

# Alberta 2005 Beekeepers' Survey Results



Alberta

## **Acknowledgements**

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This report is also available on the Internet at:

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/sdd4380](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sdd4380)

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## **Alberta 2005 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) Unit 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. As well, the provincial estimates on production, yield and colony numbers are forwarded to Statistics Canada, as part of a federal/provincial agreement, for incorporation into the honey statistics at the national level.

This report focuses on the results of the Alberta 2005 Beekeepers' Survey and the related estimates generated.

### **Methodology**

The Alberta Beekeepers' Survey, which is provincial in scope, collects data through a non-probability sampling procedure. In November 2005, survey questionnaires were mailed out to 491 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 2005.

Survey participants were made aware that participating in the survey was voluntary. Moreover, all individual responses are kept confidential under the provisions of the Statistics Act of Canada, as well as under the Provincial Freedom of Information and Protection of Privacy (FOIP) Act, by which the SADD Unit is governed and operates. In return for their participation, survey participants who were interested, were given the Unit's publication highlighting the results of the 2005 Beekeepers' Survey, the related provincial and regional estimates, and selected historical honey statistics. As of August 2006, a total of 256 usable questionnaires were received and formed part of the basis in the generation of the Alberta 2005 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 data confidentiality of individual survey respondents. In turn, the group summaries, in conjunction with input from industry and Alberta Agriculture, Food and Rural Development (AAFRD) subject area/provincial specialists, were used to generate 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.

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## **Highlights of the Alberta 2004/2005 Paired Beekeeping Surveys**

The following are the survey highlights based on 142 producers in Alberta who participated in both the 2004 and 2005 Alberta Beekeepers' Surveys. For more detailed information, please refer to Table 1.

### **Paired Sample Highlights:**

- ▶ In 2005, producers bought fewer queen packages/nucs than in 2004. Purchases decreased approximately 20 per cent, with the average producer buying 81 packages/nucs, compared to 100 in 2004. Less than one per cent of total packages/nucs purchased were sourced from Alberta, with the balance being imported.
- ▶ In 2005, the distribution of imported packages was as follows: New Zealand (98%), Australia (1%) and other (1%). Imports of packages declined slightly for New Zealand and Australia, with a slight increase for other.
- ▶ Producers sourced 94 per cent of their nuc purchases from British Columbia, with the balance being sourced from Saskatchewan (3%) and locally in Alberta (2%). The average nuc price in British Columbia was \$100.00, down approximately five per cent from 2004. Alberta prices in 2005 averaged \$101.67, down nearly two per cent from a year ago. Saskatchewan prices were reported at \$100.00, while there were no reported purchases from the province in 2004.
- ▶ Purchases of individual queens decreased slightly (over one per cent) in 2005, with the average producer purchasing 281 queens, compared to 245 in 2004. Once again, practically all of the queen purchases continue to be sourced from outside of the province. Hawaii continues to be the primary source of imports, accounting for 73 per cent of the total while Other U.S. states placed second with 22 per cent, and British Columbia third with four per cent.
- ▶ Average queen prices in 2005 ranged from \$14.88 to \$17.76, depending upon the source of purchase. Average prices were lowest in U.S. (excluding Hawaii) at \$14.88 per queen, followed New Zealand and Australia at \$15.00 and \$15.87 respectively. Hawaii prices averaged \$16.34 per queen. Average prices were highest from British Columbia at \$17.76 per queen, and second highest in Alberta at \$17.56.
- ▶ The percentage deathloss for queens purchased in packages and nucs increased in 2005 to four per cent, as compared to three per cent in 2004. Also, average deathloss of individual queens increased marginally to 20 per cent in 2005 from 19 per cent in 2004.
- ▶ In 2005, there was more honey in inventory than a year previous. Producers on average had 1,128 pounds in stock, up 17 per cent from 961 pounds in 2004.

