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The Economics of Honey Production in Alberta 2008



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The Economics of Honey Production in Alberta, 2008

By

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TABLE OF CONTENTS

TABLE OF CONTENTS	i
LIST OF TABLES	ii
LIST OF FIGURES	ii
APPENDICES	iii
SECTION I	
Introduction	1
Objectives of the Study	1
The Study Sample	2
Method of Analysis	3
SECTION II	
Honey Production in Alberta	4
SECTION III	
Honey Production Costs and Returns in Alberta	11
SECTION IV	
Honey Production Costs and Returns by Regions	16
Group I (Southern, Central and North East Regions)	16
Group II (North West Region)	19
Group III (Peace River Region)	22
SECTION V	
Honey Production Costs and Returns by Size of Operation	27
Group IV (Up to 1,000 Hives)	27
Group V (Over to 1,000 Hives)	28
SECTION VI	
Costs and Returns for Pollinating Hives, 2008	35
SECTION VII	
Summary	42
APPENDICES	46

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1 Historical Data on Honey Production in Alberta, 1980-2009.....	5
2 Honey Production Costs and Returns, Alberta, 2008	12
3 Honey Production Enterprise Investment, Alberta, 2008	15
4 Honey Production Costs and Returns, Southern, Central and North East Regions, 2008	18
5 Honey Production Enterprise Investment, Southern, Central and North East Regions, 2008	20
6 Honey Production Costs and Returns, North West Region, 2008.....	21
7 Honey Production Enterprise Investment, North West Region, 2008.....	23
8 Honey Production Costs and Returns, Peace River Region, 2008	24
9 Honey Production Enterprise Investment, Peace River Region, 2008	26
10 Honey Production Costs and Returns, By Size of Operation (up to 1,000 Hives), 2008	29
11 Honey Production Enterprise Investment, By Size of Operation (up to 1,000 Hives), 2008	30
12 Honey Production Costs and Returns, By Size of Operation (over 1,000 Hives), 2008	32
13 Honey Production Enterprise Investment, By Size of Operation (over 1,000 Hives), 2008.....	34
14 Pollination Production Costs and Returns, Alberta, 2008.....	37
15 Pollination Production Enterprise Investment, Alberta, 2008	38
16 Pollination Production Costs and Returns, Southern, Central and North East Regions, 2008	40
17 Pollination Production Enterprise Investment, Southern, Central and North East Regions, 2008	41
18 Summary of Honey Production Costs and Returns by Regions and Size Of Operation, 2008	43

LIST OF FIGURES

1 Number of Colonies in Alberta, 1980-2009	6
2 Production Per Colony in Alberta, 1980-2009	7
3 Honey Price (cents per pound) in Alberta, 1980-2009	8
4 Distribution of Study Sample by Regions	17
5 Breakdown of Honey Production Costs, 2008.....	44

APPENDICES

<u>Tables</u> from The Economics of Honey Production in Alberta 2005	<u>Page</u>
2 Honey Production Costs and Returns, Alberta, 2005	47
3 Honey Production Enterprise Investment, Alberta, 2005	48
10 Honey Production Costs and Returns, By size of Operation (up to 1,000 Hives), 2005	49
11 Honey Production Enterprise Investment, By size of Operation (up to 1,000 Hives), 2005	50
12 Honey Production Costs and Returns, By size of Operation (over 1,000 Hives), 2005	51
13 Honey Production Enterprise Investment, By size of Operation (over 1,000 Hives), 2005	52
14 Pollination Production Costs and Returns, Alberta. 2005	53
15 Pollination Production Enterprise Investment, Alberta, 2005	54
16 Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2005.....	55

Tables from The Economics of Honey Production in Alberta 2002

1 Honey Production Costs and Returns, Alberta, 2002	56
2 Honey Production Enterprise Investment, Alberta, 2002	57
3 Honey Production Costs and Returns, By Size of Operation (up to 1,000 Hives), 2002	58
4 Honey Production Enterprise Investment, By Size of Operation (up to 1,000 Hives), 2002	59
5 Honey Production Costs and Returns, By Size of Operation (over 1,000 Hives), 2002	60
6 Honey Production Enterprise Investment, By Size of Operation (over 1,000 Hives), 2002	61
7 Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2002.....	62

Table from The Economics of Honey Production in Alberta 2000

8 Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2000.....	63
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SECTION I

INTRODUCTION

Costs and returns for livestock, crops and several other enterprises have been monitored in the province in an extensive way since the 1960s. These studies have been viewed as an important tool for assisting producers in their cropping decisions and the federal and provincial governments in developing policies and programs for the different farm enterprises. Where information gaps existed in other provinces, results from these studies have served as the basis to fill those gaps.

Production costs and returns for the beekeeping (honey production) sector of the agriculture industry have been monitored periodically since the early 1970s. The 2008 costs and returns study is a continuing effort to monitor honey production in the province. Information presented in this report can be used for several purposes including preparation of feasibility studies, program evaluation and policy development for the honey industry, etc. It would also assist individual study participants to compare their costs and returns with the group averages to develop/manage their operations better.

OBJECTIVES OF THE STUDY

Following are the objectives of this study:

1. To determine production costs and returns associated with beekeeping in Alberta.
2. To establish physical input/output relationships for beekeeping in Alberta.
3. To provide each study participant with a detailed analysis of his/her beekeeping operation and opportunity to compare the operation with the group averages.
4. To observe regional differences in costs and returns for beekeeping operations across the province.
5. To document how variation in size of operation affects net returns.
6. To provide an up-to-date economic report on the beekeeping in Alberta to assist governments in developing programs and policies for this industry.

THE STUDY SAMPLE

The twenty three (23) beekeepers who participated in the 2005 cost of production survey were contacted again to provide data for 2008 honey production. Another twenty (20) beekeepers were also contacted to participate in the 2008 cost of production study. These beekeepers were visited by a field surveyor to complete the questionnaire and answer any questions that the study participants may have. Out of the 43 beekeepers who have participated in the 2002 and 2005 studies only 24 beekeepers completed the questionnaires for the 2008 honey study. Sixteen (16) beekeepers produced honey only while eight (8) of the study participants rented their hives for pollination and extracted honey also. Therefore the results presented in the report are based on a sample of 24 beekeepers across the province. Although the sample size appears to be small, the results from the survey presented here provide useful data on the beekeeping industry in Alberta.

Regional breakdown of the 24 beekeepers producing honey and renting out hives for pollination is as follows:

REGION	NUMBER OF PARTICIPANTS	AVERAGE NUMBER OF HIVES PER BEEKEEPER
Southern (1) Central (2) North East (3)	8	2,503
NorthWest (4)	6	1,513
Peace River (5)	10	1,418
TOTAL	24	1,816

The study sample of 24 beekeepers was further divided into the following two groups by size of operation:

BY SIZE OF BEEKEEPING OPERATION	NUMBER OF PARTICIPANTS	AVERAGE NUMBER OF HIVES PER BEEKEEPER
Up to 1,000 hives	11	826
Over 1,000 hives	13	2, 654
TOTAL	24	1,816

Study sample of 24 beekeepers was further classified by beekeepers producing honey only and those renting out hives for pollination and extracting honey as well. Following is the regional and by size of operation breakdown of beekeepers producing honey and renting out hives for pollination and extracting honey as well.

