

Alberta 2013 Beekeepers' Survey Results



Acknowledgements

The Statistics and Data Development Branch of Alberta Agriculture and Rural Development (ARD) gratefully acknowledge and thank the many producers who participated in the Alberta 2013 Beekeepers' survey. Without their participation, this report would not have been possible.

As well, the Branch wishes to acknowledge several staff members of ARD, including Reynold Jaipaul, Gail Atkinson, Guangzhi Liu, Melodie Mynzak, and Medhat Nasr for their contributions to this report.

This report is also available on the Internet at:

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/sdd12589](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sdd12589)

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ISSN 1701-3283 (Print)

ISSN 1929-7033 (Online)

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Alberta 2013 Beekeepers' Survey

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) Branch 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 and other stakeholders.

This report focuses on the results of the Alberta 2013 Beekeepers' Survey and the related estimates generated.

Methodology

The Alberta Beekeepers' Survey, which is provincial in scope, collects data from producers through a non-probability survey. In January 2014, survey questionnaires were mailed out to 529 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 2013.

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 Branch is governed and operates. In return for their participation, respondents who were interested in the survey results were mailed the Branch's publication highlighting the results of the 2013 Beekeepers' survey. As of August 11, 2014, a total of 315 questionnaires were received, of which 299 were usable and formed the basis in developing the Alberta 2013 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 Agriculture and Rural Development (ARD) 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.

For further information regarding the survey or survey results, please do not hesitate to contact:

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Highlights of the Alberta 2012/2013 Paired Beekeeping Surveys

The following survey highlights are based on the responses of 187 producers who participated in both the 2012 and 2013 Alberta Beekeepers' Surveys (See Table 1).

Paired Sample Highlights:

- ▶ In 2013, beekeepers purchased more packages/nucs than in 2012. Purchases increased 19.1 per cent, with the average beekeeper buying 85.0 packages/nucs, compared to 71.4 in 2012. The majority of packages/nucs purchased in 2013 were imported (97.9 per cent), with the remainder purchased locally.
- ▶ The distribution of imported packages was as follows: New Zealand (93.6 per cent) and Australia (6.5 per cent). Compared to 2012, imports of packages from New Zealand were down, while imports from Australia were up.
- ▶ In 2013, beekeepers sourced 79.0 per cent of their nuc purchases from British Columbia, 20.7 per cent from Alberta and under one per cent from other Canadian Provinces (mostly Saskatchewan). The number of nucs purchased in Alberta decreased compared to the previous year, while purchases from British Columbia increased. The 2013 average nuc price in British Columbia was \$136.31, while in Alberta it was \$147.86, and \$150.00 for other Canadian provinces.
- ▶ Individual queen purchases increased 4.0 per cent in 2013, with producers purchasing 301.06 queens on average, compared to 289.60 in 2012. Most of the queen purchases were sourced from outside of the province. Hawaii continues to be the primary source of imports, accounting for 69.3 per cent of the total, while other US States were second with 24.9 per cent and Chile third, with 2.5 per cent.
- ▶ Average queen prices in 2013 ranged from \$22.86 to \$32.01, depending upon the source of purchase. Prices were lowest for New Zealand at \$22.86 per queen, followed by Chile at \$23.86 per queen, then Hawaii at \$24.02 and other US States at \$24.09, respectively. Saskatchewan had the highest price at \$32.01 per queen.
- ▶ In 2013, the percentage deathloss for queens purchased in packages and nucs rose to 5.5 per cent, from 4.2 per cent in 2012. For individual queens, the comparable percentage was also up, growing 7.9 per cent, from 3.5 per cent in 2012.
- ▶ On June 30, 2013, there was more honey in inventory than a year earlier. Producers on average had 9,731 pounds in stock, up more than two fold from 3,011 pounds in 2012.
- ▶ Alberta continues to be the preferred location for the over-wintering of bees. In 2013, 95.5 per cent of over-wintering activity (indoor/outdoor) occurred in Alberta, with the rest carried out in British Columbia.

