

Alberta 2011 Beekeepers' Survey Results



Acknowledgements

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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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Alberta 2011 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 2011 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 November 2011, survey questionnaires were mailed out to 539 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 2011.

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 2011 Beekeepers' survey. As of April 5, 2012, a total of 318 questionnaires were received of which 287 were usable and formed the basis for the Alberta 2011 honey production estimates.

Survey responses received were reviewed for data completeness, validated and entered into an electronic database. The data was then subjected to some 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 and Alberta Agriculture and Rural Development (ARD) staff and provincial apiculturist, were used to develop provincial and regional estimates on the number of producers, colonies, yield and production.

Just to note, 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 2010/2011 Paired Beekeeping Surveys

The following survey highlights are based on the responses of 168 producers in Alberta who participated in both the 2010 and 2011 Alberta Beekeepers' Surveys (See Table 1).

Paired Sample Highlights:

- ▶ In 2011, beekeepers purchased less packages/nucs than in 2010. Purchases decreased approximately four per cent, with the average beekeeper buying 79 packages/nucs, compared to 83 in 2010. The majority of packages/nucs purchased were imported (98 per cent), with the remainder purchased locally.
- ▶ The distribution of imported packages was as follows: New Zealand (80 per cent) and Australia (approximately 20 per cent) and "Other" (less than one per cent). Compared to 2010, imports of packages from New Zealand decreased, while imports from Australia increased.
- ▶ In 2011, beekeepers sourced 44 per cent of their nuc purchases from British Columbia, 42 per cent from other Canadian provinces (such as Saskatchewan and Manitoba) and 15 per cent from Alberta. Imports of nucs from British Columbia and other Canadian were down compared to the previous year, while those from Alberta were up. The 2010 average nuc price in British Columbia was \$147.26, in Alberta it was \$151.25 and \$147.98 for other Canadian provinces.
- ▶ Individual queen purchases increased 13 per cent in 2011, with producers purchasing 254 queens on average, compared to 225 in 2010. Most of the queen purchases were sourced from outside of the province. Hawaii continues to be the primary source of imports, accounting for 67 per cent of the total, while other US States were second with 28 per cent, and New Zealand was third, with slightly over two per cent.
- ▶ Average queen prices in 2011 ranged from \$21.43 to \$26.67, depending upon the source of purchase. Prices were lowest for queens from other US states at \$21.43 per queen, followed by New Zealand at \$21.92 per queen, then Hawaii at \$22.19 per queen. Prices were the highest for queens from Saskatchewan at \$26.67 per queen.
- ▶ In 2011, the percentage deathloss for queens purchased in packages and nucs was six per cent, down 33 per cent from 2010. Average deathloss of individual queens decreased to 5.5 per cent from 5.7 per cent in 2010.
- ▶ On June 30, 2011, there was more honey in inventory than a year earlier. Producers on average had 1,760 pounds in stock, up six per cent from 1,663 pounds in 2010.
- ▶ Alberta continues to be the preferred location for the over-wintering of bees. In 2011, 94 per cent of over-wintering activity occurred in Alberta with rest carried out in British Columbia.

- ▶ "Outdoor" over-wintering is still the favored practice, accounting for 71 per cent of total colonies over-wintered in 2011.
- ▶ The average beekeeper had about 17 years of beekeeping experience. Years of experience in over-wintering "outdoor" was lower at 14 years, while for "indoor" it was 11 years.
- ▶ Producer prices received in 2010 for honey were higher than expected for both retail and wholesale. The average price realized for wholesale honey was \$152.76 per cwt, \$0.26 higher than the expected price of \$152.50 per cwt. The realized price for retail honey was \$276.55 per cwt, \$2.89 higher than the expected price of \$273.66 per cwt. The 2011 expected prices for honey are \$153.15 per cwt wholesale, and \$268.70 per cwt retail.