GROUP	REGION	NUMBER OF HONEY PRODUCERS	AVERAGE NUMBER OF HIVES PER BEEKEEPER	NUMBER RENTING HIVES FOR POLLINATION	AVERAGE NUMBER OF HIVES PER BEEKEEPER
I	Southern (1) Central (2) North East (3)	2	N/A	6	3,025
II	North West (4)	5	1,116	1	N/A
III	Peace River (5)	9	1,253	1	N/A
	TOTAL	16	1,170	8	3,107
By Size of Operation					
IV	Less than 1,000 Hives	9	798	2	N/A
V	More than 1,000 Hives	7	1,649	6	3,825
	TOTAL	16	1,170	8	3,107

N/A = Not Available. Data not published to maintain confidentiality.

The number of hives both for honey production and pollination in the study sample was 43,584 for the 2008 honey production year, i.e., about nineteen (19) percent of the total number of hives in the province. The survey data showed that the largest honey producer operated 5,000 hives and the smallest about 500 hives during the 2008 honey production year. Although the sample size for costs and return data was somewhat small, yet it provided enough information that results could be used as guidelines.

METHOD OF ANALYSIS

The raw data obtained from 24 beekeepers across the province was reviewed for information gaps before entering into the computer for analysis. Individual analyses, provincial and group averages (by region and size of operation) were developed using the Paradox program. Individual analyses were mailed to study participants for their review and feedback before finalizing the group averages for this report.

SECTION II

HONEY PRODUCTION IN ALBERTA

Honey production in Alberta has widely fluctuated during the last several decades. Similarly, the number of beekeepers in the province has varied considerably since the seventies. It has ranged from a low of 620 beekeepers in 2008 to 2,000 in 1975 and 1976. Since 1985, the number of beekeepers has steadily declined from 1,700 to 620 in 2008, a decrease of about 63 percent. Number of beekeepers registered in 2008 was the lowest number recorded and showed industry consolidation. However in 2009, the number of registered beekeepers increased marginally to 625, an increase of about one percent over 2008. In 2006, the number of registered beekeepers increased marginally but the following year decreased to around the same number as in 2005. The number of registered beekeepers decreased almost 15 percent in 2008 over 2007. In 2009, the number of beekeepers registered in Alberta was more or less the same as in 2008.

The number of honey producing colonies during the last thirty (30) years has also fluctuated considerably, i.e., ranging from 110,000 in 1970 to 251,000 in 2005. The number of colonies per beekeeper increased steadily from 177 in 1991 to 357 in 2005. However, the number of beekeepers declined by over 15 percent during the same period. Since 1994, the number of commercial beekeepers registered in the province has ranged between 620 and 754. The number of colonies per beekeeper has been increasing since 1994 reaching 227,000 in 2002. In 2003, the number of colonies decreased by about three percent despite an increase in the number of beekeepers from 702 in 2002 to 754 in 2003. The following year, i.e. 2004, the number of beekeepers decreased to 693, almost eight percent decline over 2003. However, the number of honey producing colonies increased by 12 percent to 248,000 (238 colonies per apiary) in 2004. In 2005, Alberta recorded 251,000 producing colonies owned and operated by 728 beekeepers. Number of honey producing colonies increased to 254,000 in 2006 but decreased in 2007 and 2008 primarily due to high winterkill. In 2009, number of colonies increased to 240,000 even though the number of beekeepers decreased by almost 14 percent over in 2007.

A historical summary of the number of beekeepers, colonies, colonies per apiary (beekeeper), production per colony and price of honey received by beekeepers in Alberta (1980 to 2009) is presented in Table 1. Figures 1, 2 and 3 present trends from 1980 to 2009 regarding the number of colonies in Alberta, production per colony and honey price per pound, respectively.

Table 1. Historical Data on Honey Production in Alberta, 1980 – 2009

Year	Number of Beekeepers	Number of Colonies	Colonies Per Apiary	Production Per Colony (lbs.)	Price Per Pound (cents)
1980	1,800	160,000	89	141	58.1
1981	1,700	170,000	100	116	64.4
1982	1,650	174,000	105	104	62.2
1983	1,610	172,000	107	146	59.9
1984	1,600	180,000	113	154	48.5
1985	1,700	181,000	106	102	56.3
1986	1,700	190,000	112	126	59.9
1987	1,480	193,000	130	132	41.7
1988	1,140	150,000	132	153	39.9
1989	855	143,500	168	120	49.0
1990	840	152,000	181	153	58.2
1991	830	147,000	177	143	57.8
1992	800	148,000	185	156	58.9
1993	761	148,000	194	160	68.5
1994	750	159,000	212	195	68.2
1995	750	175,000	233	122	83.3
1996	750	175,000	233	116	125.3
1997	725	175,000	241	135	110.2
1998	730	205,000	281	187	88.7
1999	725	205,000	283	121	81.3
2000	747	217,000	290	111	83.1
2001	739	227,000	307	118	102.6
2002	702	227,000	323	131	197.9
2003	754	221,000	293	126	204.1
2004	693	248,000	358	135	175.6
2005	728	251,000	345	127	98.59
2006	733	254,000	347	184	96.20
2007	726	237,000	326	122	98.10
2008	620	226,000	365	115	151.3
2009 ^P	625	240,000	384	108	160.2

Source: Agriculture Statistics Yearbook, Statistics and Data Development Branch, ARD, 1980-2009, Edmonton, Alberta