- ▶ "Outdoor" over-wintering is still the favored practice, accounting for 76.8 per cent of the total colonies over-wintered in 2013.
- ▶ In 2013, the average beekeeper reported 15.7 years of beekeeping experience. Years of experience in over-wintering "outdoor" was lower at 13.2 years, while for "indoor" it was 15.5 years.
- ▶ Producer prices received in 2012 for honey were slightly lower than expected for both retail and wholesale. The average price realized for wholesale honey was \$164.07 per cwt, \$0.03 lower than the expected price of \$164.10 per cwt. The average realized price for retail honey was \$337.59 per cwt, \$13.33 lower than the expected price of \$350.92 per cwt. The 2013 expected prices for honey are \$206.23 per cwt wholesale, and \$373.54 per cwt retail.

Table 1 - 2012 AND 2013 BEEKEEPING SURVEY RESULTS - ALBERTA*
(GROUP AVERAGES)**

DESCRIPTION	2012	2013	13/'12 (%)
PACKAGES/NUCS:			
Average number of packages/nucs purchased in spring per beekeeper:	71.36	84.97	19.1
Package queen/nuc deathloss (%):	4.22	5.53	31.2
Percent of packages/nucs purchased:			
- Locally (Alberta) (%)	1.58	2.08	31.7
- Imported (%)	98.42	97.92	-0.5
Distribution of imported packages purchased:			
- New Zealand (%)	98.91	93.55	-5.4
- Australia (%)	1.35	6.45	376.7
- Other (%)	0.13	-	n/a
Distribution of nucs purchased:			
- Alberta (%)	54.17	20.66	-61.9
- British Columbia (%)	17.19	79.02	359.7
- Other Canadian provinces (%)	28.65	0.33	-98.9
Average price per package (2 lb equivalent) purchased from:			
- New Zealand (\$)	137.80	144.41	4.8
- Australia (\$)	145.00	158.45	9.3
Average price per nuc purchased from:			
- Alberta (\$)	151.73	147.86	-2.5
- British Columbia (\$)	144.70	136.31	-5.8
- Other Canadian provinces (\$)	144.00	150.00	4.2
INDIVIDUAL QUEENS:			
Average number of queens purchased in spring per beekeeper:	289.60	301.06	4.0
Purchased individual queen deathloss (%):	3.52	7.85	123.1
Percent of individual queens purchased:			
- Locally (Alberta) (%)	0.08	0.12	57.2
- Imported (%)	99.92	99.88	0.0
Distribution of imported queens:			
- British Columbia (%)	0.92	1.18	28.8
- Saskatchewan (\$)	0.05	0.23	406.2
- Other Canadian provinces (%)	0.07	-	n/a
- New Zealand (%)	1.05	1.98	88.4
- Australia (%)	2.93	0.02	-99.3
- Hawaii (%)	49.57	69.27	39.7
- Other United States (%)	44.59	24.85	-44.3
- Chile (%)	0.65	2.47	277.2
- Other (%)	0.17	-	n/a
Average price per individual queen purchased from:			
- British Columbia (\$)	26.93	27.97	3.9
- Saskatchewan (\$)	20.00	32.01	60.1
- Other Canadian provinces (\$)	28.00	-	n/a
- New Zealand (\$)	25.39	22.86	-10.0
- Australia (\$)	23.46	25.00	6.6
- Hawaii (\$)	22.36	24.02	7.4
- Other United States (\$)	21.43	24.09	12.4
- Chile (\$)	24.78	23.86	-3.7
- Other (\$)	24.29	-	n/a

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

Source: Alberta Agriculture and Rural Development, Economics and Competitiveness Division, Statistics and Data Development Branch

**Table 1 (Cont'd) - 2012 AND 2013 BEEKEEPING SURVEY RESULTS - ALBERTA*
(GROUP AVERAGES)****

DESCRIPTION	2012	2013	13/'12 (%)
OTHER SELECTED STATISTICS:			
Honey in inventory as of June 30th, per beekeeper (lbs.):	3,010.74	9,730.48	223.2
Experience in beekeeping (years):	14.35	15.73	9.6
Estimated number of colonies per active beekeeper:	380.40	445.30	17.1
Over-wintering intentions for active colonies:			
- indoors in Alberta (%)	21.60	18.70	-13.4
- outdoors in Alberta (%)	76.48	76.79	0.4
- in British Columbia (%)	1.93	4.50	133.7
Experience in over-wintering (years):			
- indoors	14.94	15.53	3.9
- outdoors	12.76	13.16	3.1
Price received for 2012 honey crop:			
- Retail (\$/cwt)	350.92***	337.59****	-----
- Wholesale (\$/cwt)	164.10***	164.07****	-----
Price expected for 2013 honey crop:			
- Retail (\$/cwt)	n/a	373.54	-----
- Wholesale (\$/cwt)	n/a	206.23	-----

