

# Alberta 2014 Beekeepers' Survey Results



## Acknowledgements

The Statistics and Data Development Branch of Alberta Agriculture and Forestry (AF) gratefully acknowledge and thank the many producers who participated in the Alberta 2014 Beekeepers' survey. Without their participation, this report would not have been possible.

As well, the Branch wishes to acknowledge several staff members of AF, including Reynold Jaipaul, Marian Elson, Tammy Calvin, 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 2014 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 2014 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 February 2015, survey questionnaires were mailed out to 790 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 2014.

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 2014 Beekeepers' survey. As of August 20, 2015, a total of 440 questionnaires were received, of which 419 were usable and formed the basis in developing the Alberta 2014 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 Forestry (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.

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

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## **Highlights of the Alberta 2013/2014 Paired Beekeeping Surveys**

The following survey highlights are based on the responses of 190 producers who participated in both the 2013 and 2014 Alberta Beekeepers' Surveys (See Table 1).

### **Paired Sample Highlights:**

- ▶ In 2014, beekeepers purchased more packages/nucs than in 2013. Purchases increased 32.3 per cent, with the average beekeeper buying 107.57 packages/nucs, compared to 81.29 in 2013. The majority of packages/nucs purchased in 2014 were imported (98.79 per cent), with the remainder purchased locally.
- ▶ The distribution of imported packages was as follows: New Zealand (99.74 per cent) and other (0.26 per cent). Compared to 2013, imports of packages from New Zealand were up, while imports from Australia were practically nil.
- ▶ In 2014, beekeepers sourced 93.89 per cent of their nuc purchases from British Columbia, 6.02 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 average nuc price in British Columbia was \$173.14, while in Alberta it was \$174.13, and \$175.00 for other Canadian provinces.
- ▶ Individual queen purchases decreased 4.0 per cent in 2014, with producers purchasing 334.85 queens on average, compared to 348.76 in 2013. Practically all of the queen purchases were from outside of the province (99.80 per cent). Hawaii continues to be the primary source of imports, accounting for 56.83 per cent of the total, while other US States were second with 41.25 per cent and British Columbia third, with 1.36 per cent.
- ▶ Average queen prices in 2014 ranged from \$24.59 to \$30.08, depending upon the source of purchase. Prices were lowest for other US States at \$24.59 per queen, followed by Hawaii at \$25.51 per queen and other Canadian provinces at \$26.21, respectively. Saskatchewan had the highest price at \$30.08 per queen.
- ▶ In 2014, the percentage deathloss for queens purchased in packages and nucs rose to 6.87 per cent, from 5.57 per cent in 2013. For individual queens, the comparable percentage was down to 7.10 per cent, from 7.78 per cent in 2013.
- ▶ On June 30, 2014, there was less honey in inventory than a year earlier. Producers on average had 3,430 pounds in stock, down from 9,182 pounds in 2013.
- ▶ Alberta continues to be the preferred location for the over-wintering of bees. In 2014, 94.46 per cent of over-wintering activity (indoor/outdoor) occurred in the province, with the rest carried out in British Columbia.

- ▶ "Outdoor" over-wintering is still the favored practice, accounting for 77.92 per cent of the total colonies over-wintered in 2014.
- ▶ In 2014, the average beekeeper reported 16.36 years of beekeeping experience. Years of experience in over-wintering "outdoor" was lower at 13.51 years, while for "indoor" it was 15.23 years.
- ▶ Producer prices received in 2013 for honey were slightly lower than expected for retail and higher for wholesale. The average price realized for wholesale honey was \$211.21 per cwt, \$4.98 higher than the expected price of \$206.23 per cwt. The average realized price for retail honey was \$340.56 per cwt, \$32.98 lower than the expected price of \$373.54 per cwt. The 2014 expected prices for honey are \$192.95 per cwt wholesale, and \$360.68 per cwt retail.