Table 1 - 2010 AND 2011 BEEKEEPING SURVEY RESULTS - ALBERTA*
(GROUP AVERAGES)**

DESCRIPTION	2010	2011	11/10 (%)
PACKAGES/NUCS:			
Average number of packages/nucs purchased in spring per beekeeper:	82.86	79.30	-4.3
Package queen/nuc deathloss (%):	7.84	5.29	-32.5
Percent of packages/nucs purchased:			
- Locally (Alberta) (%)	1.12	2.48	121.4
- Imported (%)	98.88	97.52	-1.4
Distribution of imported packages purchased:			
- New Zealand (%)	84.45	79.69	-5.6
- Australia (%)	9.43	19.98	111.9
- Other (%)	6.12	0.33	-94.6
Distribution of nucs purchased:			
- Alberta (%)	3.22	14.58	352.8
- British Columbia (%)	50.19	43.90	-12.5
- Other Canadian provinces (%)	46.59	41.51	-10.9
Average price per package (2 lb equivalent) purchased from:			
- New Zealand (\$)	132.76	138.18	4.1
- Australia (\$)	150.14	135.33	-9.9
Average price per nuc purchased from:			
- Alberta (\$)	136.01	151.25	11.2
- British Columbia (\$)	132.07	147.26	11.5
- Other Canadian provinces (\$)	142.47	147.98	3.9
INDIVIDUAL QUEENS:			
Average number of queens purchased in spring per beekeeper:	224.62	254.25	13.2
Purchased individual queen deathloss (%):	5.72	5.56	-2.8
Percent of individual queens purchased:			
- Locally (Alberta) (%)	0.08	0.03	-62.5
- Imported (%)	99.92	99.90	0.0
Distribution of imported queens:			
- British Columbia (%)	1.11	0.98	-11.7
- Saskatchewan (\$)	0.02	0.03	28.2
- Other Canadian provinces (%)	0.66	0.41	-38.2
- New Zealand (%)	0.55	2.16	290.6
- Australia (%)	-	0.06	n/a
- Hawaii (%)	83.34	67.36	-19.2
- Other United States (%)	13.72	27.71	102.0
- Chile (%)	0.54	0.88	61.5
- Other (%)	0.06	0.41	640.6
Average price per individual queen purchased from:			
- British Columbia (\$)	26.00	25.97	-0.1
- Saskatchewan (\$)	25.00	26.67	n/a
- Other Canadian provinces (\$)	23.50	24.63	4.8
- New Zealand (\$)	22.98	21.92	-4.6
- Australia (\$)	-	22.76	n/a
- Hawaii (\$)	20.16	22.19	10.1
- Other United States (\$)	17.72	21.43	20.9
- Chile (\$)	20.01	22.98	14.8
- Other (\$)	24.67	23.12	-6.3

* 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) - 2010 AND 2011 BEEKEEPING SURVEY RESULTS - ALBERTA*
(GROUP AVERAGES)**

DESCRIPTION	2010	2011	11/10 (%)
OTHER SELECTED STATISTICS:			
Honey in inventory as of June 30th, per beekeeper (lbs.):	1,663.20	1,760.35	5.8
Experience in beekeeping (years):	16.92	16.69	-1.4
Estimated number of colonies per active beekeeper:	417.34	397.13	-4.8
Over-wintering intentions for active colonies:			
- indoors in Alberta (%)	23.02	23.03	0.0
- outdoors in Alberta (%)	71.39	70.74	-0.9
- in British Columbia (%)	5.59	6.24	11.6
Experience in over-wintering (years):			
- indoors	14.57	11.00	-24.5
- outdoors	14.11	13.90	-1.5
Price received for 2010 honey crop:			
- Retail (\$/cwt)	273.66***	276.55****	-----
- Wholesale (\$/cwt)	152.50***	152.76****	-----
Price expected for 2011 honey crop:			
- Retail (\$/cwt)	n/a	268.70	-----
- Wholesale (\$/cwt)	n/a	153.15	-----