- ▶ Alberta continues to be the preferred location for the over-wintering of bees. In 2005, 95 per cent of over-wintering activity occurred in Alberta, compared to 92 per cent a year earlier. About, five per cent of over-wintering occurred in British Columbia, much lower than the eight per cent in 2004
- ▶ "Outdoor" over-wintering is still the preferred practice in Alberta, accounting for 62 per cent of total colonies over-wintered in 2005, compared to 60 per cent in 2004.
- ▶ The average beekeeper had about 19 years of beekeeping experience. Years of experience in over-wintering "outdoor" and "indoor" colonies were lower, at about 16 and 12 years, respectively.
- ▶ Producer prices received in 2004 for honey were lower than expectations for both wholesale and retail. The average price realized for wholesale honey was \$113.77 per cwt, \$14.68 lower than the expected price of \$128.45 per cwt. Similarly, the realized price for retail honey was \$229.43 per cwt, \$14.94 lower than the expected price of \$244.37 per cwt. The 2005 expected prices for honey were \$245.05 per cwt retail and \$92.33 per cwt wholesale.

**Table 1 - 2004 AND 2005 BEEKEEPING SURVEY RESULTS - ALBERTA\***  
**(GROUP AVERAGES)**

DESCRIPTION	2004	2005	05/'04 (%)
<b>PACKAGES/NUCS:</b>			
Average number of packages/nucs purchased in spring per beekeeper:	99.73	80.64	80.9
Package queen/nuc deathloss (%):	2.88	3.50	121.5
Percent of packages/nucs purchased:			
- Locally (Alberta) (%)	7.50	0.68	9.1
- Imported (%)	92.50	99.32	107.4
Distribution of imported packages purchased:			
- New Zealand (%)	98.49	98.29	99.8
- Australia (%)	1.10	0.44	40.0
- Other (%)	0.41	1.27	309.8
Distribution of nucs purchased:			
- Alberta (%)	28.14	2.39	8.5
- British Columbia (%)	71.86	94.43	131.4
- Saskatchewan (%)	-----	3.18	n/a
Average price per package (2 lb equivalent) purchased from:			
- New Zealand (\$)	113.05	126.37	111.8
- Australia (\$)	69.00	79.64	115.4
- Alberta (\$)	65.00	-----	n/a
- British Columbia (\$)	-----	79.64	n/a
Average price per nuc purchased from:			
- British Columbia (\$)	105.66	100.00	94.6
- Alberta (\$)	103.47	101.67	98.3
- Saskatchewan (\$)	-----	100.00	n/a
<b>INDIVIDUAL QUEENS:</b>			
Average number of queens purchased in spring per beekeeper:	284.58	281.12	98.8
Purchased individual queen deathloss (%):	19.48	20.40	104.7
Percent of individual queens purchased:			
- Locally (Alberta) (%)	1.40	0.04	2.9
- Imported (%)	98.60	99.96	101.4
Distribution of imported queens:			
- British Columbia (%)	3.72	3.75	100.8
- New Zealand (%)	0.27	0.23	85.2
- Australia (%)	0.10	1.03	1,030.0
- Hawaii (%)	87.63	72.67	82.9
- Other United States (%)	8.28	22.31	269.4
Average price per individual queen purchased from:			
- British Columbia (\$)	17.36	17.76	102.3
- New Zealand (\$)	15.79	15.00	95.0
- Australia (\$)	15.00	15.87	105.8
- Hawaii (\$)	16.18	16.34	101.0
- Alberta (\$)	15.75	17.56	111.5
- Other United States (\$)	13.86	14.88	107.4

\* Based on paired sample      n/a - Not applicable

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

Source: Statistics and Data Development Unit, Alberta Agriculture, Food and Rural Development



**Table 1 (Cont'd) - 2004 AND 2005 BEEKEEPING SURVEY RESULTS - ALBERTA\***  
**(GROUP AVERAGES)**

DESCRIPTION	2004	2005	05/'04 (%)
<b>OTHER SELECTED STATISTICS:</b>			
Honey in inventory as of June 30th, per beekeeper (lbs.):	960.83	1,127.50	117.3
Experience in beekeeping (years):	18.38	19.53	106.3
Estimated number of colonies per active beekeeper:	435.30	442.74	101.7
Over-wintering intentions for active colonies:			
- indoors in Alberta (%)	31.76	32.29	101.7
- outdoors in Alberta (%)	60.34	62.63	103.8
- in British Columbia (%)	7.89	5.09	64.5
Experience in over-wintering (years):			
- indoors	10.08	12.39	122.9
- outdoors	14.60	15.75	107.9
Price received for 2004 honey crop:			
- Retail (\$/cwt)	244.37 ***	229.43 ****	-----
- Wholesale (\$/cwt)	128.45 ***	113.77 ****	-----
Price expected for 2005 honey crop:			
- Retail (\$/cwt)	n/a	245.05	-----
- Wholesale (\$/cwt)	n/a	92.33	-----