**Table 1 - 2013 AND 2014 BEEKEEPING SURVEY RESULTS - ALBERTA\***  
**(GROUP AVERAGES)\*\***

DESCRIPTION	2013	2014	14/'13 (%)
<b>PACKAGES/NUCS:</b>			
Average number of packages/nucs purchased in spring per beekeeper:	81.29	107.57	32.3
Package queen/nuc deathloss (%):	5.57	6.87	23.4
Percent of packages/nucs purchased:			
- Locally (Alberta) (%)	2.73	1.21	-55.5
- Imported (%)	97.17	98.79	1.7
Distribution of imported packages purchased:			
- New Zealand (%)	93.09	99.74	7.1
- Australia (%)	6.86	-	n/a
- Other (%)	0.05	0.26	n/a
Distribution of nucs purchased:			
- Alberta (%)	25.31	6.02	-76.2
- British Columbia (%)	74.17	93.89	26.6
- Other Canadian provinces (%)	0.52	0.10	-81.5
Average price per package (2 lb equivalent) purchased from:			
- New Zealand (\$)	144.58	160.21	10.8
- Australia (\$)	158.45	-	n/a
Average price per nuc purchased from:			
- Alberta (\$)	151.78	174.13	14.7
- British Columbia (\$)	150.46	173.14	15.1
- Other Canadian provinces (\$)	150.00	175.00	16.7
<b>INDIVIDUAL QUEENS:</b>			
Average number of queens purchased in spring per beekeeper:	348.76	334.85	-4.0
Purchased individual queen deathloss (%):	7.78	7.10	-8.7
Percent of individual queens purchased:			
- Locally (Alberta) (%)	0.04	0.20	341.6
- Imported (%)	99.96	99.80	-0.2
Distribution of imported queens:			
- British Columbia (%)	1.05	1.36	28.8
- Saskatchewan (\$)	0.17	0.05	-71.1
- Other Canadian provinces (%)	-	0.06	n/a
- New Zealand (%)	1.54	0.33	-78.5
- Australia (%)	0.01	0.06	286.5
- Hawaii (%)	69.29	56.83	-18.0
- Other United States (%)	25.97	41.25	58.9
- Chile (%)	1.97	-	n/a
- Other (%)	-	0.07	n/a
Average price per individual queen purchased from:			
- British Columbia (\$)	27.97	27.16	-2.9
- Saskatchewan (\$)	32.91	30.08	-8.6
- Other Canadian provinces (\$)	-	26.21	n/a
- New Zealand (\$)	22.83	29.24	28.1
- Australia (\$)	25.00	29.00	16.0
- Hawaii (\$)	24.27	25.51	5.1
- Other United States (\$)	24.39	24.59	0.8
- Chile (\$)	23.87	-	n/a
- Other (\$)	-	29.03	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 Forestry, Economics and Competitiveness Division, Statistics and Data Development Branch

**Table 1 (Cont'd) - 2013 AND 2014 BEEKEEPING SURVEY RESULTS - ALBERTA\***  
**(GROUP AVERAGES)\*\***

DESCRIPTION	2013	2014	14/'13 (%)
<b>OTHER SELECTED STATISTICS:</b>			
Honey in inventory as of June 30th, per beekeeper (lbs.):	9,182.19	3,429.81	-62.6
Experience in beekeeping (years):	15.19	16.36	7.7
Estimated number of colonies per active beekeeper:	484.42	460.47	-4.9
<b>Over-wintering intentions for active colonies:</b>			
- indoors in Alberta (%)	19.40	16.54	-14.7
- outdoors in Alberta (%)	73.88	77.92	5.5
- in British Columbia (%)	6.73	5.54	-17.7
<b>Experience in over-wintering (years):</b>			
- indoors	12.63	15.23	20.6
- outdoors	12.43	13.51	8.7
<b>Price received for 2013 honey crop:</b>			
- Retail (\$/cwt)	373.54***	340.56****	-----
- Wholesale (\$/cwt)	206.23***	211.21****	-----
<b>Price expected for 2014 honey crop:</b>			
- Retail (\$/cwt)	n/a	360.68	-----
- Wholesale (\$/cwt)	n/a	192.95	-----

\* Based on paired sample \*\* Weighted \*\*\* Expected price in 2013 \*\*\*\* Actual price received in 2013 n/a Not applicable

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

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

## Honey Production in Alberta

In 2014, there were 1,015 beekeepers in Alberta, up 14 per cent from 2013 (see tables 3 and 4), and the highest number since 1988. Colony numbers reached a record 282,900, and were up 1.7 per cent from the 2013 total of 278,100. Preliminary statistics indicate that while Alberta accounts for a relatively small percentage (10.6 per cent) of the nation's total beekeepers, it had 40.6 per cent of the honey producing colonies in Canada.

