

# Alberta 2018

## Beekeepers Survey Results



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Alberta 

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## Purpose of Survey

To address some of the data gaps and information needs of the beekeeping industry in Alberta, each year the Statistics and Data Development (SADD) Section of Alberta Agriculture and Forestry (AF) conducts a survey of beekeepers in the province. The survey results along with information from other sources are used in the development of provincial and regional estimates for selected honey variables such as colony numbers, yield, production and prices. These estimates, along with the survey results are shared with survey participants, industry, Statistics Canada and other stakeholders.

This report focuses on the results of the Alberta 2018 Beekeepers' Survey and the related estimates developed.

## Methodology

The Alberta Beekeepers' Survey, which is provincial in scope, collects data from producers through a non-probability survey. In January 2019, survey questionnaires were mailed out to 1,400 beekeepers across the province. The questionnaire specifically asked survey participants to provide, at their earliest convenience, information on colony numbers, production, yield, bee purchases, prices (expected/actual), carry-over stocks and selected management practices, for their related beekeeping operation in 2018.

Participants were made aware that participation in the survey was voluntary. They were also assured that all individual responses would be kept confidential under both the Statistics Act of Canada, and the Alberta Freedom of Information and Protection of Privacy (FOIP) Act, by which the SADD Section is governed and operates. In return for their participation, respondents who were interested in the survey results would receive the resulting publication highlighting the results of the 2018 Beekeepers' survey. As of August 15, 2019, a total of 691 questionnaires were received, of which 640 were usable and formed the basis in developing the Alberta 2018 honey production estimates.

Survey responses received were reviewed for data completeness, validated and entered into an electronic database. The data was then subjected to computerized analyses, the results of which were rolled up into group summaries to preserve the confidentiality of data provided by individual respondents. In turn, the group summaries, in conjunction with input from industry, the provincial apiculturist and other Alberta AF staff, were used to develop provincial and regional estimates on the number of producers, colonies, yield and production.

It should be noted that the derived estimates could be subject to error. Some of the possible causes of error include data coding, data entry, editing and tabulation. Nonetheless, we believe that the statistics published in this report are reliable estimates for Alberta.

## Highlights of the Alberta 2017/2018 Paired Beekeeping Surveys

The following survey highlights are based on the responses of 344 producers who participated in both the 2017 and 2018 Alberta Beekeepers' Surveys (See Table 1).

### **Paired Sample Highlights:**

- ▶ In 2018, beekeepers purchased more packages/nucs than in 2017. Purchases increased 85 per cent, with the average beekeeper buying 43 packages/nucs, compared to 23 in 2017. The majority of packages/nucs purchased in 2018 were imported (96.08 per cent), with the remainder purchased locally (3.92 per cent).
- ▶ The distribution of imported packages was as follows: New Zealand (98.45 per cent), Australia (0.81 per cent) and other not specified (0.74 per cent). Compared to 2017, imports of packages from Australia increased, while those from other sources not specified and New Zealand decreased.
- ▶ In 2018, beekeepers sourced 76.76 per cent of their nuc purchases from British Columbia, 14.49 per cent from Alberta, and the remaining 8.74 per cent from other Canadian provinces. The number of nucs purchased from British Columbia and other Canadian provinces increased compared to the previous year, while purchases in Alberta decreased. The average nuc price in Alberta was \$232.47, while in British Columbia it was \$219.98.
- ▶ Individual queen purchases increased 1.3 per cent in 2018, with producers purchasing 183 queens on average, compared to 180 in 2017. Practically all of the queen purchases were from outside of the province (98.01 per cent). Hawaii continues to be the primary source of imports, accounting for 61 per cent of the total, while other US States (Mostly California) were second with 33.10 per cent and Australia was third, with 3.61 per cent.
- ▶ Average queen prices in 2018 ranged from \$30.35 to \$44.25, depending upon the source of purchase. The price per queen was lowest for British Columbia at \$30.35, followed by Australia at \$32.98. The price per queen for Hawaii was \$35.73 and \$36.07 for other United States.
- ▶ In 2018, the percentage deathloss for queens purchased in packages and nucs fell to 9.46 per cent, down from 10.97 per cent in 2017. For individual queens, the comparable percentage declined to 5.35 per cent, from 6.41 per cent in 2017.
- ▶ On June 30, 2018, there was more honey in inventory than a year earlier. Producers on average had 4,133 pounds in stock, 191.3 per cent from 1,419 pounds in 2017.
- ▶ Alberta continues to be the preferred location for the over-wintering of bees. In 2018, 99.08 per cent of over-wintering activity (indoor/outdoor) occurred in the province, with the rest carried out in British Columbia.