\* Based on paired sample    \*\*\* Expected price in 2004    \*\*\*\* Actual price received in 2004    n/a Not applicable

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

Source: Statistics and Data Development Unit, Alberta Agriculture, Food and Rural Development

## Honey Production in Alberta

The estimated number of beekeepers in Alberta increased in 2005. There were roughly five per cent more beekeepers in the province at 728, compared to 693 in 2004 (see tables 3 and 4). At the national level, Statistics Canada preliminary 2005 estimates indicate the total number of beekeepers in Canada falling less than one per cent, to 7,895 compared to 7,925 in 2004. Currently, Alberta accounts for about nine per cent of the beekeepers in Canada, and about 16 per cent of the estimated Western Canadian total of 4,495.

Along with the increase in producer numbers in 2005, colony numbers in Alberta rose from 2004 levels. There were 251,000 colonies in the province, or slightly over one per cent above the 2004 total of 248,000 colonies. This increase was not unique to Alberta, but was typical of some of the other provinces and Canada. Nationally, colony numbers increased about two per cent to 609,645, compared to 597,890 in 2004. Interestingly, while Alberta accounted for a relatively small percentage 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 2005 than was previously estimated. Final estimates show total production at 31.9 million pounds, compared to the preliminary fall estimate of 28.8 million pounds. However, overall production was down nearly five per cent from the 2004 estimate of 33.5 million pounds. One reason for the drop is a reduction of the average yield per colony. The yield was down about six per cent to 127 pounds per colony compared to 135 pounds in 2004.

Preliminary estimates peg Canadian honey production in 2005 at 74.8 million pounds, compared to 75.5 million pounds a year earlier. Based on the initial estimates, Alberta continues to account for over one-third of the nation's honey production.

Regionally in Alberta, estimated honey production in 2005 was highest in the North West region (see Tables 2 and 4). This region produced 12.0 million pounds of honey, or nearly 38 per cent of the total provincial production of 31.9 million pounds. The Peace region was second with a production of roughly 9.1 million pounds, (or 29 per cent) followed by the North East with approximately 4.3 million pounds (or 14 per cent) of the total provincial production. The Central region had the lowest production with 2.4 million pounds (or eight per cent) of production, followed by the South with 4.0 million pounds (or 13 per cent) of the Alberta production. It cannot be over emphasized that estimated honey production on a regional basis is directly tied to colony numbers and yield, hence, explaining the variance among regions. It is also notable that although the South has the third largest number of colonies, these colonies are mainly used for hybrid canola pollination. This type of activity reduces the yield per colony and subsequently production.

Of note, this is the second year the Alberta Beekeepers' survey has included questions regarding the pollination of crops. Based upon the survey results (which do not include all beekeepers involved in pollination activities), 9,280 colonies were rented for pollination with an average rental charge of \$123.00 per colony. This type of activity is a useful strategy for producers to enhance cash flow, regardless of the price of honey.