* Based on paired sample ** Weighted *** Expected price in 2010 **** Actual price received in 2010 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 2011, there were 798 beekeepers in Alberta, up 3.8 per cent from 2010, and the highest number since 1992 (see tables 3 and 4). For the second consecutive year, colony numbers set a new record at 274,600 colonies, up 3.2 per cent from the 2010 total of 266,000. Preliminary statistics indicate that while Alberta accounts for a relatively small percentage of the nation's total beekeepers, it had about 43.3 per cent of the honey producing colonies in Canada.

Alberta produced more honey in 2011 than was previously estimated. Final estimates show total production at 34.1 million pounds, compared to the preliminary fall 2011 estimate of 31.8 million pounds. The 2011 production is the fourth highest on record, and represents a 1.5 per cent decrease from 2010. The decline in production was the result of several factors, including a long winter, a rainy spring and increased splitting of colonies. Subsequently, the yield per colony was down 4.6 per cent to 124 pounds, compared to 2010.

Preliminary estimates by Statistics Canada peg total Canadian honey production in 2011 at 78.1 million pounds, compared to 82.1 million pounds a year earlier. Based on the preliminary estimates, Alberta accounts for 40.7 per cent of the nation's honey production.

Within the province, the North West region produced the highest amount of honey in 2011 (see tables 2 and 4). The region produced 12.3 million pounds of honey, or 36 per cent of the total provincial production of 34.1 million pounds. The Peace region was second with roughly 9.4 million pounds, (or 27.6 per cent), followed by the South with approximately 6.6 million pounds (or 19.3 per cent). The Central region had the lowest production with 2.2 million pounds (or 6.3 per cent), followed by the North East with 3.6 million pounds (or 10.6 per cent). It cannot be over emphasized that estimated honey production on a regional basis is directly tied to colony numbers and yield, hence, explaining the variation among regions. Beekeepers from various regions tend to move their bees from honey producing locations to Southern Alberta for Hybrid canola seed production. Thus, the honey yield of these colonies is reduced due to the high density of colonies per acre when used for pollination.