- ▶ “Outdoor” over-wintering remains the favored practice, accounting for 77.91 per cent of the total colonies over-wintered in 2018.
- ▶ In 2018, the average beekeeper reported 10.27 years of beekeeping experience. Years of experience in over-wintering “outdoor” was lower at 8.99 years, while for “indoor” it was 14.81 years.
- ▶ Producer prices received in 2017 were lower than expected for retail and wholesale. The average price realized for wholesale honey was \$158.84 per cwt, \$5.05 lower than the expected price of 163.89 per cwt. Similarly, the average realized price for retail honey was \$352.06 per cwt, \$6.52 lower than the expected price of \$358.58 per cwt. The 2018 expected prices for honey are \$161.81 per cwt wholesale, and \$355.83 per cwt retail.

**Table 1 - 2017 AND 2018 BEEKEEPING SURVEY RESULTS - ALBERTA\***  
**(GROUP AVERAGES)\*\***

DESCRIPTION	2017	2018	18/17 (%)
<b>PACKAGES/NUCS:</b>			
Average number of packages/nucs purchased in spring per beekeeper:	23.33	43.17	85.0
Package queen/nuc deathloss (%):	10.97	9.46	-13.7
Percent of packages/nucs purchased:			
- Locally (Alberta) (%)	4.55	3.92	-13.9
- Imported (%)	95.45	96.08	0.7
Distribution of imported packages purchased:			
- New Zealand (%)	98.89	98.45	-0.5
- Australia (%)	0.12	0.81	576.9
- Other (%)	0.99	0.74	-24.8
Distribution of nucs purchased:			
- Alberta (%)	22.56	14.49	-35.8
- British Columbia (%)	74.74	76.76	2.7
- Other Canadian provinces (%)	2.69	8.74	224.8
Average price per package (2 lb equivalent) purchased from:			
- New Zealand (\$)	213.48	222.81	4.4
- Australia (\$)	220.00	223.14	1.4
- Other (\$)	220.00	222.00	0.9
Average price per nuc purchased from:			
- Alberta (\$)	231.48	232.47	0.4
- British Columbia (\$)	220.21	219.98	-0.1
- Other Canadian provinces (\$)	256.19	286.42	11.8
<b>INDIVIDUAL QUEENS:</b>			
Average number of queens purchased in spring per beekeeper:	180.13	182.53	1.3
Purchased individual queen deathloss (%):	6.41	5.35	-16.5
Percent of individual queens purchased:			
- Locally (Alberta) (%)	0.37	1.99	441.7
- Imported (%)	99.63	98.01	-1.6
Distribution of imported queens:			
- British Columbia (%)	1.53	0.90	-41.2
- Saskatchewan (\$)	0.17	0.24	38.4
- Other Canadian provinces (%)	0.03	-	n/a
- New Zealand (%)	2.76	0.10	-96.5
- Australia (%)	0.03	3.61	-
- Hawaii (%)	61.23	61.00	-0.4
- Other United States (%)	33.96	33.10	-2.5
- Chile (%)	0.03	0.01	-67.4
- Other (%)	0.26	1.04	304.5
Average price per individual queen purchased from:			
- British Columbia (\$)	31.78	30.35	-4.5
- Saskatchewan (\$)	34.19	40.93	19.7
- Other Canadian provinces (\$)	50.00	-	n/a
- New Zealand (\$)	39.78	44.25	11.3
- Australia (\$)	32.60	32.98	1.2
- Hawaii (\$)	35.53	35.73	0.5
- Other United States (\$)	36.09	36.07	-0.1
- Chile (\$)	28.00	38.00	35.7
- Other (\$)	39.38	36.49	-7.3

\* Based on paired sample    \*\* Weighted    n/a Not applicable    Note: Some totals may not add up due to rounding.