P = Preliminary

Figure 1: Number of Colonies in Alberta, 1980-2009

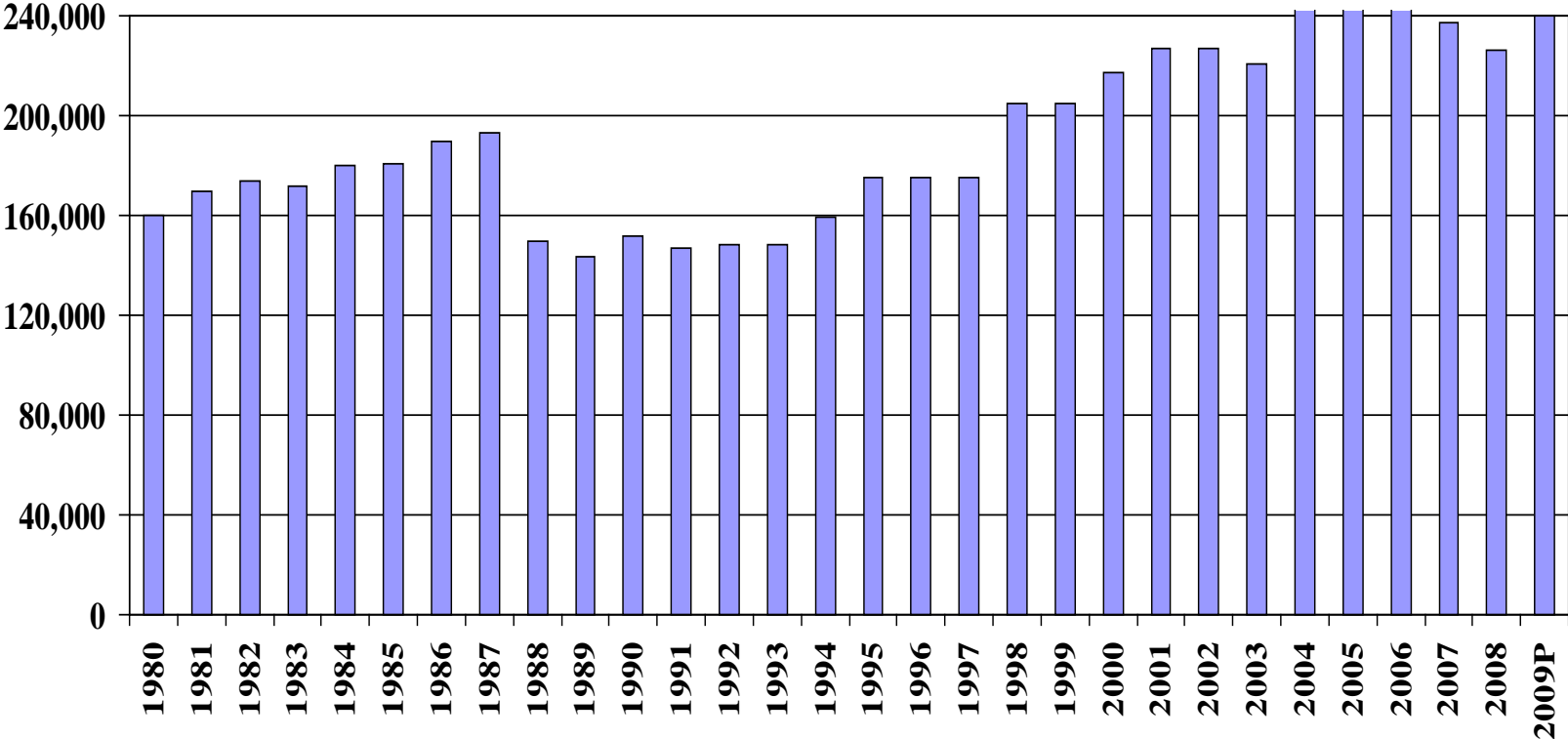


Figure 2: Production Per Colony in Alberta, 1980-2009 (lbs.)