* Based on paired sample ** Weighted *** Expected price in 2012 **** Actual price received in 2012 n/a Not applicable

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

Source: Alberta Agriculture and Rural Development, Economics and Competitiveness Division,
Statistics and Data Development Branch

Honey Production in Alberta

In 2013, there were 890 beekeepers in Alberta, up marginally by 0.8 per cent from 2012 (see tables 3 and 4), and the highest number since 1988. Following three consecutive years of record highs, the total number of colonies remained almost unchanged at 278,100, down slightly by 0.1 per cent from the 2012 total of 278,400. Despite the minimal decline, the 2013 colony count is the second highest on record. Preliminary statistics indicate that while Alberta accounts for a relatively small percentage (10.6 per cent) of the nation's total beekeepers (8,483), it had 41.7 per cent of the honey producing colonies in Canada.

Alberta produced slightly more honey in 2013 than was previously forecasted. Final estimates show total production at 33.2 million pounds, compared to the preliminary fall 2013 forecast of 32.2 million pounds. Even so, the final 2013 production was 12.6 per cent lower than the 2012 production of 38.0 million pounds. Some factors that led to the decline were the cold and long spring, aggressive hive splits to replace winterkill, irregular weather patterns during summer (including rain in many locations and drought in others), and flooding in some areas where canola suffered from excess water and subsequently affected the nutritional quality of pollen and nectar production.

Preliminary estimates by Statistics Canada peg total Canadian honey production in 2013 at 75.5 million pounds, 16.8 per cent lower than the 90.8 million pounds in 2012. Based on the preliminary estimates, Alberta accounted for 42.7 per cent of the nation's honey production in 2013.

In 2013, honey production was down across all regions in Alberta with the exception of the North West. At 10.9 million pounds, the North West region produced the highest amount of honey, and accounted for 32.9 per cent of the total provincial production of 33.2 million pounds (see tables 2 and 4). The Peace region was second with 9.9 million pounds, (or 29.8 per cent), followed by the South with 5.8 million pounds (or 17.3 per cent). The North East region had the lowest production with 3.1 million pounds (or 9.4 per cent), then the Central region with 3.5 million pounds (or 10.6 per cent). It cannot be over emphasized that the estimated honey production on a regional basis is directly tied to colony numbers, yield per colony and using of bees for hybrid canola pollination, 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, 38,386 colonies were rented for pollination in 2013, with an average rental charge of \$163.50 per colony.