Source: Alberta Agriculture and Forestry, Economics and Competitiveness Branch, Statistics and Data Development Section

**Table 1 (Cont'd) - 2017 AND 2018 BEEKEEPING SURVEY RESULTS - ALBERTA\***  
**(GROUP AVERAGES)\*\***

DESCRIPTION	2017	2018	18/17 (%)
<b>OTHER SELECTED STATISTICS:</b>			
Honey in inventory as of June 30th, per beekeeper (lbs.):	1,418.86	4,132.50	191.3
Experience in beekeeping (years):	9.54	10.27	7.6
Estimated number of colonies per active beekeeper:	244.11	257.28	5.4
<b>Over-wintering intentions for active colonies:</b>			
- indoors in Alberta (%)	21.22	21.17	-0.3
- outdoors in Alberta (%)	77.78	77.91	0.2
- in British Columbia (%)	1.00	0.92	-7.6
<b>Experience in over-wintering (years):</b>			
- indoors	16.88	14.81	-12.3
- outdoors	8.01	8.99	12.3
<b>Price received for 2017 honey crop:</b>			
- Retail (\$/cwt)	358.58***	352.06****	----
- Wholesale (\$/cwt)	163.89***	158.84****	----
<b>Price expected for 2018 honey crop:</b>			
- Retail (\$/cwt)	n/a	355.83	----
- Wholesale (\$/cwt)	n/a	161.81	----

\* Based on paired sample \*\* Weighted \*\*\* Expected price in 2017 \*\*\*\* Actual price received in 2017 n/a Not applicable

Note: Some totals may not add up due to rounding.

Source: Alberta Agriculture and Forestry, Economics and Competitiveness Branch, Statistics and Data Development Section



## Honey Production in Alberta

In 2018, there were 1,572 beekeepers in Alberta, up 10.7 per cent from 2017 (see Tables 3 and 4), and the highest number since 1986. The growth in the number of beekeepers is largely due to an increase in the number of hobby beekeepers. Colony numbers fell 1.9 per cent to 311,000 colonies, following four consecutive years of growth. It should be noted that the 2018 colony count is second highest on record. Preliminary statistics indicate that while Alberta accounts for a relatively small percentage (14.5 per cent) of the nation's total beekeepers, it accounted for 39.2 per cent of the honey producing colonies in Canada.

Alberta produced slightly more honey in 2018 than was previously forecasted. Final estimates show total production at 38.6 million pounds, compared to the preliminary fall 2018 forecast of 37.5 million pounds. Even so, the final 2018 production was five per cent lower than the 2017 production of 40.6 million pounds.

Preliminary estimates by Statistics Canada peg total Canadian honey production in 2018 at 93.2 million pounds, 2.9 per cent lower than the 96 million pounds in 2017. Based on the preliminary estimates, Alberta accounted for 40.2 per cent of the nation's honey production in 2018.

