

Alberta 2008 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 2008 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, Nabi Chaudhary, John Paul Emunu, Roy Larsen, 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)

To obtain additional copies, please contact:

Alberta Agriculture and Rural Development
Economics and Competitiveness Division
Statistics and Data Development Branch
#302, 7000-113 Street
Edmonton, Alberta
T6H 5T6
Phone: 780-427-4011

Table of Contents

	Page
Acknowledgements	i
Table of Contents	ii

Alberta 2008 Beekeepers' Survey Results

Purpose of Survey	1
Methodology	1
Highlights of the Alberta 2007/2008 Beekeeping Surveys	3
Honey Production in Alberta.....	7

List of Tables

Table 1 - 2007 and 2008 Beekeeping Survey Results	5
Table 2 - 2008 Honey Production Estimate - Alberta.....	8
Table 3 - Alberta Honey Statistics, 1989-2008	11
Table 4 - Honey Production by Region in Alberta, 2001-2008.....	12

Region Classification

Map of ARD Regions in Alberta.....	9
Alberta Municipalities Classified by Region.....	10

Alberta 2008 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. In particular, the survey is used to assist in the generation of provincial and regional estimates for selected honey variables (e.g. colony numbers, yield, production, etc.). Information captured from the survey includes data on colony numbers, yield, production and prices, and constitutes the basis for the estimates. These are used with information from other sources, to derive the provincial and regional estimates. Furthermore, estimates generated at both provincial and regional levels, along with the survey results, are shared with survey participants, industry and other stakeholders.

This report focuses on the results of the Alberta 2008 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 March 2009, survey questionnaires were mailed out to 411 beekeepers across the province. The questionnaires 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 2008.

Survey participants were made aware that participation was voluntary. Also, they were 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, survey respondents who were interested, were given the Branch's publication highlighting the results of the 2008 Beekeepers' Survey, the related provincial and regional estimates developed, and selected historical honey statistics. As of October 2009, a total of 201 questionnaires were received of which 190 were usable and formed the basis for the Alberta 2008 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 survey respondents. In turn, the group summaries, in conjunction with input from industry and Alberta Agriculture and Rural Development (ARD) subject area/provincial specialists, 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 are 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 2007/2008 Paired Beekeeping Surveys

The following survey highlights are based on the responses of 112 producers in Alberta who participated in both the 2007 and 2008 Alberta Beekeepers' Surveys. For more detailed information, please refer to Table 1.

Paired Sample Highlights:

- ▶ In 2008, producers bought less queen packages/nucs than in 2007. Purchases decreased approximately four per cent, with the average producer buying 117 packages/nucs, compared to 122 in 2007. Three per cent of the packages/nucs were purchased locally, while 97 per cent were imported.
- ▶ In 2008, the distribution of imported packages was as follows: New Zealand (99 per cent), British Columbia (one per cent) and Australia (0.4 per cent). Imports of packages from New Zealand increased, while imports from Australia and British Columbia decreased.
- ▶ Producers sourced 89 per cent of their nuc purchases from British Columbia, with the balance being sourced from Alberta (seven per cent) and Saskatchewan (five per cent). Imports of nucs from British Columbia went up, while imports from Saskatchewan went down. The average nuc price in British Columbia was \$104.82 (down 0.2 per cent), while in Saskatchewan it was \$120.00 (down 20 per cent).
- ▶ Purchases of individual queens declined nine per cent in 2008, with producers purchasing 184 queens on average, compared to 201 in 2007. Hawaii continues to be the primary source of imports, accounting for 91 per cent of the total, while other US States were second with six per cent and British Columbia third, with one per cent.
- ▶ Average queen prices in 2008 ranged from \$17.83 to \$27.47, depending upon the source of purchase. Average prices were lowest in Australia at \$17.83 per queen, followed by Saskatchewan at \$18.67, then Hawaii at \$19.07 per queen. Average prices were highest in the other category at \$27.47 per queen.
- ▶ In 2008, the percentage deathloss for queens purchased in packages and nucs was six per cent, compared to four per cent in 2007. The average deathloss of purchased individual queens was 20 per cent in 2008, compared to 22 per cent a year ago.
- ▶ On June 30, 2008, there was less honey in inventory than a year earlier. Producers on average had 10,685 pounds in stock, down 15 per cent from 12,596 pounds in 2007.
- ▶ Alberta continues to be the preferred location for producers to over-winter their bees, with 98 per cent of the over-wintering activity occurring in the province in 2008. Less than two per cent of over-wintering was done in British Columbia.