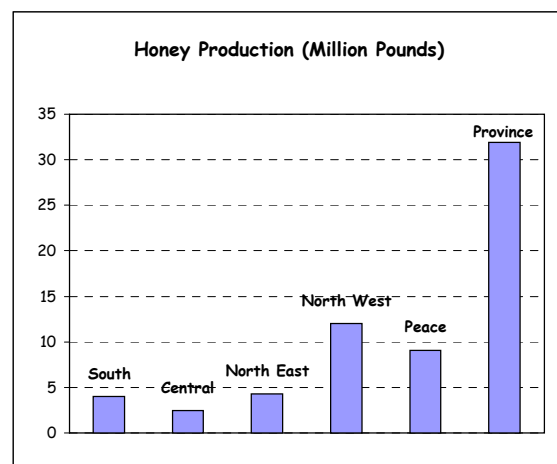
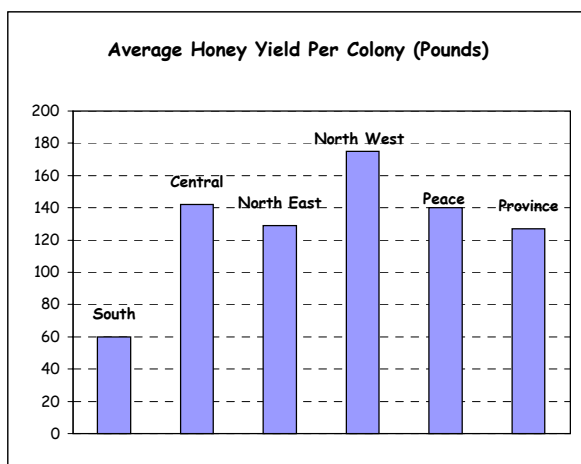
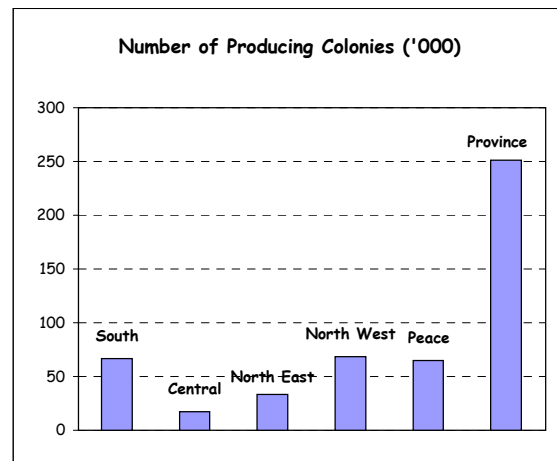
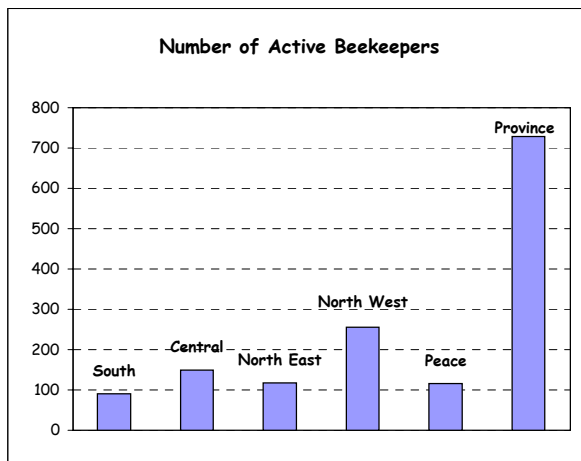
**Table 2 - 2005 HONEY PRODUCTION ESTIMATE - ALBERTA**

Region	Number of Active Beekeepers	Number of Producing Colonies	Honey Yield Per Colony		Total Honey Produced	
			lbs	kg	lbs	tonnes
South	90	66,923	60	27	4,036,096	1,831
Central	150	17,100	142	64	2,429,890	1,102
North East	117	33,297	129	59	4,305,838	1,953
North West	255	68,564	175	79	12,014,733	5,450
Peace	116	65,116	140	64	9,090,442	4,123
Province	728	251,000	127	58	31,877,000	14,459