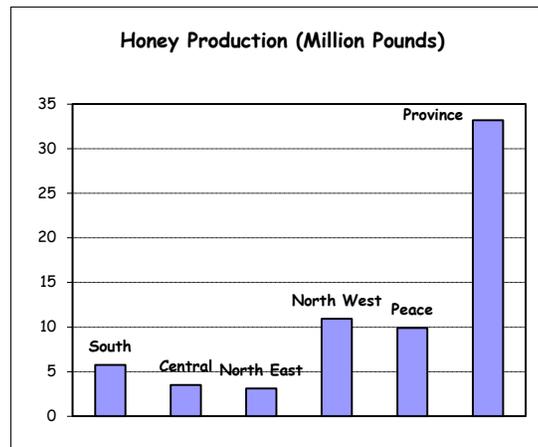
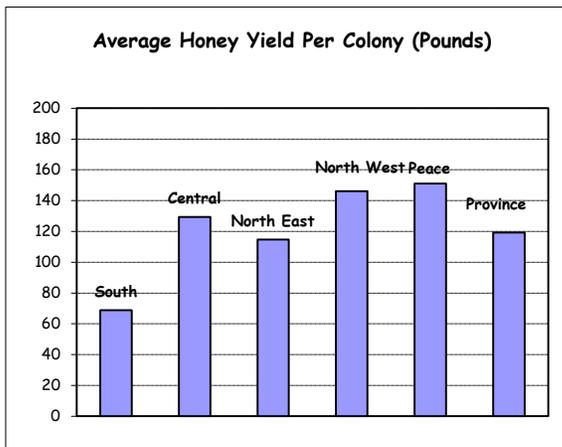
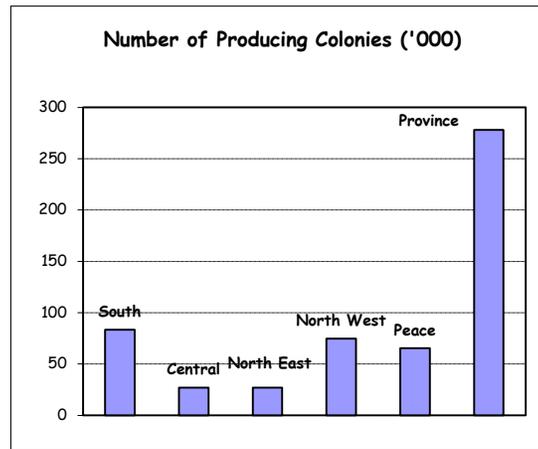
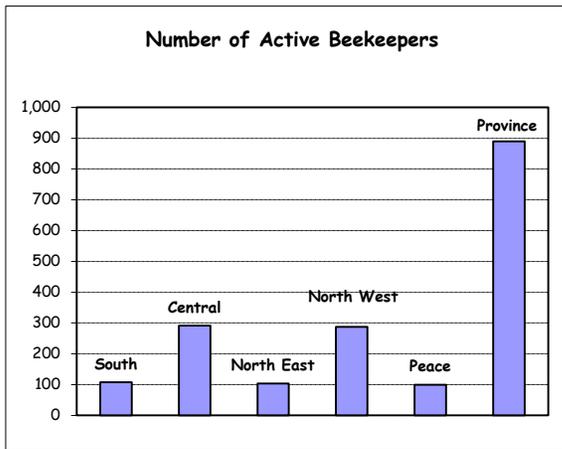
Table 2 - 2013 HONEY PRODUCTION ESTIMATE - ALBERTA

Region	Number of Registered Beekeepers	Number of Producing Colonies	Honey Yield Per Colony		Total Honey Produced	
			lbs	kg	lbs	tonnes
South	108	83,565	69	31	5,751,332	2,609
Central	292	27,182	129	59	3,519,194	1,596
North East	104	27,177	115	52	3,118,215	1,414
North West	287	74,708	146	66	10,916,454	4,952
Peace	99	65,468	151	64	9,894,804	4,488
Province	890	278,100	119	54	33,200,000	15,059

Note: Yield and honey production rounded to the nearest pound, kilogram or tonne.

Totals may not add due to rounding.

**2013 REGIONAL DISTRIBUTION OF ALBERTA'S ESTIMATED HONEY PRODUCTION
(SELECTED HONEY STATISTICS)**



Source: Alberta Agriculture and Rural Development, Economics and Competitiveness Division, Statistics and Data Development Branch

South Region*

<u>Legal Name</u>	<u>AMC</u>	<u>Reference</u>
Cardston County	-----	M.D. No. 6
Crowsnest Pass	-----	Crowsnest Pass
Cypress County	-----	M.D. No. 1
Foothills No. 31	MD 31	M.D. No. 31
Forty Mile County No. 8	CO 8	County No.8
Lethbridge County	-----	County No. 26
Newell County No. 4	CO 4	County No. 4
Pincher Creek No. 9	MD 9	M.D. No. 9
Ranchland No. 66	MD 66	M.D. No. 66
Taber	MD	M.D. No. 14
Vulcan County	-----	County No. 2
Warner County No. 5	CO 5	County No. 5
Wheatland County	-----	County No. 16
Willow Creek No. 26	MD 26	M.D. No. 26

Central Region*

<u>Legal Name</u>	<u>AMC</u>	<u>Reference</u>
Acadia No. 34	MD 34	M.D. No. 34
Bighorn No. 8	MD 8	M.D. No. 8
Calgary	-----	Calgary
Clearwater County	-----	M.D. No. 99
Kneehill County	-----	M.D. No. 48
Lacombe County	-----	County No. 14
Mountain View County	-----	County No. 17
Paintearth County No. 18	CO 18	County No. 18
Ponoka County	-----	County No. 3
Red Deer County	-----	County No. 23
Rocky View No. 44	MD 44	M.D. No. 44
Special Area No. 2	SA 2	S.A. No. 2
Special Area No. 3	SA 3	S.A. No. 3
Special Area No. 4	SA 4	S.A. No. 4
Starland County	-----	M.D. No. 47
Stettler County No. 6	CO 6	County No. 6