- ▶ "Outdoor" over-wintering is still the preferred practice in Alberta, accounting for 62 per cent of total colonies over-wintered in 2008, compared to 61 per cent in 2007.
- ▶ The average beekeeper had about 19 years of beekeeping experience. Years of experience in over-wintering "outdoor" and "indoor" colonies were lower, approximately 16 years, for both.
- ▶ Producer prices received in 2007 for honey were higher than expected for both retail and wholesale. The average price realized for wholesale honey was \$100.15 per cwt, slightly higher than the expected price of \$100.14 per cwt. The realized price for retail honey was \$233.37 per cwt, \$1.56 higher than the expected price of \$231.81 per cwt. The 2008 expected prices for honey are \$151.59 per cwt wholesale, and \$269.71 per cwt retail.

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

John Paul Emunu
Livestock Statistician
Alberta Agriculture and Rural Development
Economics and Competitiveness Division
Statistics and Data Development Branch
Phone: 780-427-4243; Fax 780-427-5220
E-mail: john.paul.emunu@gov.ab.ca

Table 1 - 2007 AND 2008 BEEKEEPING SURVEY RESULTS - ALBERTA*
(GROUP AVERAGES)**

DESCRIPTION	2007	2008	08/'07 (%)
PACKAGES/NUCS:			
Average number of packages/nucs purchased in spring per beekeeper:	122.24	116.89	-4.4
Package queen/nuc deathloss (%):	3.75	6.04	61.1
Percent of packages/nucs purchased:			
- Locally (Alberta) (%)	2.89	3.33	15.2
- Imported (%)	97.11	96.67	-0.5
Distribution of imported packages purchased:			
- New Zealand (%)	96.07	98.65	2.7
- Australia (%)	0.73	0.40	-45.2
- British Columbia (%)	3.20	0.91	-71.6
- Other (%)	-	0.04	n/a
Distribution of nucs purchased:			
- Alberta (%)	8.81	6.65	-24.5
- British Columbia (%)	78.62	88.77	12.9
- Saskatchewan (%)	12.58	4.58	-63.6
Average price per package (2 lb equivalent) purchased from:			
- New Zealand (\$)	127.76	117.49	-8.0
- Australia (\$)	130.05	120.00	-7.7
- British Columbia (\$)	92.72	92.40	-0.3
Average price per nuc purchased from:			
- Alberta (\$)	120.80	110.82	-8.3
- British Columbia (\$)	105.00	104.82	-0.2
- Saskatchewan (\$)	150.00	120.00	-20.0
INDIVIDUAL QUEENS:			
Average number of queens purchased in spring per beekeeper:	201.36	183.68	-8.8
Purchased individual queen deathloss (%):	22.14	20.21	-8.7
Percent of individual queens purchased:			
- Locally (Alberta) (%)	-	0.43	n/a
- Imported (%)	100.00	99.57	-0.4
Distribution of imported queens:			
- British Columbia (%)	1.67	1.34	-19.8
- Saskatchewan (%)	0.44	0.37	-15.9
- Ontario (%)	-	0.01	n/a
- New Zealand (%)	0.34	0.19	-44.1
- Australia (%)	-	0.09	n/a
- Hawaii (%)	95.95	91.46	-4.7
- Other United States (%)	1.60	6.34	296.3
- Other (%)	-	0.20	n/a
Average price per individual queen purchased from:			
- British Columbia (\$)	20.90	24.99	19.6
- Saskatchewan (\$)	15.16	18.67	23.2
- Ontario (\$)	-	20.00	n/a
- New Zealand (\$)	19.05	20.77	9.0
- Australia (\$)	-	17.83	n/a
- Hawaii (\$)	18.60	19.07	2.5
- Other United States (\$)	21.98	20.87	-5.1
- Other (\$)	-	27.47	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) - 2007 AND 2008 BEEKEEPING SURVEY RESULTS - ALBERTA*
(GROUP AVERAGES)**