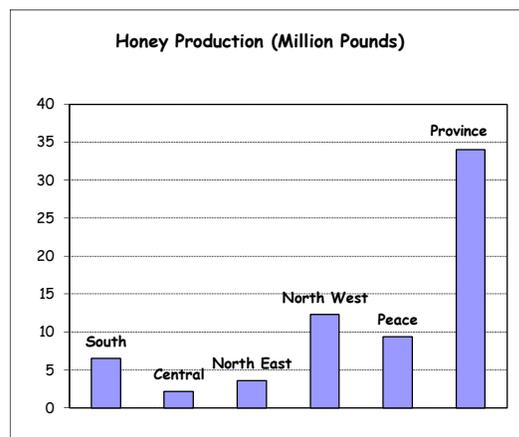
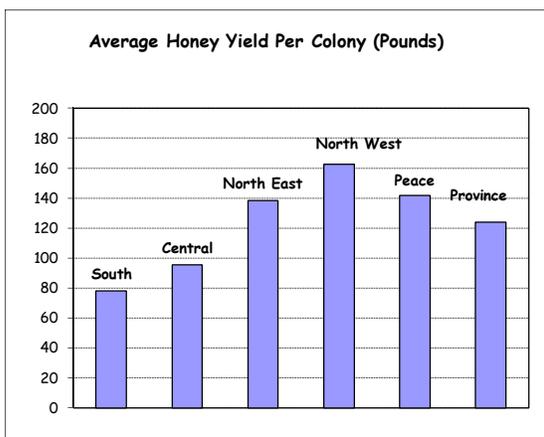
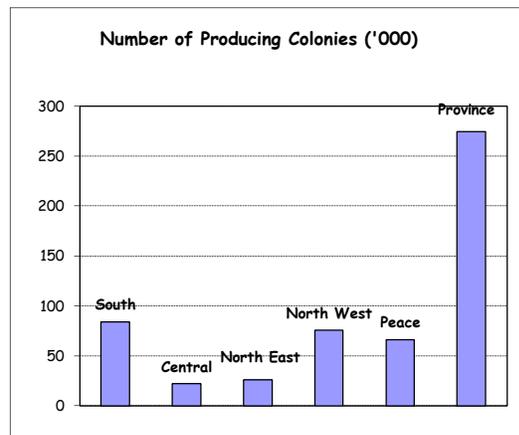
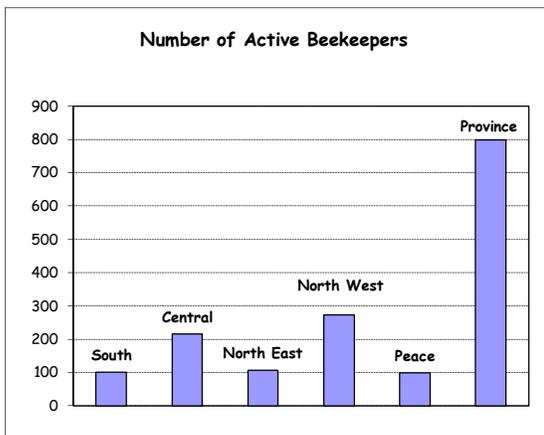
Just to note, the Alberta Beekeepers' Survey included some questions regarding the pollination of crops. Based upon the survey results (which did not include all beekeepers involved in pollination activities), 29,728 colonies were rented for pollination in 2011, with an average rental charge of \$144.23 per colony. For some producers, this was one strategy employed to diversify their incomes.