Alberta produced slightly more honey in 2014 than was previously forecasted. Final estimates show total production at 35.5 million pounds, compared to the preliminary fall 2014 forecast of 34.4 million pounds. Even so, the final 2014 production was 6.9 per cent higher than the 2013 production of 33.2 million pounds. Production went up despite Alberta beekeepers having to contend with issues surrounding the long winter, cold spring, poor queen quality and the presence of nosema.

Preliminary estimates by Statistics Canada peg total Canadian honey production in 2014 at 81.6 million pounds, 6.7 per cent higher than the 76.5 million pounds in 2013. Based on the preliminary estimates, Alberta accounted for 42.2 per cent of the nation's honey production in 2014.

In 2014, honey production was up across all regions in Alberta with the exception of the Central and Peace regions. At 13.0 million pounds, the North West region produced the highest amount of honey and accounted for 36.7 per cent of the total provincial production of 35.5 million pounds (see tables 2 and 4). The Peace region was second with 8.8 million pounds, (or 24.8 per cent), followed by the South with 6.2 million pounds (or 17.4 per cent). The Central region had the lowest production with 3.1 million pounds (or 8.8 per cent), then the North East region with 4.4 million pounds (or 12.4 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), 52,030 colonies were rented for pollination in 2014, with an average rental charge of \$166.07 per colony.

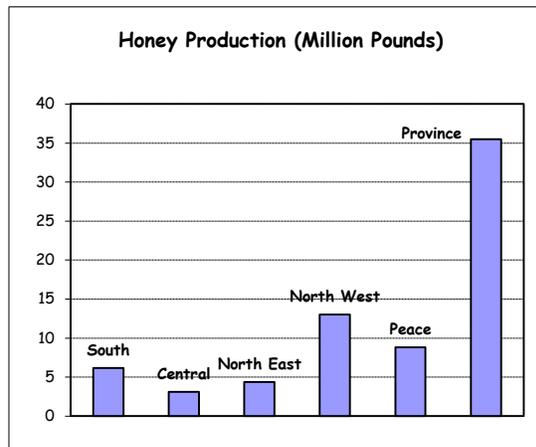
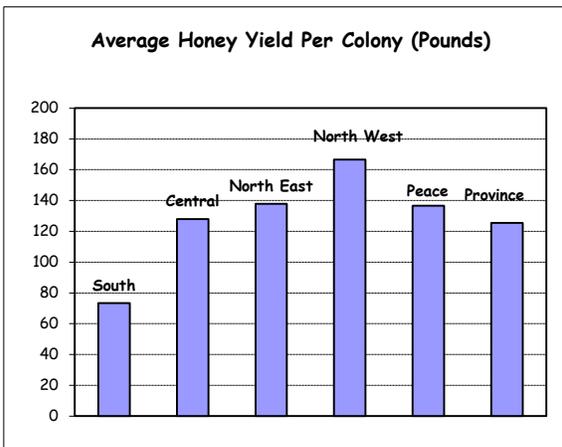
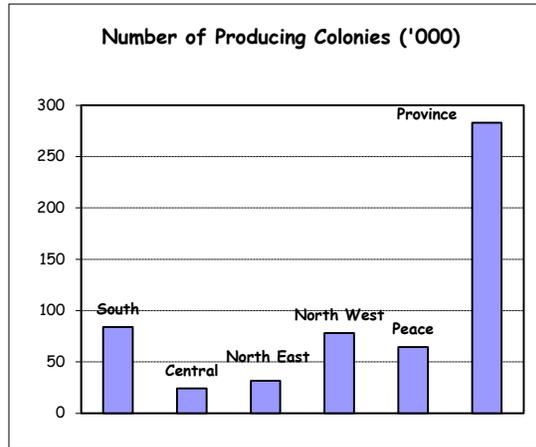
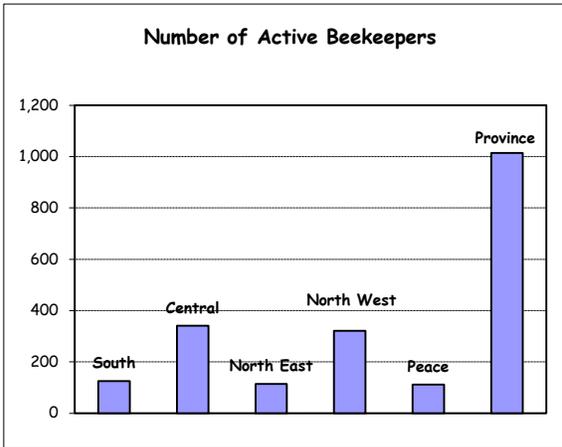
**Table 2 - 2014 HONEY PRODUCTION ESTIMATE - ALBERTA**