DESCRIPTION	2007	2008	08/'07 (%)
OTHER SELECTED STATISTICS:			
Honey in inventory as of June 30th, per beekeeper (lbs.):	12,596.06	10,684.89	-15.2
Experience in beekeeping (years):	18.60	19.23	3.4
Estimated number of colonies per active beekeeper:	419.76	413.46	-1.5
Over-wintering intentions for active colonies:			
- indoors in Alberta (%)	37.58	35.60	-5.3
- outdoors in Alberta (%)	61.38	62.23	1.4
- in British Columbia (%)	1.04	2.17	108.7
Experience in over-wintering (years):			
- indoors	14.42	16.07	11.4
- outdoors	15.09	16.01	6.1
Price received for 2007 honey crop:			
- Retail (\$/cwt)	231.81***	233.37****	-----
- Wholesale (\$/cwt)	100.14 ***	100.15****	-----
Price expected for 2008 honey crop:			
- Retail (\$/cwt)	n/a	269.71	-----
- Wholesale (\$/cwt)	n/a	151.59	-----

* Based on paired sample ** Weighted *** Expected price in 2007 **** Actual price received in 2007 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

The estimated number of beekeepers in Alberta decreased in 2008. There were approximately 15 per cent fewer beekeepers in the province at 620, compared to 726 in 2007 (see tables 2, 3 and 4). Along with the decline in beekeeper numbers in 2008, colony numbers also fell from 2007 levels. There were 226,000 colonies in the province, or a decline of nearly five per cent, from the 2007 total of 237,000 colonies. Interestingly, preliminary statistics indicate that while Alberta has 10 per cent of the nation's total beekeepers, it accounted for greater than 40 per cent of the honey producing colonies in Canada.

Alberta produced more honey in 2008 than was previously estimated. Final estimates show total production at 26.0 million pounds, compared to the preliminary fall estimate of 21.6 million pounds. However, despite this adjustment, production was down nearly 10 per cent from 28.9 million pounds in 2007. Relatively poor weather conditions along with bee disease helped contribute to the production decline. The average yield per colony fell about six per cent to 115 pounds, compared to 122 pounds in 2007.

Preliminary estimates by Statistics Canada peg total Canadian honey production in 2008 at 62.0 million pounds, compared to 69.4 million pounds a year earlier. Based on the initial estimates, Alberta accounts for nearly 35 per cent of the nation's honey production.

Regionally in Alberta, honey production was the highest in the North West region in 2008 (see Tables 2 and 4). This region produced 8.7 million pounds of honey, or nearly 34 per cent of the total provincial production of 26.0 million pounds. The Peace region was second with roughly 8.6 million pounds, (or 33 per cent), followed by the North East with approximately 4.1 million pounds (or 16 per cent). The Central region had the lowest production with 1.3 million pounds (or five per cent), followed by the South with 3.3 million pounds (or 13 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. It is also worth mentioning that although the South had the largest number of colonies, these colonies are mainly used for hybrid canola pollination. Such activity reduces the yield per colony, and consequently production.