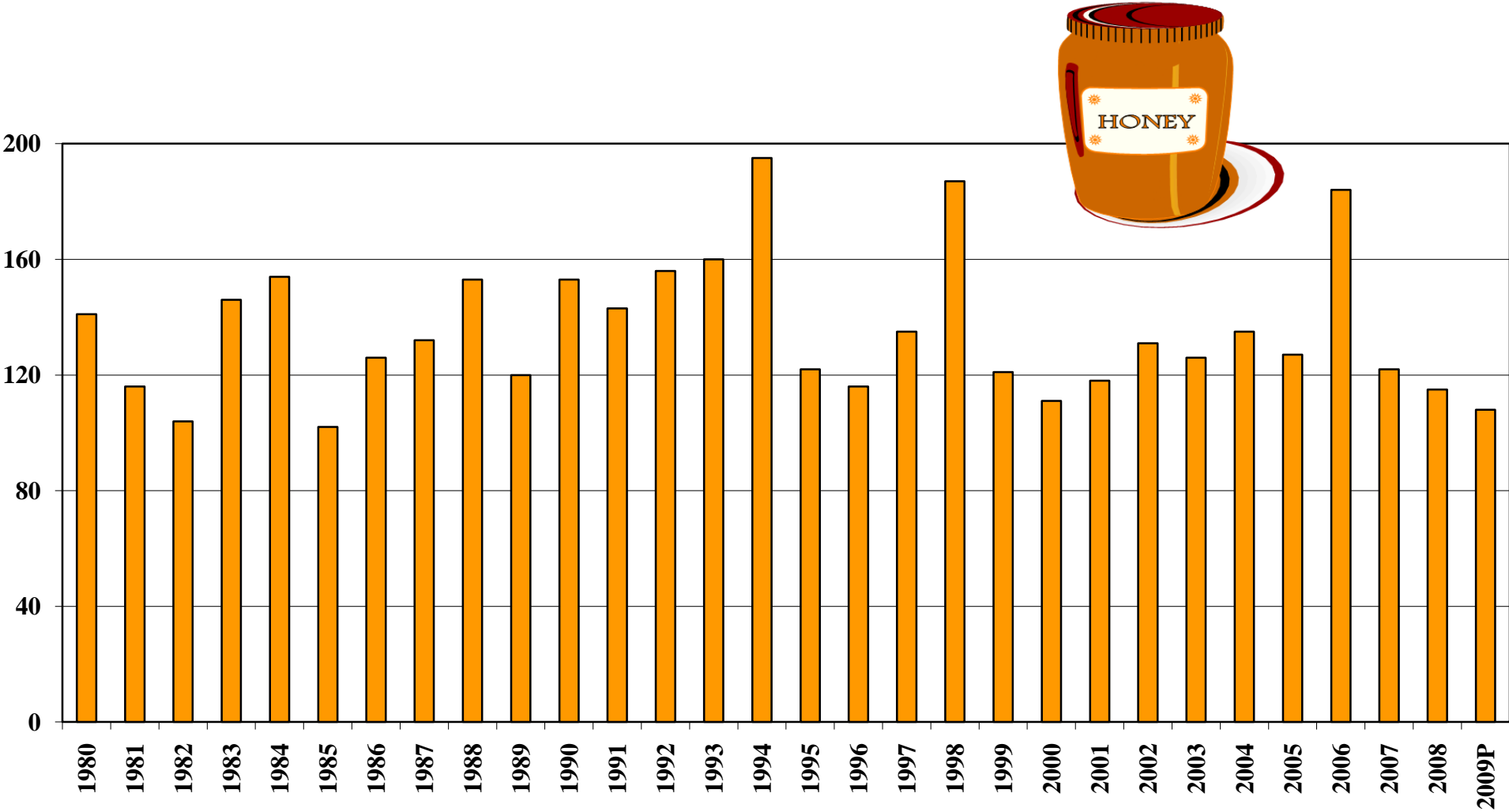
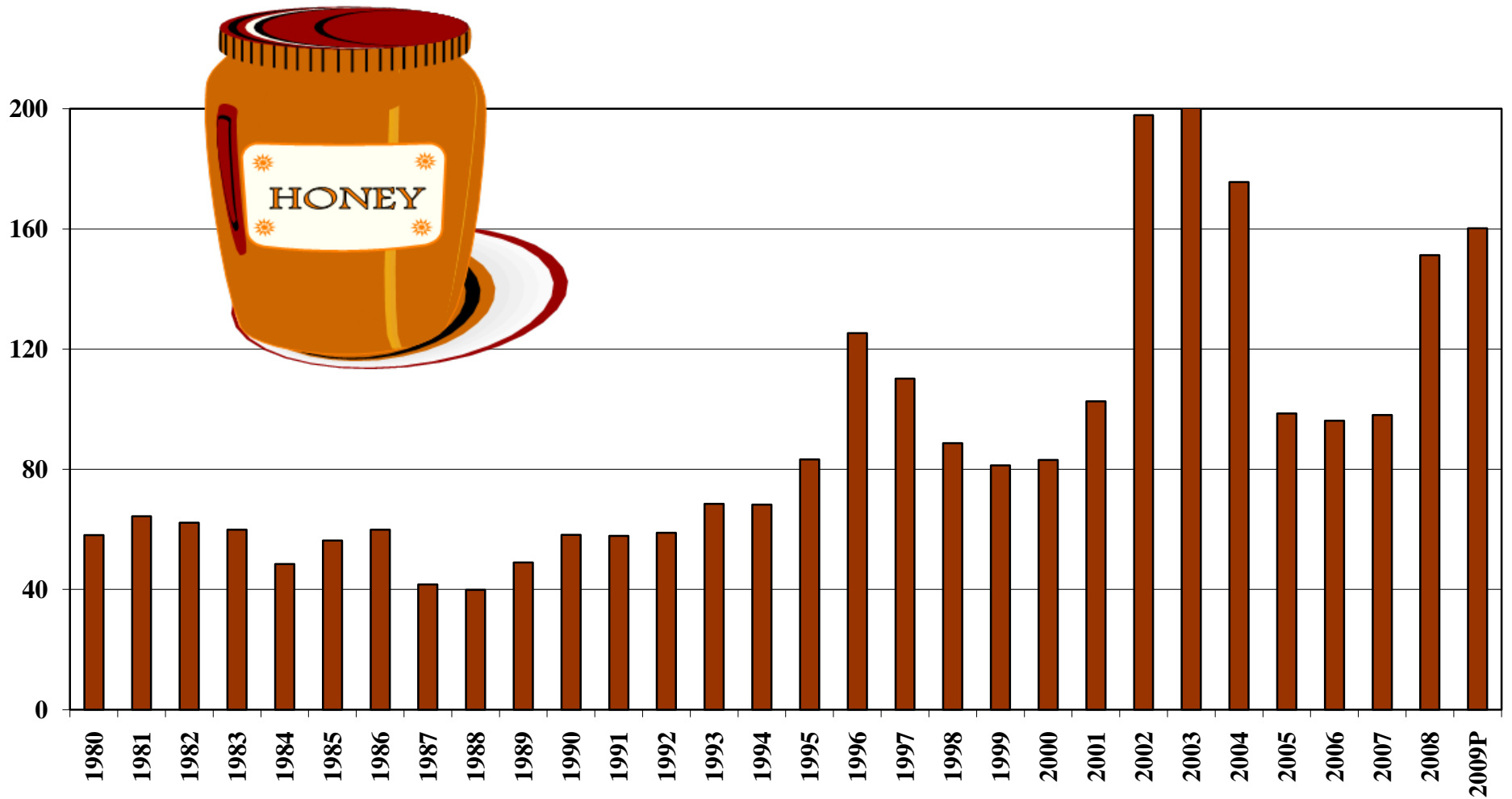


Figure 3: Honey Price (cents per pound) in Alberta, 1980-2009



Total Value of Honey:

Total value of honey is based on:

- Bulk honey sales
- Bulk honey inventory
- Consumer pack sales
- Consumer pack inventory, and
- Other honey sales.

Total Value of Production:

In addition to total value of honey, total value of production includes:

- Wax sales
- Pollen sales
- Crop insurance receipts
- Miscellaneous income (any program payments)
- Less honey purchase of resale, and
- Hive rental - pollination.

The study participants were asked to provide actual sales and an estimate of expected price for any honey held in inventory and/or any other stock.

Variable Costs:

Most of the inputs used in honey production were purchased during the production year and recorded as such in the year-end statement. The study participants were asked to provide estimates for those costs for which actual records were not available, i.e., an inventory carried from last year. In 2008, the average hourly wage for hired labour was calculated at \$10.50 per hour and/or the actual wage reported by the study participant. Operating interest was the actual amount paid by the study participant. Operators and family labour (unpaid labour) were valued at \$10.50 and \$7.50 per hour, respectively. The study participants were asked to provide estimates of hours spent on the honey operation by their family member(s) and themselves.

Capital Costs:

Capital costs include land rent/lease, building rent and forage access, bee equipment, and vehicles, etc. Capital interest was the actual amount paid by the study participants for capital purchases.

Cash Costs:

Cash costs represent out-of-pocket costs incurred during the production period and marketing of honey. It does not include costs associated with operator's and family labour and depreciation for buildings and equipment.

Total Production Costs:

Total production costs comprise of variable costs (B) and capital costs (C).

Management Indicators:

Management indicators presented at the bottom of various tables show gross margin (total value of production less cash costs), return to unpaid labour, investment and equity. These indicators provide profit margins and economic viability of honey production at the provincial level; by regions and size of operations.

SECTION III

HONEY PRODUCTION COSTS AND RETURNS IN ALBERTA

The results in Table 2 are based on data provided by 16 beekeepers across the province. In 2008, honey produced for sale by an average study participant was 180,040 pounds, of which 139,520 pounds (77 percent) were sold as bulk honey. Surprisingly at the time of the survey there was no bulk honey inventory for the 2008 honey crop. However, consumer pack inventory for the 2008 crop was estimated at 39,971 pounds per average study participant. Consumer pack sales only amounted to 543 pounds. There were no other honey sales in 2008. The average yield per hive for the 16 study participants was estimated at 154 pounds. The average number of hives per study participants was 1,170. The average honey production per hive for this group of beekeepers was higher by 39 pounds compared to the provincial average of 115 pounds. Because of the relatively small sample size and location of the participants for the study, production per hive is difficult to compare. Details on honey, wax and pollen sales and other income are presented in Table 2.