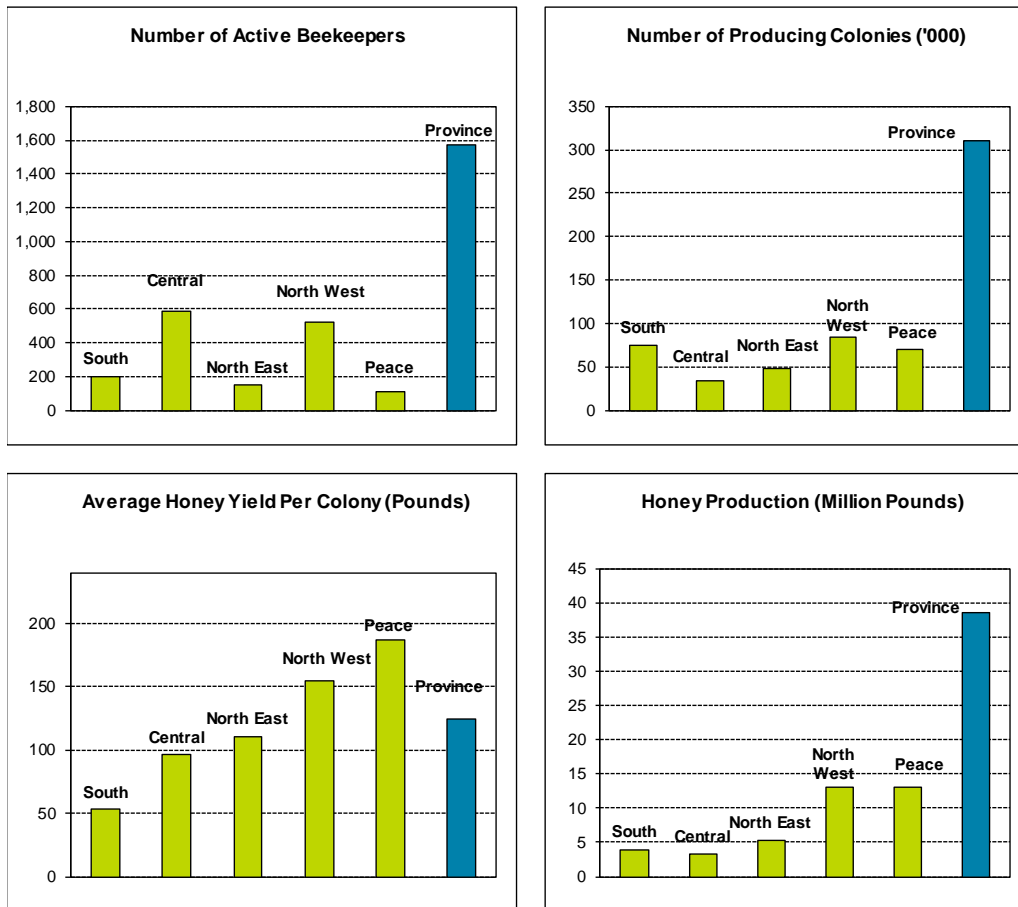
In 2018, honey production was down across all regions in Alberta (see Tables 2 and 4) except the North East. The decrease in production was due to bad weather (too much heat and rain) that disrupted the honey flow months. At 13.01 million pounds, the North West region produced the highest amount of honey and accounted for 33.7 per cent of the total provincial production of 38.6 million pounds. The Peace region was second with 13 million pounds, (or 33.7 per cent), followed by the North East region with 5.3 million pounds (or 13.9 per cent). The Central region had the lowest production with 3.3 million pounds (or 8.5 per cent), followed by the South region at four million pounds (or 10.3 per cent). It cannot be over emphasized that honey production on a regional basis is directly tied to colony numbers and yield per colony, hence, explaining the variation among regions.

The Alberta Beekeepers' Survey also included questions regarding the pollination of crops. Based on the survey results (which did not include all beekeepers involved in pollination activities), 32,640 colonies were rented for pollination in 2018, with an average rental charge of \$167.22 per colony (Note: this rental charge is a blend of rental fees for blueberry and canola fields. Rental fees for blueberry fields are lower compared to those for canola fields).

<b>Table 2 - 2018 HONEY PRODUCTION ESTIMATE - ALBERTA</b>						
Region	Number of Registered Beekeepers	Number of Producing Colonies	Honey Yield Per Colony		Total Honey Produced	
			lbs	kg	lbs	tonnes
South	202	75,152	53	24	3,972,917	1,802
Central	589	33,799	96	44	3,259,203	1,478
North East	151	48,212	111	50	5,345,235	2,425
North West	524	84,424	154	70	13,010,856	5,902
Peace	106	69,414	187	64	12,978,899	5,887
<b>Province</b>	<b>1,572</b>	<b>311,000</b>	<b>124</b>	<b>56</b>	<b>38,567,110</b>	<b>17,494</b>

Note: Yield and honey production rounded to the nearest pound, kilogram or tonne.  
Totals may not add due to rounding.