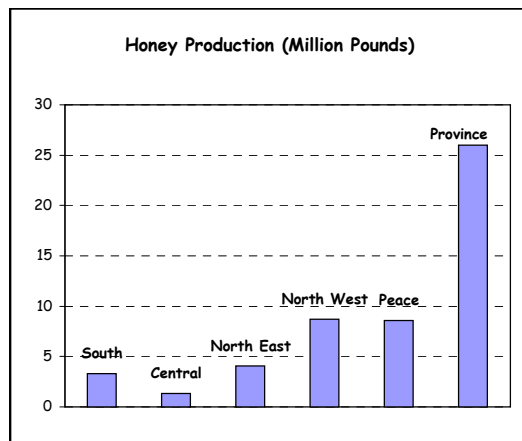
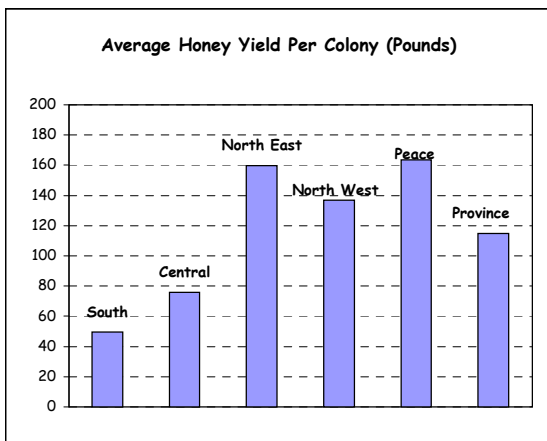
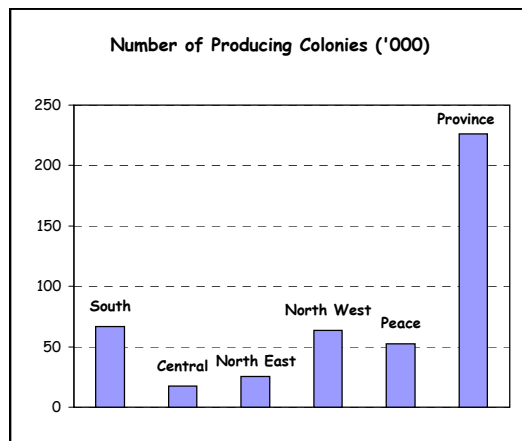
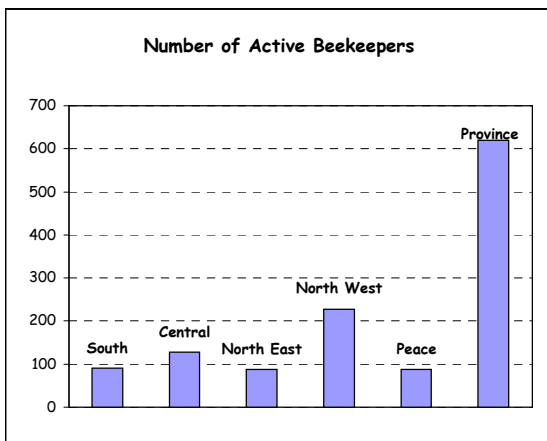
Just to note, the Alberta Beekeepers' Survey had included some questions regarding the pollination of crops. Based upon the survey results (which do not include all beekeepers involved in pollination activities), 36,834 colonies were rented for pollination in 2008, with an average rental charge of \$131.56 per colony. For some producers, this was one strategy employed to diversify their incomes.

Table 2 - 2008 HONEY PRODUCTION ESTIMATE - ALBERTA

Region	Number of Active Beekeepers	Number of Producing Colonies	Honey Yield Per Colony		Total Honey Produced	
			lbs	kg	lbs	tonnes
South	90	66,901	49	22	3,306,474	1,500
Central	128	17,604	76	34	1,333,665	605
North East	87	25,439	160	73	4,058,421	1,841
North West	227	63,546	137	62	8,699,945	3,946
Peace	88	52,510	164	74	8,591,496	3,897
Province	620	226,000	115	52	25,990,000	11,789

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

**2008 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

Alberta Municipalities Classified by Region

South Region*

<u>Legal Name</u>	<u>AMC</u>	<u>Reference</u>
Cardston County	-----	M.D. No. 6
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
East Peace No. 131	MD 131	M.D. No. 131
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
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