Total value of honey sold by an average study participant (bulk sales, inventory, consumer pack sales, consumer pack inventory, and other honey sales) amounted to \$258,821 in 2008. Average value per hive for 1,170 hives was \$221 or \$1.44 per pound. When wax/pollen/other sales; crop insurance receipts, miscellaneous receipts were included to the value of honey, then total value of production increased to \$281,568 or \$241 per hive (\$1.56 per pound of honey produced) in 2008. Honey prices in 2008 increased by over 57 percent over the price in 2006 and by 54 percent in 2007. Estimated price for the 2009 honey crop was 160.2 cents per pound, almost six (6) percent higher than the 2008 price.

Variable Costs:

Variable costs include all out-of-pocket costs and unpaid labour that amounted to \$190,310 per average study participant in 2008. In terms of variable costs per hive, average amount was \$161 per hive (\$1.06 per pound). Because of the producers' interest in knowing their variable costs for each basic unit of production, these costs were broken into as much detail as possible. The most significant inputs that made up major portions of variable costs were

Table 2. Honey Production Costs and Returns, Alberta, 2008

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	139,519.88 lbs	199,720.16	170.64	1.43
2. Bulk Honey Inventory	0.00 lbs	0.00	0.00	
3. Consumer Pack Sales	542.81 lbs	1,020.00	.87	
4. Consumer Pack Inventory	39,971.00 lbs	58,081.09	49.62	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	4,290.66 lbs	10,369.06	8.86	
7. Crop Insurance Receipts		6,486.75	5.54	
8. Miscellaneous Receipts		5,891.25	5.03	
9. Less: Honey Purchase for Resale		0.00	0.00	
VALUE OF PRODUCTION		281,568.31	240.57	1.56
(B)				
1. Bee Purchases - Package Bees		0.00	0.00	
2. Bee Purchases - Queens		14,498.84	12.39	
3. Freight and Trucking		7,834.06	6.69	
4. Feed - Sugar		20,510.61	17.52	
5. Medicinal Sugar/Bee Repellent		8,781.24	7.50	
6. Product and Crop Insurance		1,802.06	1.54	
7. Fuel		13,331.78	11.39	
8. Repairs - Machine		6,901.15	5.90	
9. Repairs - Buildings and Improvements		4,771.20	4.08	
10. Utilities and Heating Fuel		7,725.73	6.60	
11. Custom Work and Machine Rental		1,303.04	1.11	
12. Association Dues, Prof'l Fees, Promotion and Travel		6,069.81	5.19	
13. Small Tools, Supplies and Misc., Expenses		10,241.31	8.75	
14. Operating Interest		1,573.50	1.34	
15. Paid Labour and Benefits	4,899.25 hours	71,428.23	61.03	
16. Unpaid Labour	1,335.00 hours	13,537.50	11.57	
VARIABLE COSTS		190,310.06	162.60	1.06
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		2,407.06	2.06	
2. Taxes, Licenses and General Insurance		8,858.30	7.57	
3. Equipment and Building	a) Depreciation	56,710.10	48.45	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		6,613.30	5.65	
TOTAL CAPITAL COSTS		74,588.76	63.73	0.41
(D) CASH COSTS	(B+C-B16-C3a)	194,651.22	166.31	1.08
(E) TOTAL PRODUCTION COSTS	(B+C)	264,898.81	226.32	1.47
(F) GROSS MARGIN	(A-D)	86,917.10	74.26	0.48
RETURN TO UNPAID LABOUR	(A-E+B16)	30,207.00	25.81	0.17
RETURN TO INVESTMENT	(A-E+C4) 3.4%	23,282.80	19.89	0.13
RETURN TO EQUITY	(A-E)	16,669.50	14.24	0.09
MANAGEMENT				
			1,170.44	
			153.82	
			180,033.69	

paid labour and benefits followed by bee expenses (sugar, bee purchase, medicine, icing sugar), fuel, small tools, supplies and miscellaneous expenses (beehive parts, drums, containers, advertising, insurance and operating supplies), utilities and heating fuel, building/equipment repairs and maintenance.

The study participants were asked to estimate time spent by their family members and themselves in regards to the honey operation. The time spent by the operator was valued at \$10.50 per hour and \$7.50 per hour for a family member(s).

Capital Costs:

Capital costs (C) are comprised of land rent/lease, building rent and forage access, taxes, licenses and general insurance, depreciation for buildings, bee equipment and vehicles, lease payments and capital interest paid. Average total capital cost amounted to \$74,589 or \$64 per hive (\$0.41 per pound of honey produced) per study participant in 2008.

Cash Costs:

Cash costs (D) include all out of pocket costs incurred during the honey production period. These costs amounted to \$194,621 per average beekeeper in the study for the 2008 honey production. In terms of average cash costs per hive, the amount was \$166 or \$1.08 per pound of honey produced.

Total Production Costs:

Average total production cost in 2008 was estimated at \$264,899 for an average honey operation with 1,170 hives. Average production cost per hive or per pound of honey produced was \$226 or \$1.47, respectively. Details on total production cost for an average study participant are presented in Table 2.

Management Indicators:

When cash costs (D) were deducted from the total value of honey production (A-D), average study participant showed a positive gross margin of \$86,917 per beekeeping operation. Gross margin per hive was \$74 and \$0.48 per pound of honey produced.

Average return to unpaid labour in 2008 was positive at \$30,207 per study participant. In terms of return to unpaid labour per hive, it amounted to positive \$26 or \$0.17 per pound of honey produced per beekeeping operation in 2008.

Average return to investment was positive at \$23,283 per operation or over \$20 per hive (\$0.13 per pound). Return to equity per hive was also positive at \$16,669 per average beekeeper or \$14 per hive (\$0.09 per pound) for honey produced in 2008.

Investment Costs:

Investment costs were divided into four categories, namely land, buildings, bee equipment (including machinery), and vehicles.

The study participants were asked to provide market value of land, buildings, bee equipment, machinery and vehicles to estimate total investment and depreciation for an average beekeeping operation. Actual interest paid on capital was used to arrive at total capital cost which also included depreciation for buildings, bee equipment, and vehicles.

For the study sample, land associated with the beekeeping operation was over 29 acres, valued at \$22,165 (\$750 per acre) or \$19 per hive. Building investment per study participant was estimated at \$183,530 or \$157 per hive. Bee equipment investment was \$363,872 per average operation or \$311 per hive. Machinery (automotive) investment was based on the percentage use of vehicles for the honey operation. This investment was estimated at \$115,807 or \$99 per hive in 2008. When all of the investment items were added together, total investment amounted to \$685,373 per average beekeeping operation or \$586 per hive. Details on land, buildings, and bee equipment and machinery investment are presented in Table 3.