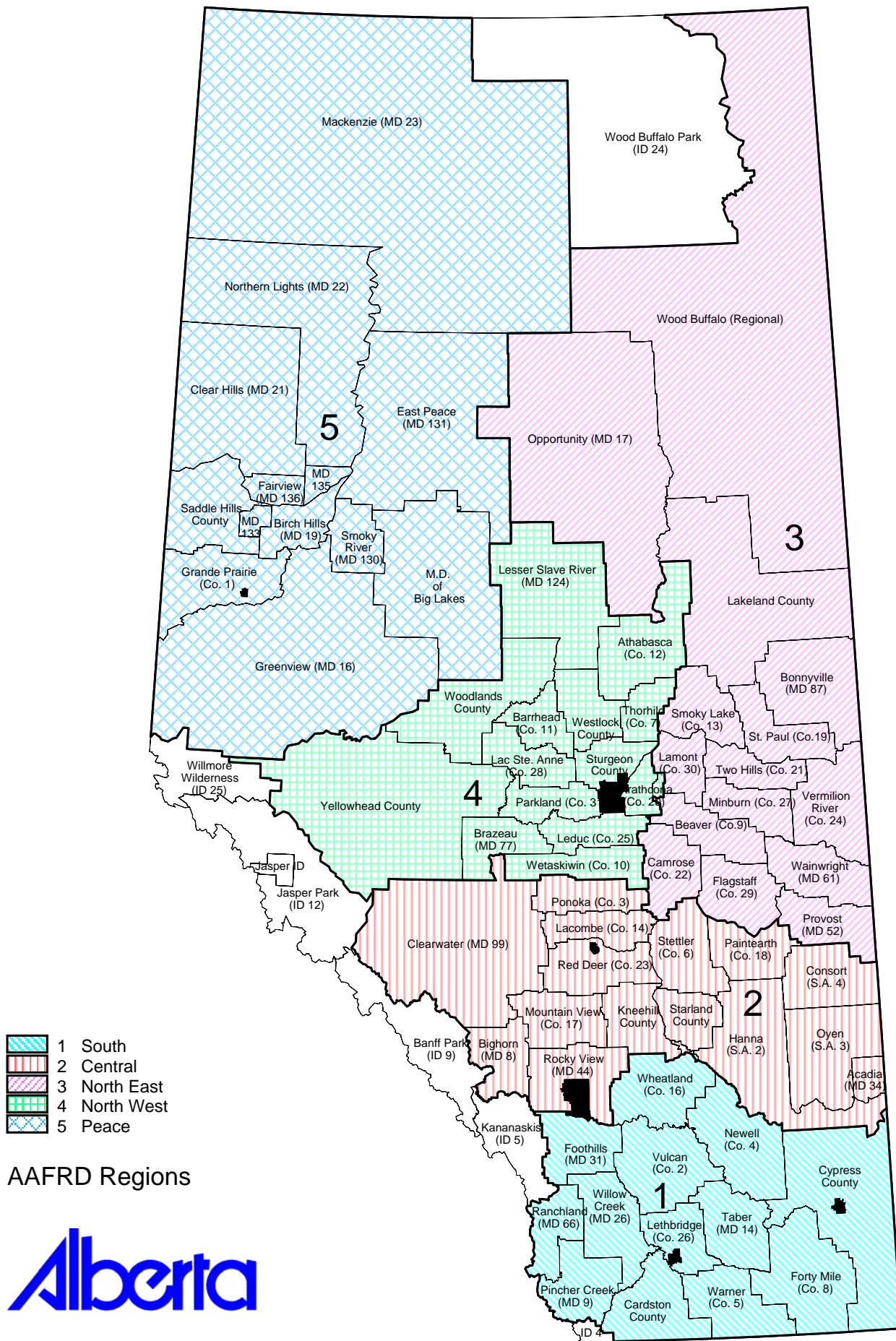
Note: Yield and honey production rounded to the nearest pound, kilogram or tonne.

Totals may not add due to rounding.

**2005 REGIONAL DISTRIBUTION OF ALBERTA'S ESTIMATED HONEY PRODUCTION  
(SELECTED HONEY STATISTICS)**



Source: Statistics and Data Development Unit, Alberta Agriculture, Food and Rural Development



## 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

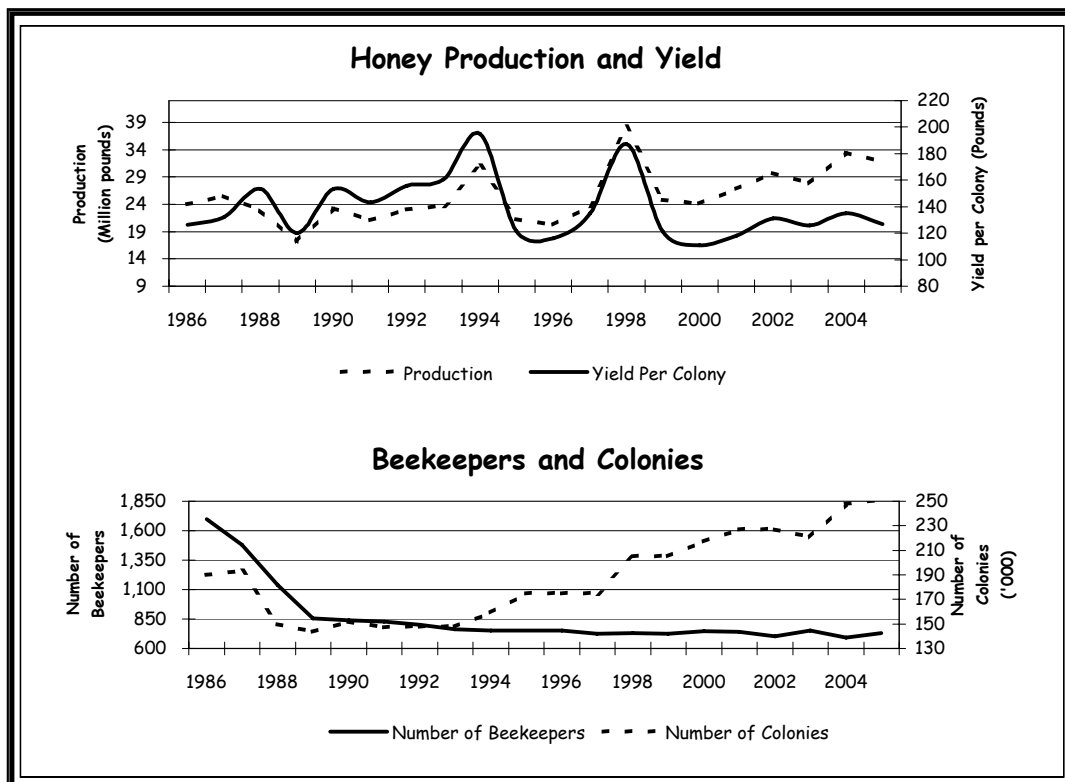
\* AAFRD Regional boundaries no longer exist; however, these have been maintained to facilitate historical comparisons.