Region	Number of Registered Beekeepers	Number of Producing Colonies	Honey Yield Per Colony		Total Honey Produced	
			lbs	kg	lbs	tonnes
South	126	84,002	73	33	6,162,366	2,795
Central	341	24,400	128	58	3,121,655	1,416
North East	114	31,833	138	63	4,386,332	1,990
North West	322	78,109	167	76	13,013,550	5,903
Peace	112	64,556	137	64	8,816,097	3,999
<b>Province</b>	<b>1,015</b>	<b>282,900</b>	<b>125</b>	<b>57</b>	<b>35,500,000</b>	<b>16,103</b>

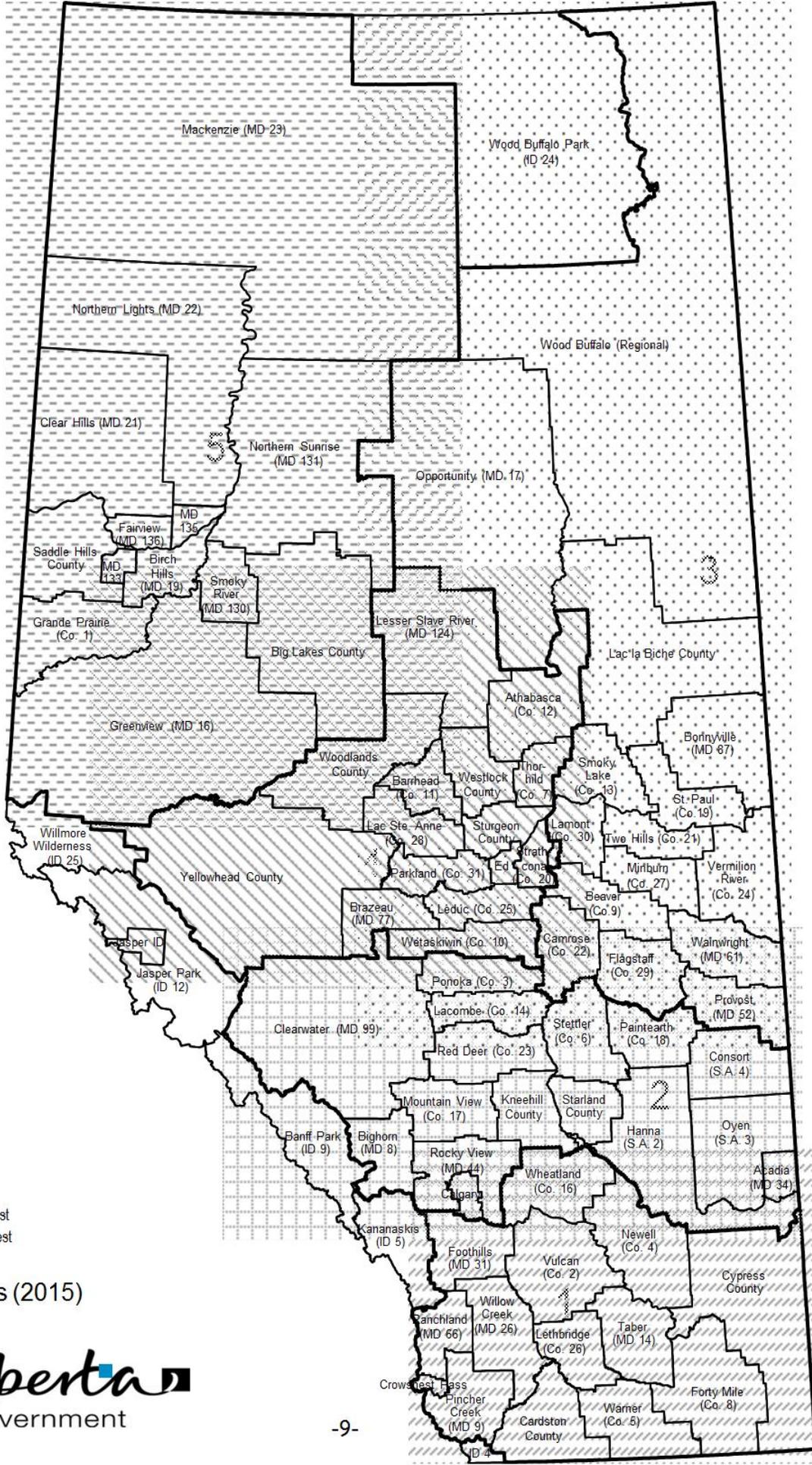
Note: Yield and honey production rounded to the nearest pound, kilogram or tonne.