Table 3. Honey Production Enterprise Investment, Alberta, 2008

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	29.56 acres	22,165.00	18.94	
Buildings		183,530.00	156.80	
Bee Equipment		363,871.81	310.89	
Machinery		115,806.63	98.94	
TOTAL INVESTMENT		685,373.44	585.57	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		22,165.00		
Honey House		93,625.00	16.63	4,681.25
Wintering Shed		0.00	0.00	0.00
Houses (25%)		30,156.25	18.25	1,507.81
Other Buildings		59,748.75	20.11	2,987.44
Buildings Sub-Total		183,530.00		9,176.50
Hives		186,773.44	8.56	21,478.95
Pallets		12,867.63	9.10	1,479.78
Fork Lift		45,220.25	13.71	3,617.62
Hive Feeders		8,576.00	9.18	986.24
Super Elevator		0.00	0.00	0.00
Uncapping Machines		9,792.31	13.31	783.38
Honey Extractor		27,908.56	14.01	2,232.69
Dryer/Heat Exchanger		1,093.75	1.69	87.50
Wax Spinner/Separator		7,884.44	9.94	630.76
Honey Tank and Pipe		8,335.13	13.80	958.54
Feed Tank		5,155.00	10.57	592.83
Storage Vessel		0.00	0.00	0.00
Boiler Furnace		2,687.50	11.25	215.00
Water System		0.00	0.00	0.00
Compressor		1,211.63	8.38	96.93
Pressure Washer		1,705.94	6.06	136.47
Fuel Tank		0.00	0.00	0.00
Scales		2,019.38	20.85	232.23
Barrels		6,022.63	2.75	692.60
Barrel Loader		0.00	0.00	0.00
Carts		1,443.06	11.77	165.95
Fencers/Shockers		5,978.19	4.13	687.49
Shop Tools		7,905.75	7.38	909.16
Staplers		845.44	8.23	97.23
Office Equipment		0.00	0.00	0.00
Lawn Mower		4,105.50	5.46	328.44
Over-Wintering Insulation		12,126.06	7.22	1,394.50
Miscellaneous Equipment		4,214.25	4.69	337.14
Equipment Sub-Total		363,871.81		38,141.41
Trucks		99,968.75	8.96	7,997.50
Tractors		7,062.50	3.94	565.00
Other Machinery		8,775.38	8.79	410.25
Power Equipment Sub-Total		115,806.63		8,972.75
TOTAL INVESTMENT		685,373.44		56,290.66

SECTION IV

HONEY PRODUCTION COSTS AND RETURNS BY REGIONS

The study sample of 16 beekeepers was divided into three groups by regions, i.e., Southern, Central and North East Regions (Group I); North West (Group II); and Peace River (Group III). As the number of beekeepers participating in the study for Group I was small, data for two producers from the North West region was included to preserve confidentiality of the data. Therefore, the number of beekeepers in Group I was four (4). Group II, the Northwest Region had five (5) beekeepers and Group III, the Peace River Region had nine (9). Figure 4 shows the distribution of the study sample by region.

Group I (Southern, Central and North East Regions):

Results presented in Table 4 are based on the averages for four study participants. Average size of the beekeeping operation for Group I was 935 hives. Yield per hive for this group was about 154 pounds, about 39 pounds higher than the provincial average. Average honey production for this group was 143,614 pounds of marketable honey. Total value of production including wax/pollen and miscellaneous receipts for this group amounted to \$223,029 per average beekeeper or \$239 per hive (\$1.55 per pound).

Average variable costs for Group I participants were estimated at \$154,220 per study participant and \$165 per hive or \$1.07 per pound of honey produced. Average capital costs for Group I participants amounted to \$51,417 per operation, or \$55 per hive (\$0.36 per pound). Average total production cost for study participants in the Southern, Central and North East regions was estimated at \$205,637 per beekeeping operation and \$220 per hive or \$1.43 per pound of honey produced in 2008.

Details on total value of production, variable costs, capital costs, cash costs and total production cost for Group I participants are given in Table 4. Honey prices during the last few years have increased, thus resulting into relatively positive returns. Gross margin for study participants in Southern, Central and North East regions (Group I) was \$95,361 per beekeeping operation with 935 hives. It was \$102 per hive or \$0.66 per pound of honey production in 2008. Average return to unpaid labour (value of production - total production costs and unpaid labour)