North West Region*

<u>Legal Name</u>	<u>AMC</u>	<u>Reference</u>
Athabasca County No. 12	CO 12	County No. 12
Barrhead County No. 11	CO 11	County No. 11
Brazeau No. 77	MD 77	M.D. No. 77
Edmonton	-----	Edmonton
Lac Ste. Anne County	-----	County No. 28
Leduc County	-----	County No. 25
Lesser Slave River No. 124	MD 124	M.D. No. 124
Parkland County	-----	County No. 31
Strathcona County	-----	County No. 20
Sturgeon County	-----	M.D. No. 90
Thorhild County No. 7	CO 7	County No. 7
Westlock County	-----	M.D. No. 92
Wetaskiwin County No. 10	CO 10	County No. 10
Woodlands County	-----	M.D. No. 15
Yellowhead County	-----	M.D. No. 94

North East Region*

<u>Legal Name</u>	<u>AMC</u>	<u>Reference</u>
Beaver County	-----	County No. 9
Bonnyville No. 87	MD 87	M.D. No. 87
Camrose County No. 22	CO 22	County No. 22
Flagstaff County	-----	County No. 29
Lakeland County	-----	M.D. No. 87
Lamont County	-----	County No. 30
Minburn County No. 27	CO 27	County No. 27
Opportunity No. 17	MD 17	M.D. No. 17
Provost No. 52	MD 52	M.D. No. 52
Smoky Lake County	-----	County No. 13
St. Paul County No. 19	CO 19	County No. 19
Two Hills County No. 21	CO 21	County No. 21
Vermilion River County No. 24	CO 24	County No. 24
Wainwright No. 61	MD 61	M.D. No. 61

Peace Region*

<u>Legal Name</u>	<u>AMC</u>	<u>Reference</u>
Big Lakes	MD	M.D. BGL
Birch Hills County	-----	M.D. No. 19
Clear Hills No. 21	MD 21	M.D. No. 21
Fairview No. 136	MD 136	M.D. No. 136
Greenview No. 16	MD 16	M.D. No. 16
Grande Prairie County No. 1	CO 1	County No. 1
Mackenzie No. 23	MD 23	M.D. No. 23
Northern Lights No. 22	MD 22	M.D. No. 22
Northern Sunrise County	-----	M.D. No. 131
Peace No. 135	MD 135	M.D. No. 135
Saddle Hills County	-----	M.D. No. 20
Smoky River No. 130	MD 130	M.D. No. 130
Spirit River No. 133	MD 133	M.D. No. 133