Totals may not add due to rounding.

**2014 REGIONAL DISTRIBUTION OF ALBERTA'S ESTIMATED HONEY PRODUCTION  
(SELECTED HONEY STATISTICS)**



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



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

AF Regions (2015)



## South Region

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

## North East Region

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

## Peace Region

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

## Central Region

MD of Acadia No. 34  
MD of Bighorn No. 8  
Calgary  
Clearwater County  
Kneehill County  
Lacombe County  
Mountain View County  
County of Paintearth No. 18  
Ponoka County  
Red Deer County  
Rocky View County  
Special Area No. 2  
Special Area No. 3  
Special Area No. 4  
Starland County  
County of Stettler No. 6

## North West Region

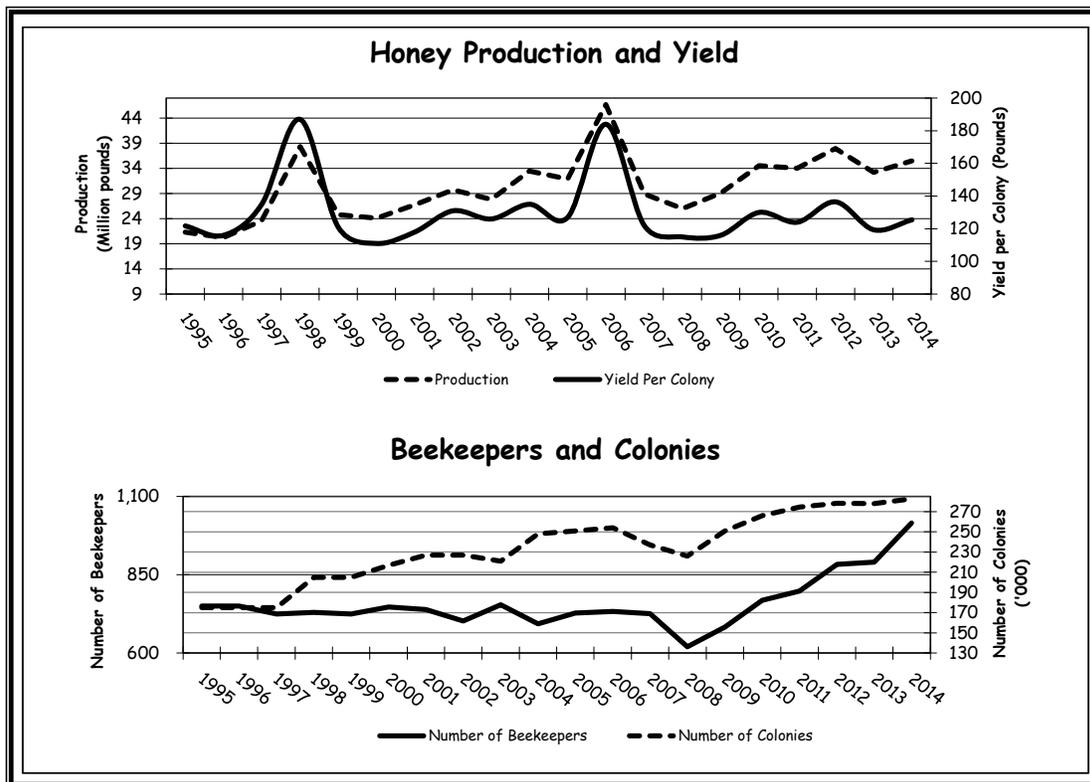
Athabasca County  
County of Barrhead No. 11  
Brazeau County  
Edmonton  
Lac Ste. Anne County  
Leduc County  
MD of Lesser Slave River No. 124  
Parkland County  
Strathcona County  
Sturgeon County  
Thorhild County  
Westlock County  
County of Wetaskiwin No. 10  
Woodlands County  
Yellowhead County