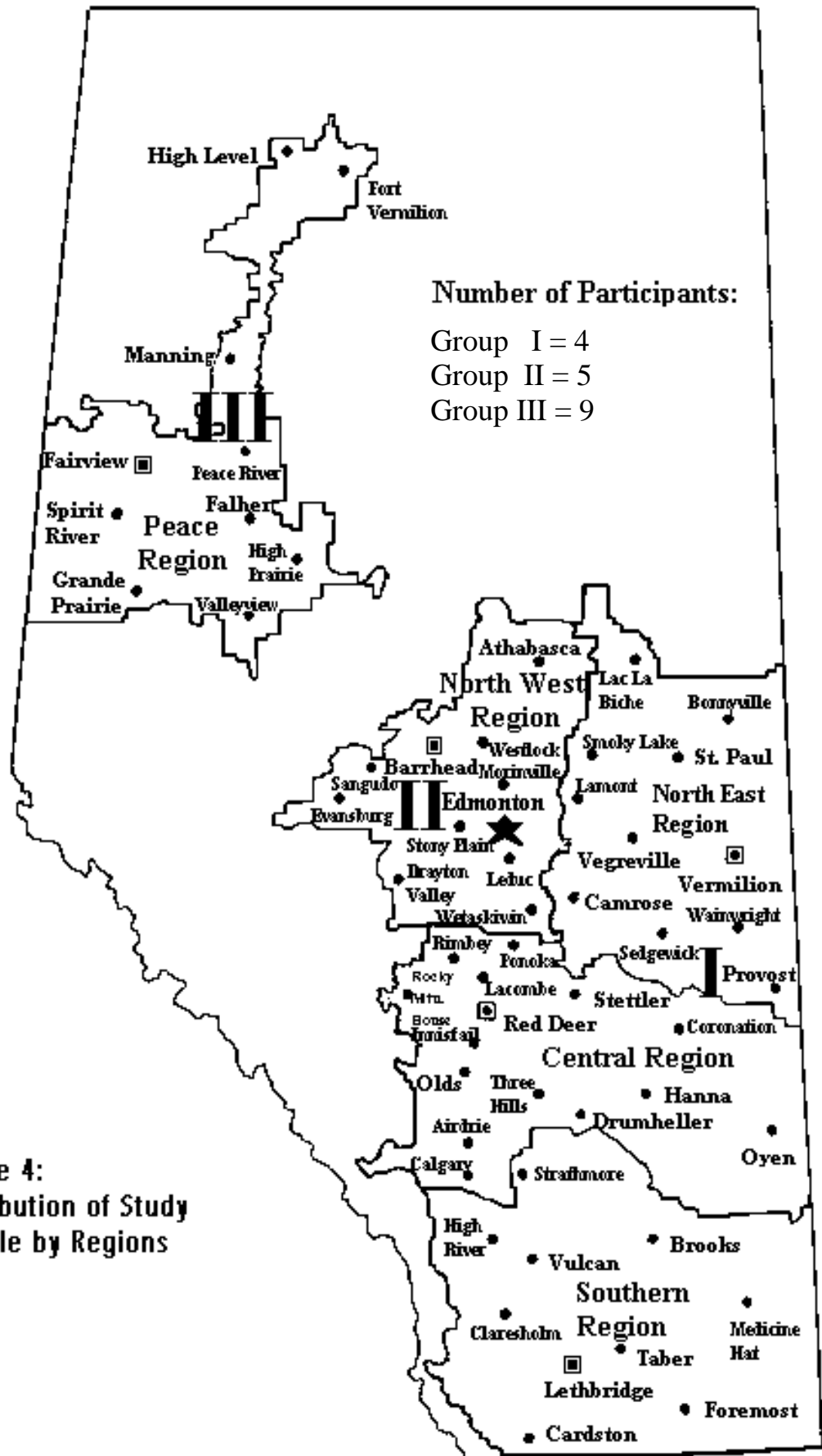


Figure 4:
Distribution of Study
Sample by Regions

Table 4. Honey Production Costs and Returns, Southern, Central and North East Regions, 2008

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	139,298.55 lbs	204,134.80	218.33	1.47
2. Bulk Honey Inventory	0.00 lbs	0.00	0.00	
3. Consumer Pack Sales	1,482.50 lbs	3,012.00	3.22	
4. Consumer Pack Inventory	2,833.00 lbs	4,763.25	5.09	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	1,870.50 lbs	4,489.20	4.80	
7. Crop Insurance Receipts		0.00	0.00	
8. Miscellaneous Receipts		6,630.00	7.09	
9. Less: Honey Purchase for Resale		0.00	0.00	
VALUE OF PRODUCTION		223,029.25	238.53	1.55
(B)				
1. Bee Purchases - Package Bees		0.00	0.00	
2. Bee Purchases - Queens		6,334.19	6.77	
3. Freight and Trucking		3,766.51	4.03	
4. Feed - Sugar		17,187.35	18.38	
5. Medicinal Sugar/Bee Repellent		3,565.42	3.81	
6. Product and Crop Insurance		2,473.51	2.65	
7. Fuel		7,803.73	8.35	
8. Repairs - Machine		5,216.24	5.58	
9. Repairs - Buildings and Improvements		6,283.64	6.72	
10. Utilities and Heating Fuel		5,047.30	5.40	
11. Custom Work and Machine Rental		411.31	0.44	
12. Association Dues, Prof'l Fees, Promotion and Travel		3,231.46	3.46	
13. Small Tools, Supplies and Misc., Expenses		6,036.98	6.46	
14. Operating Interest		0.00	0.00	
15. Paid Labour and Benefits	2,916.50 hours	52,022.63	55.62	
16. Unpaid Labour	3,320.00 hours	34,860.00	37.28	
VARIABLE COSTS		154,220.26	164.94	1.07
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		2,080.50	2.23	
2. Taxes, Licenses and General Insurance		6,227.92	6.66	
3. Equipment and Building	a) Depreciation	43,108.10	46.10	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		0.00	0.00	
TOTAL CAPITAL COSTS		51,416.51	59.99	0.36
(D) CASH COSTS	(B+C-B16-C3a)	127,668.67	136.54	0.89
(E) TOTAL PRODUCTION COSTS	(B+C)	205,636.77	219.93	1.43
(F) GROSS MARGIN	(A-D)	95,360.58	101.99	0.66
RETURN TO UNPAID LABOUR	(A-E+B16)	52,252.49	55.89	0.36
RETURN TO INVESTMENT	(A-E+C4) 3.0%	17,392.49	18.60	0.12
RETURN TO EQUITY	(A-E)	17,392.49	18.60	0.12
MANAGEMENT				
			935.00	
Number of Hives			153.60	
Average Yield per Hive (Lbs.)			143,614.05	
Honey Produced (Lbs.)				

was positive at \$52,252 per operation and \$56 per hive (\$0.36 per pound). Return to investment for this group was positive at \$17,392 or \$19 per hive. Average return to equity was also positive at \$17,392 per beekeeping operation. In terms of return to equity per hive, it amounted to \$19 and per pound of honey produced it was \$0.12. Details on gross margin, return to unpaid labour, investment and equity are presented in Table 4, Section F.

Average total investment for land, buildings, bee equipment, and machinery for this group of honey producers is presented in Table 5. Average total investment for honey producers in this group amounted to \$575,780 per operation or \$616 per hive for the 2008 honey production year.

Group II (North West Region):

Information presented in Table 6 is based on the averages of five (5) study participants. On an average, the number of hives for this group was 1,116 with average yield being 156 pounds per hive, the highest among the three groups. Honey production for Group II study participants was almost 41 pounds per hive higher than the provincial average. Amount of honey produced by an average participant in Group II was 173,935 pounds in 2008.

Average total value of production for this group was \$273,756 per operation and \$245 per hive or \$1.57 per pound of honey produced. Variable costs for Group II participants in the North West Region amounted \$209,779 per operation and \$188 per hive or \$1.21 per pound. When capital costs were added to variable costs, average total production cost was estimated at \$286,249 per average beekeeper in this group and \$256 per hive or \$1.65 per pound of honey produced. Gross margin (total production costs less cash costs) was the lowest at \$50,890 per beekeeping operation in Group II. It was estimated at \$46 per hive or \$0.29 per pound for honey produced in 2008. Return to unpaid labour for these study participants was negative at \$2,161 on an average or \$1.94 per hive (\$0.01 per pound). Similarly, average returns to investment and equity were also negative at \$3,742 and \$12,493 respectively. In terms of returns per hive, these were estimated at about \$3 (\$0.02 per pound) for return to investment and \$11 (\$0.07 per pound) for return to equity. Details on honey sales (returns), variable and capital costs and management indicators are presented in Table 6.