**2018 REGIONAL DISTRIBUTION OF ALBERTA'S ESTIMATED HONEY PRODUCTION  
(SELECTED HONEY STATISTICS)**



Source: Alberta Agriculture and Forestry, Economics and Competitiveness Branch, Statistics and Data Development Section



AF Regions (2018)

- 1. South
- 2. Central
- 3. North East
- 4. North West
- 5. Peace

### **South Region**

Cardston County  
Cypress County  
Foothills No. 31  
County of Forty Mile No. 8  
Lethbridge County  
Newell County  
Pincher Creek No. 9  
Ranchland No. 66  
Taber  
Vulcan County  
Warner County No. 5  
Wheatland County  
Willow Creek No. 26

### **Central Region**

Bighorn No. 8  
Calgary  
Clearwater County  
Kneehill County  
Lacombe County  
Mountain View County  
Paintearth County No. 18  
Ponoka County  
Red Deer County  
Rocky View County  
Special Area No. 2  
Special Area No. 3  
Special Area No. 4  
Starland County  
Stettler County No. 6

### **North East Region**

Beaver County  
Bonnyville No. 87  
Camrose County  
Flagstaff County  
Improvement District No.24  
Lac La Biche County  
Lamont County  
Minburn County No. 27  
Provost No. 52  
Smoky Lake County  
St. Paul County No. 19  
Two Hills County No. 21  
Vermilion River County  
Wainwright No. 61  
Wood Buffalo

### **North West Region**

Athabasca County  
Barrhead County No. 11  
Brazeau County  
Edmonton  
Improvement District No.12  
Lac Ste. Anne County  
Leduc County  
Lesser Slave River No. 124  
Parkland County  
Strathcona County  
Sturgeon County  
Thorhild County  
Westlock County  
Wetaskiwin County No. 10  
Woodlands County  
Yellowhead County

### **Peace Region**

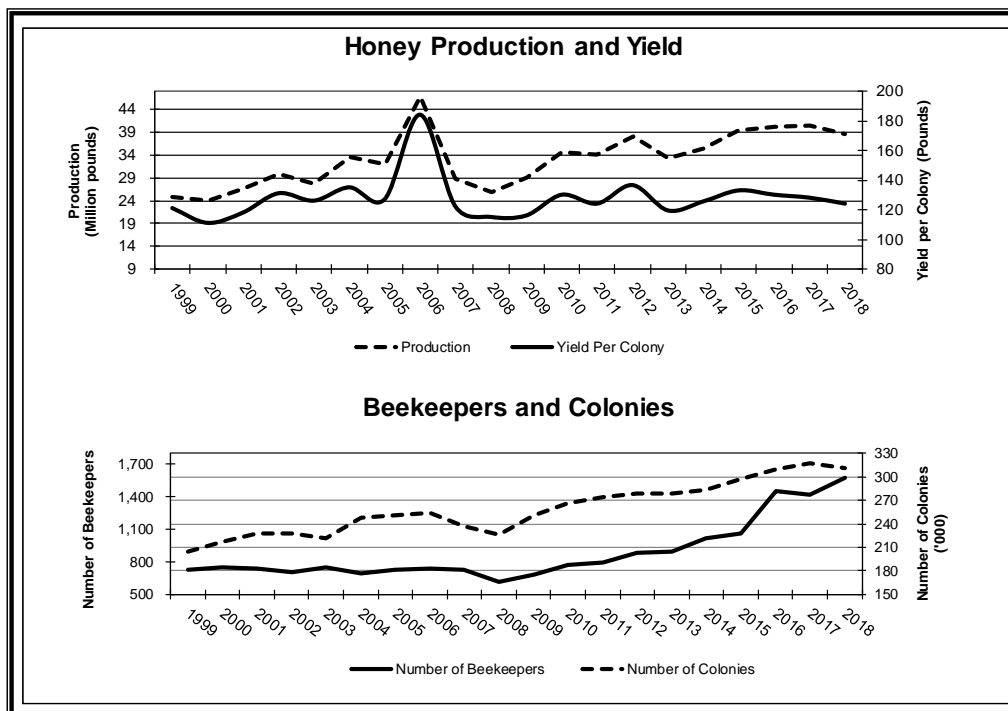
Big Lakes County  
Birch Hills County  
Clear Hills County  
Fairview No. 136  
Grande Prairie County No. 1  
Greenview No. 16  
Mackenzie County  
Northern Lights County  
Northern Sunrise County  
Peace No. 135  
Saddle Hills County  
Smoky River No. 130  
Spirit River No. 133

Note: Alberta Agriculture and Forestry regional boundaries no longer exist; however, these have been maintained to facilitate historical comparisons.