Table 2 - 2011 HONEY PRODUCTION ESTIMATE - ALBERTA

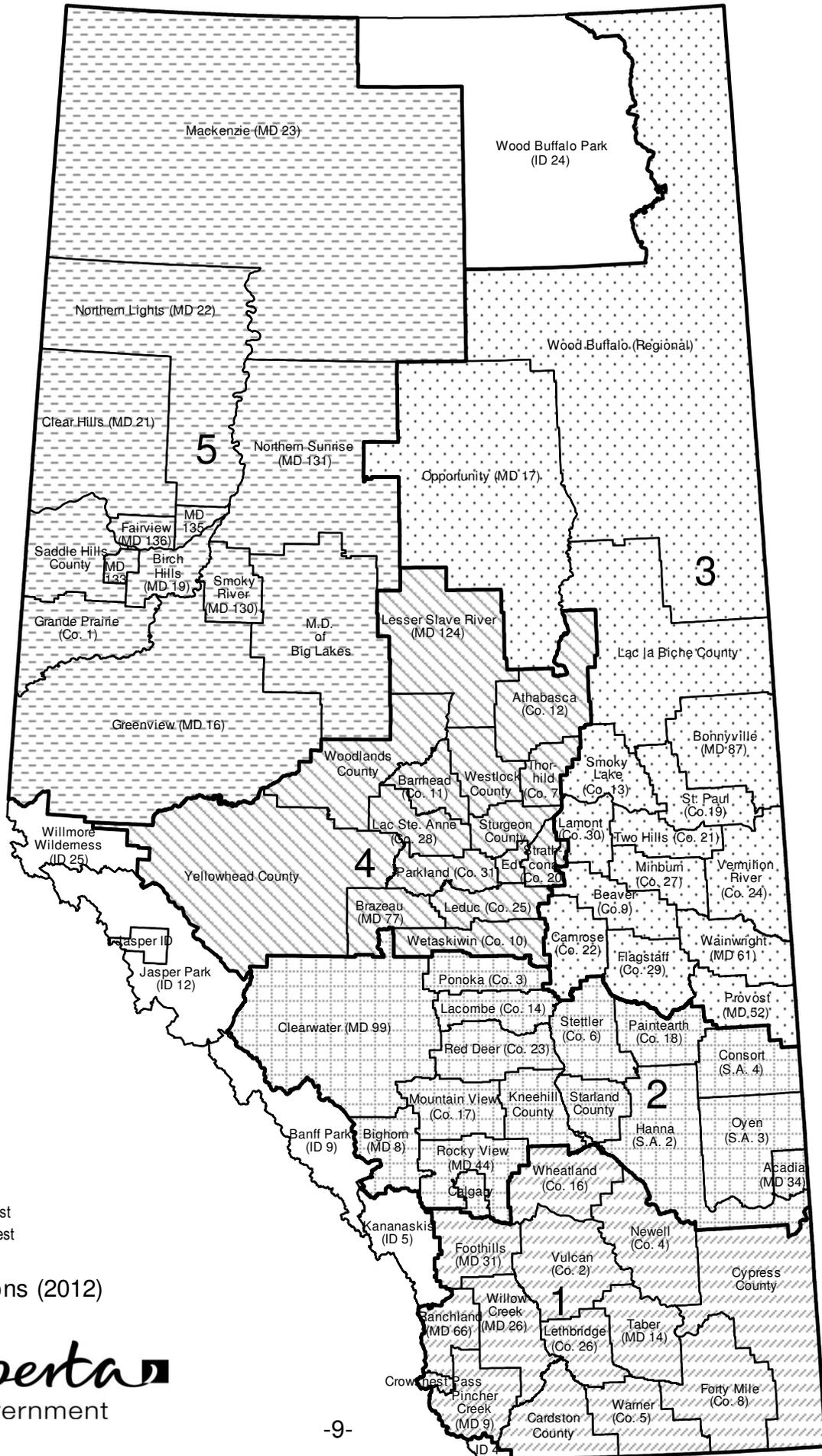
Region	Number of Registered Beekeepers	Number of Producing Colonies	Honey Yield Per Colony		Total Honey Produced	
			lbs	kg	lbs	tonnes
South	101	83,948	78	35	6,556,706	2,974
Central	216	22,501	96	43	2,149,770	975
North East	107	26,111	139	63	3,617,803	1,641
North West	274	75,757	163	74	12,320,331	5,588
Peace	100	66,283	142	64	9,405,790	4,266
Province	798	274,600	124	56	34,050,400	15,445

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

**2011 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



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

ARD Regions (2012)



South Region*

<u>Legal Name</u>	<u>AMC</u>	<u>Reference</u>
Cardston County	-----	M.D. No. 6
Crowsnest Pass	-----	Crowsnest
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 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

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

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.