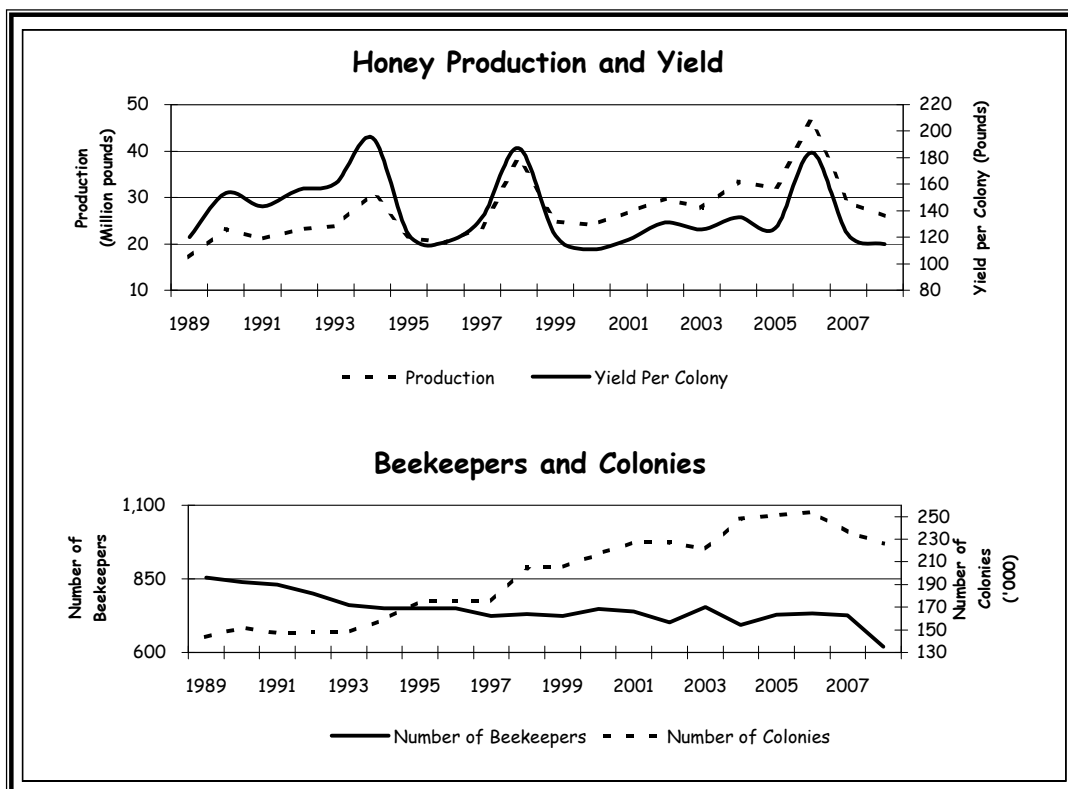
AMC – Abbreviated Municipality Code
Reference – Prior Legal Name

* ARD Regional boundaries no longer exist; however, these have been maintained to facilitate historical comparisons.

Table 3 - ALBERTA HONEY STATISTICS, 1989-2008

Year	No. of Beekeepers	No. of Colonies	Production ('000 pounds)	Yield per Colony (pounds)	No. of Colonies Per Beekeeper
1989	855	143,500	17,220	120	168
1990	840	152,000	23,294	153	181
1991	830	147,000	21,032	143	177
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

Alberta Honey Production, Yield, Beekeepers and Colonies



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

Table 4 - HONEY PRODUCTION BY REGION IN ALBERTA (2001-2008)

Region	2001	2002	2003	2004	2005	2006	2007	2008
Number of Active Beekeepers								
South	91	80	90	87	90	90	94	90
Central	158	151	159	138	150	151	141	128
North East	104	100	109	106	117	115	110	87
North West	272	256	272	252	255	262	267	227
Peace	114	115	124	110	116	115	114	88
Province	739	702	754	693	728	733	726	620
Number of Producing Colonies								
South	58,140	61,317	57,100	57,861	66,923	65,671	66,895	66,901
Central	17,414	16,120	15,921	20,885	17,100	18,240	17,819	17,604
North East	31,284	29,622	30,429	33,858	33,297	30,799	27,780	25,439
North West	62,697	58,767	57,615	64,968	68,564	73,076	64,480	63,546
Peace	57,466	61,174	59,936	70,427	65,116	66,213	60,026	52,510
Province	227,000	227,000	221,000	248,000	251,000	254,000	237,000	226,000
Average Yield (pounds per colony)								
South	120	54	122	50	60	117	72	49
Central	119	78	112	131	142	198	103	76
North East	136	154	95	147	129	225	139	160
North West	97	174	124	162	175	253	164	137
Peace	128	170	151	175	140	152	131	164
Province	118	131	126	135	127	184	122	115
Honey Production ('000 pounds)								
South	6,999	3,330	6,951	2,905	4,036	7,702	4,842	3,306
Central	2,076	1,256	1,785	2,740	2,430	3,611	1,827	1,334
North East	4,251	4,570	2,892	4,978	4,306	6,928	3,850	4,058
North West	6,077	10,205	7,161	10,539	12,015	18,455	10,551	8,700
Peace	7,383	10,376	9,056	12,318	9,090	10,040	7,844	8,591
Province	26,786	29,737	27,846	33,480	31,877	46,736	28,914	25,990

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