**Table 3 - ALBERTA HONEY STATISTICS, 1999-2018**

Year	No. of Beekeepers	No. of Colonies	Production ('000 pounds)	Yield per Colony (pounds)	No. of Colonies Per Beekeeper
1999	725	205,000	24,805	121	283
2000	747	217,000	24,087	111	290
2001	739	227,000	26,786	118	307
2002	702	227,000	29,737	131	323
2003	754	221,000	27,846	126	293
2004	693	248,000	33,480	135	358
2005	728	251,000	31,877	127	345
2006	733	254,000	46,736	184	347
2007	726	237,000	28,914	122	326
2008	620	226,000	25,990	115	365
2009	683	251,000	29,116	116	367
2010	769	266,000	34,580	130	346
2011	798	274,600	34,050	124	344
2012	883	278,400	38,000	136	315
2013	890	278,100	33,200	119	312
2014	1,015	282,900	35,500	125	279
2015	1,064	296,880	39,461	133	279
2016	1,453	309,000	40,170	130	213
2017	1,420	317,000	40,576	128	223
2018	1,572	311,000	38,567	124	198

**Alberta Honey Production, Yield, Beekeepers and Colonies, 1999-2018**



Source: Alberta Agriculture and Forestry, Economics and Competitiveness Branch, Statistics and Data Development Section

<b>Table 4 - HONEY PRODUCTION BY REGION IN ALBERTA (2011-2018)</b>								
<b>Region</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Number of Active Beekeepers</b>								
South	101	111	108	126	140	190	192	202
Central	216	266	292	341	363	516	519	589
North East	107	109	104	114	119	148	136	151
North West	274	294	287	322	338	482	471	524
Peace	100	103	99	112	104	117	102	106
<b>Province</b>	<b>798</b>	<b>883</b>	<b>890</b>	<b>1,015</b>	<b>1,064</b>	<b>1,453</b>	<b>1,420</b>	<b>1,572</b>
<b>Number of Producing Colonies</b>								
South	83,948	86,437	83,565	84,002	84,664	85,684	84,155	75,152
Central	22,501	25,571	27,182	24,400	28,537	32,683	31,567	33,799
North East	26,111	27,720	27,177	31,833	32,694	37,727	40,427	48,212
North West	75,757	72,022	74,708	78,109	83,076	81,032	87,739	84,424
Peace	66,283	66,651	65,468	64,556	67,910	71,875	73,112	69,414
<b>Province</b>	<b>274,600</b>	<b>278,400</b>	<b>278,100</b>	<b>282,900</b>	<b>296,880</b>	<b>309,000</b>	<b>317,000</b>	<b>311,000</b>
<b>Average Yield (pounds per colony)</b>								
South	92	78	116	69	73	40	64	64
Central	130	96	145	129	128	146	116	116
North East	156	139	135	115	138	157	116	116
North West	154	163	142	146	167	208	156	156
Peace	134	142	155	151	137	140	180	180
<b>Province</b>	<b>130</b>	<b>124</b>	<b>136</b>	<b>119</b>	<b>125</b>	<b>133</b>	<b>128</b>	<b>124</b>
<b>Honey Production ('000 pounds)</b>								
South	6,557	10,011	5,751	6,162	3,372	4,898	5,379	3,973
Central	2,150	3,709	3,519	3,122	4,163	3,988	3,666	3,259
North East	3,618	3,743	3,118	4,386	5,148	6,187	4,676	5,345
North West	12,320	10,201	10,916	13,014	17,265	13,914	13,672	13,011
Peace	9,406	10,335	9,895	8,816	9,513	11,183	13,184	12,979
<b>Province</b>	<b>34,050</b>	<b>38,000</b>	<b>33,200</b>	<b>35,500</b>	<b>39,461</b>	<b>40,170</b>	<b>40,576</b>	<b>38,567</b>

Note: Some totals may not add up due to rounding.

Source: Alberta Agriculture and Forestry, Economics and Competitiveness Branch, Statistics and Data Development Section