2,495.8

Totals may not add up due to rounding

Note: Yields and production are reported on a wet weight basis.

Source: Statistics Canada and Alberta Agriculture and Forestry

Precipitation Map for the 2018 Crop Season



Visit weatherdata.ca for additional maps and meteorological data

Source: Alberta Agriculture and Forestry, Environmental Stewardship Branch, Engineering and Climate Services Section