**Table 3 - ALBERTA HONEY STATISTICS, 1986-2005**

Year	No. of Beekeepers	No. of Colonies	Production ('000 pounds)	Yield per Colony (pounds)	No. of Colonies Per Beekeeper
1986	1,700	190,000	24,000	126	112
1987	1,480	193,000	25,500	132	130
1988	1,140	150,000	23,000	153	132
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

**Alberta Honey Production, Yield, Beekeepers and Colonies**



Source: Statistics and Data Development Unit, Alberta Agriculture, Food and Rural Development

**Table 4 - HONEY PRODUCTION BY REGION IN ALBERTA (1998-2005)**

Region	1998	1999	2000	2001	2002	2003	2004	2005
<b>Number of Active Beekeepers</b>								
South	75	74	83	91	80	90	87	90
Central	151	160	162	158	151	159	138	150
North East	101	105	106	104	100	109	106	117
North West	279	273	278	272	256	272	252	255
Peace	124	113	118	114	115	124	110	116
<b>Province</b>	<b>730</b>	<b>725</b>	<b>747</b>	<b>739</b>	<b>702</b>	<b>754</b>	<b>693</b>	<b>728</b>
<b>Number of Producing Colonies</b>								
South	54,900	52,085	56,756	58,140	61,317	57,100	57,861	66,923
Central	12,018	16,017	16,786	17,414	16,120	15,921	20,885	17,100
North East	26,887	27,756	30,864	31,284	29,622	30,429	33,858	33,297
North West	56,658	54,423	58,782	62,697	58,767	57,615	64,968	68,564
Peace	54,537	54,719	53,812	57,466	61,174	59,936	70,427	65,116
<b>Province</b>	<b>205,000</b>	<b>205,000</b>	<b>217,000</b>	<b>227,000</b>	<b>227,000</b>	<b>221,000</b>	<b>248,000</b>	<b>251,000</b>
<b>Average Yield (pounds per colony)</b>								
South	78	48	68	120	54	122	50	60
Central	125	52	89	119	78	112	131	142
North East	254	162	156	136	154	95	147	129
North West	245	177	145	97	174	124	162	175
Peace	217	135	100	128	170	151	175	140
<b>Province</b>	<b>187</b>	<b>121</b>	<b>111</b>	<b>118</b>	<b>131</b>	<b>126</b>	<b>135</b>	<b>127</b>
<b>Honey Production ('000 pounds)</b>								
South	4,281	2,495	3,843	6,999	3,330	6,951	2,905	4,036
Central	1,507	829	1,493	2,076	1,256	1,785	2,740	2,430
North East	6,830	4,484	4,819	4,251	4,570	2,892	4,978	4,306
North West	13,890	9,621	8,528	6,077	10,205	7,161	10,539	12,015
Peace	11,827	7,376	5,404	7,383	10,376	9,056	12,318	9,090
<b>Province</b>	<b>38,335</b>	<b>24,805</b>	<b>24,087</b>	<b>26,786</b>	<b>29,737</b>	<b>27,846</b>	<b>33,480</b>	<b>31,877</b>

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

Source: Statistics and Data Development Unit, Alberta Agriculture, Food and Rural Development