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

**Table 3 - ALBERTA HONEY STATISTICS, 1995-2014**

Year	No. of Beekeepers	No. of Colonies	Production ('000 pounds)	Yield per Colony (pounds)	No. of Colonies Per Beekeeper
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
2014	1,015	282,900	35,500	125	279

**Alberta Honey Production, Yield, Beekeepers and Colonies, 1995-2014**



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

**Table 4 - HONEY PRODUCTION BY REGION IN ALBERTA (2007-2014)**

Region	2007	2008	2009	2010	2011	2012	2013	2014
<b>Number of Active Beekeepers</b>								
South	94	90	94	94	101	111	108	126
Central	141	128	147	176	216	266	292	341
North East	110	87	96	118	107	109	104	114
North West	267	227	244	274	274	294	287	322
Peace	114	88	102	107	100	103	99	112
<b>Province</b>	<b>726</b>	<b>620</b>	<b>683</b>	<b>769</b>	<b>798</b>	<b>883</b>	<b>890</b>	<b>1,015</b>
<b>Number of Producing Colonies</b>								
South	66,895	66,901	66,934	73,039	83,948	86,437	83,565	84,002
Central	17,819	17,604	19,611	20,742	22,501	25,571	27,182	24,400
North East	27,780	25,439	26,689	27,682	26,111	27,720	27,177	31,833
North West	64,480	63,546	74,209	73,183	75,757	72,022	74,708	78,109
Peace	60,026	52,510	63,558	71,354	66,283	66,651	65,468	64,556
<b>Province</b>	<b>237,000</b>	<b>226,000</b>	<b>251,000</b>	<b>266,000</b>	<b>274,600</b>	<b>278,400</b>	<b>278,100</b>	<b>282,900</b>
<b>Average Yield (pounds per colony)</b>								
South	72	49	64	92	78	116	69	73
Central	103	76	144	130	96	145	129	128
North East	139	160	154	156	139	135	115	138
North West	164	137	122	154	163	142	146	167
Peace	131	164	140	134	142	155	151	137
<b>Province</b>	<b>122</b>	<b>115</b>	<b>116</b>	<b>130</b>	<b>124</b>	<b>136</b>	<b>119</b>	<b>125</b>
<b>Honey Production ('000 pounds)</b>								
South	4,842	3,306	4,250	6,745	6,557	10,011	5,751	6,162
Central	1,827	1,334	2,829	2,704	2,150	3,709	3,519	3,122
North East	3,850	4,058	4,106	4,323	3,618	3,743	3,118	4,386
North West	10,551	8,700	9,043	11,243	12,320	10,201	10,916	13,014
Peace	7,844	8,591	8,887	9,565	9,406	10,335	9,895	8,816
<b>Province</b>	<b>28,914</b>	<b>25,990</b>	<b>29,116</b>	<b>34,580</b>	<b>34,050</b>	<b>38,000</b>	<b>33,200</b>	<b>35,500</b>

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

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