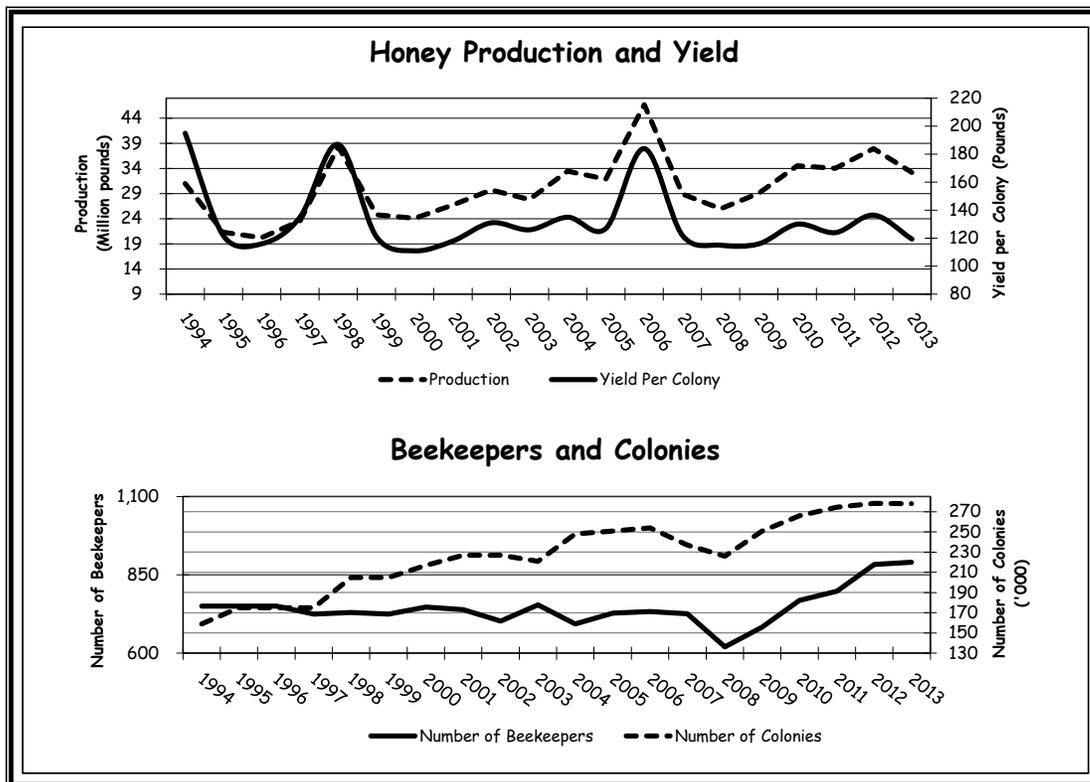
AMC – Abbreviated Municipality Code
Reference – Prior Legal Name

* Alberta Agriculture and Rural Development regional boundaries no longer exist; however, these have been maintained to facilitate historical comparisons.

Table 3 - ALBERTA HONEY STATISTICS, 1994-2013

Year	No. of Beekeepers	No. of Colonies	Production ('000 pounds)	Yield per Colony (pounds)	No. of Colonies Per Beekeeper
1994	750	159,000	31,005	195	212
1995	750	175,000	21,306	122	233
1996	750	175,000	20,215	116	233
1997	725	175,000	23,625	135	241
1998	730	205,000	38,335	187	281
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

Alberta Honey Production, Yield, Beekeepers and Colonies, 1994-2013



Source: Alberta Agriculture and Rural Development, Economics and Competitiveness Division, Statistics and Data Development Branch

Table 4 - HONEY PRODUCTION BY REGION IN ALBERTA (2006-2013)

Region	2006	2007	2008	2009	2010	2011	2012	2013
Number of Active Beekeepers								
South	90	94	90	94	94	101	111	108
Central	151	141	128	147	176	216	266	292
North East	115	110	87	96	118	107	109	104
North West	262	267	227	244	274	274	294	287
Peace	115	114	88	102	107	100	103	99
Province	733	726	620	683	769	798	883	890
Number of Producing Colonies								
South	65,671	66,895	66,901	66,934	73,039	83,948	86,437	83,565
Central	18,240	17,819	17,604	19,611	20,742	22,501	25,571	27,182
North East	30,799	27,780	25,439	26,689	27,682	26,111	27,720	27,177
North West	73,076	64,480	63,546	74,209	73,183	75,757	72,022	74,708
Peace	66,213	60,026	52,510	63,558	71,354	66,283	66,651	65,468
Province	254,000	237,000	226,000	251,000	266,000	274,600	278,400	278,100
Average Yield (pounds per colony)								
South	117	72	49	64	92	78	116	69
Central	198	103	76	144	130	96	145	129
North East	225	139	160	154	156	139	135	115
North West	253	164	137	122	154	163	142	146
Peace	152	131	164	140	134	142	155	151
Province	184	122	115	116	130	124	136	119
Honey Production ('000 pounds)								
South	7,702	4,842	3,306	4,250	6,745	6,557	10,011	5,751
Central	3,611	1,827	1,334	2,829	2,704	2,150	3,709	3,519
North East	6,928	3,850	4,058	4,106	4,323	3,618	3,743	3,118
North West	18,455	10,551	8,700	9,043	11,243	12,320	10,201	10,916
Peace	10,040	7,844	8,591	8,887	9,565	9,406	10,335	9,895
Province	46,736	28,914	25,990	29,116	34,580	34,050	38,000	33,200

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

Source: Alberta Agriculture and Rural Development, Economics and Competitiveness Division, Statistics and Data Development Branch