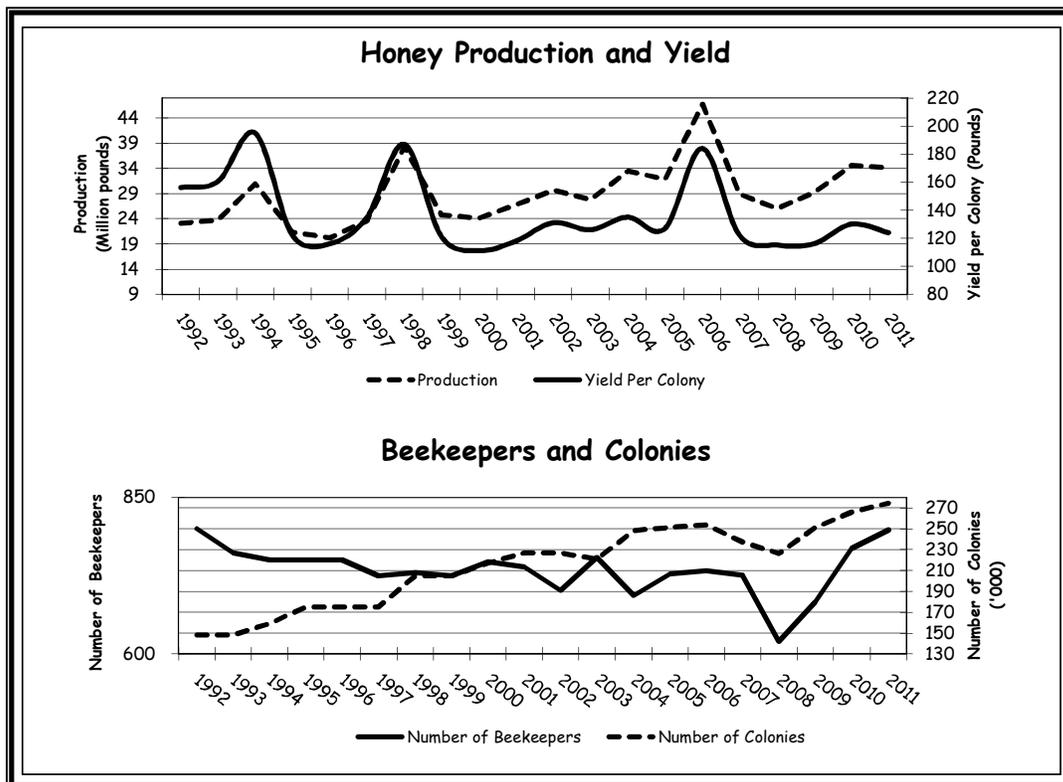


Alberta
Government

Table 3 - ALBERTA HONEY STATISTICS, 1992-2011

Year	No. of Beekeepers	No. of Colonies	Production ('000 pounds)	Yield per Colony (pounds)	No. of Colonies Per Beekeeper
1992	800	148,000	23,088	156	185
1993	761	148,000	23,745	160	194
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

Alberta Honey Production, Yield, Beekeepers and Colonies, 1992-2011



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

Table 4 - HONEY PRODUCTION BY REGION IN ALBERTA (2004-2011)

Region	2004	2005	2006	2007	2008	2009	2010	2011
Number of Active Beekeepers								
South	87	90	90	94	90	94	94	101
Central	138	150	151	141	128	147	176	216
North East	106	117	115	110	87	96	118	107
North West	252	255	262	267	227	244	274	274
Peace	110	116	115	114	88	102	107	100
Province	693	728	733	726	726	683	769	798
Number of Producing Colonies								
South	57,861	66,923	65,671	66,895	66,901	66,934	73,039	83,948
Central	20,885	17,100	18,240	17,819	17,604	19,611	20,742	22,501
North East	33,858	33,297	30,799	27,780	25,439	26,689	27,682	26,111
North West	64,968	68,564	73,076	64,480	63,546	74,209	73,183	75,757
Peace	70,427	65,116	66,213	60,026	52,510	63,558	71,354	66,283
Province	248,000	251,000	254,000	237,000	226,000	251,000	266,000	274,600
Average Yield (pounds per colony)								
South	50	60	117	72	49	64	92	78
Central	131	142	198	103	76	144	130	96
North East	147	129	225	139	160	154	156	139
North West	162	175	253	164	137	122	154	163
Peace	175	140	152	131	164	140	134	142
Province	135	127	184	122	115	116	130	124
Honey Production ('000 pounds)								
South	2,905	4,036	7,702	4,842	3,306	4,250	6,745	6,557
Central	2,740	2,430	3,611	1,827	1,334	2,829	2,704	2,150
North East	4,978	4,306	6,928	3,850	4,058	4,106	4,323	3,618
North West	10,539	12,015	18,455	10,551	8,700	9,043	11,243	12,320
Peace	12,318	9,090	10,040	7,844	8,591	8,887	9,565	9,406
Province	33,480	31,877	46,736	28,914	25,990	29,116	34,580	34,050

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