Average total investment for land, buildings, bee equipment, and machinery (vehicles) for Group II study participants (North West Region) amounted to \$629,475 per operation or

Table 5. Honey Production Enterprise Investment, Southern, Central and North East Regions, 2008

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	83.00 acres	53,000.00	56.68	
Buildings		135,465.00	144.88	
Bee Equipment		261,012.00	279.16	
Machinery		126,303.00	135.08	
TOTAL INVESTMENT		575,780.00	615.81	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		53,000.00		
Honey House		52,500.00	20.50	2,625.00
Wintering Shed		0.00	0.00	0.00
Houses (25%)		30,000.00	22.00	1,500.00
Other Buildings		52,965.00	14.33	2,648.25
Buildings Sub-Total		135,465.00		6,773.25
Hives		55,000.00	7.50	6,325.00
Pallets		7,116.00	14.30	818.34
Fork Lift		68,262.00	9.69	5,460.96
Hive Feeders		14,045.50	8.47	1,615.23
Super Elevator		0.00	0.00	0.00
Uncapping Machines		7,513.50	9.00	601.08
Honey Extractor		17,338.50	18.62	1,387.08
Dryer/Heat Exchanger		0.00	0.00	0.00
Wax Spinner/Separator		16,075.50	7.50	1,286.04
Honey Tank and Pipe		13,431.00	10.80	1,544.57
Feed Tank		9,940.00	14.58	1,143.10
Storage Vessel		0.00	0.00	0.00
Boiler Furnace		1,000.00	5.00	80.00
Water System		0.00	0.00	0.00
Compressor		843.00	1.50	67.44
Pressure Washer		1,647.50	2.00	131.80
Fuel Tank		0.00	0.00	0.00
Scales		505.00	34.31	58.08
Barrels		756.00	13.50	86.94
Barrel Loader		0.00	0.00	0.00
Carts		5,194.50	12.65	597.37
Fencers/Shockers		7,913.00	4.00	910.00
Shop Tools		6,996.00	10.50	804.54
Staplers		463.50	12.35	53.30
Office Equipment		0.00	0.00	0.00
Lawn Mower		5,769.00	5.20	461.52
Over-Wintering Insulation		12,408.50	7.72	1,426.98
Miscellaneous Equipment		8,794.00	5.50	703.52
Equipment Sub-Total		261,012.00		25,562.88
Trucks		104,350.00	8.16	8,348.00
Tractors		0.00	0.00	0.00
Other Machinery		21,953.00	2.46	230.00
Power Equipment Sub-Total		126,303.00		8,578.00
TOTAL INVESTMENT		575,780.00		40,914.13

Table 6. Honey Production Costs and Returns, North West Region, 2008

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	89,137.20 lbs	129,481.80	116.02	1.45
2. Bulk Honey Inventory	0.00 lbs	0.00	0.00	
3. Consumer Pack Sales	0.00 lbs	0.00	0.00	
4. Consumer Pack Inventory	84,798.00 lbs	129,943.80	116.44	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	4,416.20 lbs	11,330.12	10.15	
7. Crop Insurance Receipts		2,400.00	2.15	
8. Miscellaneous Receipts		600.00	.54	
9. Less: Honey Purchase for Resale		0.00	0.00	
VALUE OF PRODUCTION		273,755.72	245.30	1.57
(B)				
1. Bee Purchases - Package Bees		0.00	0.00	
2. Bee Purchases - Queens		23,563.80	21.11	
3. Freight and Trucking		10,469.40	9.38	
4. Feed - Sugar		16,840.00	15.09	
5. Medicinal Sugar/Bee Repellent		13,377.80	11.99	
6. Product and Crop Insurance		1,780.00	1.59	
7. Fuel		20,053.40	17.97	
8. Repairs - Machine		8,787.60	7.87	
9. Repairs - Buildings and Improvements		4,147.80	3.72	
10. Utilities and Heating Fuel		6,512.00	5.84	
11. Custom Work and Machine Rental		1,104.40	0.99	
12. Association Dues, Prof'l Fees, Promotion and Travel		5,337.20	4.78	
13. Small Tools, Supplies and Misc., Expenses		10,115.20	9.06	
14. Operating Interest		835.20	0.75	
15. Paid Labour and Benefits	4,761.40 hours	76,523.00	68.57	
16. Unpaid Labour	984.00 hours	10,332.00	9.26	
VARIABLE COSTS		209,778.80	187.97	1.21
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		3,356.00	3.01	
2. Taxes, Licenses and General Insurance		11,311.40	10.14	
3. Equipment and Building	a) Depreciation	53,051.63	47.54	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		8,751.00	7.84	
TOTAL CAPITAL COSTS		76,470.02	68.52	0.44
(D) CASH COSTS (B+C-B16-C3a)		222,865.20	199.70	1.28
(E) TOTAL PRODUCTION COSTS (B+C)		286,248.83	256.50	1.65
(F) GROSS MARGIN (A-D) 50,890.52 45.60 0.29				
RETURN TO UNPAID LABOUR (A-E+B16) (2,161.10) (1.94) (0.01)				
RETURN TO INVESTMENT (A-E+C4) -6% (3,742.10) (3.35) (0.02)				
RETURN TO EQUITY (A-E) (12,493.11) (11.19) (0.07)				
MANAGEMENT				
Number of Hives			1,116.00	
Average Yield per Hive (Lbs.)			155.86	
Honey Produced (Lbs.)			173,935.20	

\$564 per hive. Details on investment and investment costs for this group are presented in Table 7.

Group III (Peace River Region):

Nine (9) honey producers provided detailed information on their operations from the Peace River Region. Group averages for these study participants resulted in 1,253 hives per operation. Average yield for producers in the Peace Region was 153 pounds per hive, second highest among the three groups. Average total value of honey for Group III participants amounted to \$268,910 per beekeeping operation or \$215 per hive (\$1.40 per pound). When income from honey by-products and miscellaneous receipts were combined with the value of honey, average total value of production was estimated at \$298,917 per operation or \$239 per hive (\$1.56 per pound of honey produced).

Average variable costs for the nine honey producers in the Peace Region amounted to \$187,514 per operation hive and \$150 per hive or \$0.98 per pound. Variable costs for this group were the lowest among the three groups. Total production costs (cash costs, operator and family labour and capital costs) were almost \$212 per hive or \$1.39 per pound of honey produced in 2008. Honey operations in the Peace Region reported second highest labour costs (paid and unpaid labour) after the North West Region and also significantly higher than Southern, Central and North East Region. Machinery repairs and miscellaneous costs reported in the Peace Region were also significantly higher compared to other two groups (regions).

Average gross margin (total value of production less cash costs (D)) for the beekeepers in the Peace River Region was positive at \$105,056 per beekeeper. It was significantly higher compared to the North West region. Gross margin per hive was \$84 and \$0.55 per pound. Return to unpaid labour was positive at \$43,290 per average beekeeping operation and \$35 per hive (\$0.23 per pound of honey produced). Average return to investment for this group of honey producers was estimated at \$39,606 per beekeeping operation, \$32 per hive or \$0.21 per pound of honey produced in 2008. It was positive at 5.3 percent in 2008. Return to equity in the Peace Region was also positive at \$32,710 per average beekeeping operation. In terms of return to equity per hive, it was positive at \$26 and \$0.17 per pound of honey produced. Details on gross margin and returns to unpaid labour, investment and equity are given in Table 8 (F).

Table 7. Honey Production Enterprise Investment, North West Region, 2008

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	19.60 acres	17,240.00	15.45	
Buildings		160,100.00	143.46	
Bee Equipment		359,615.00	322.24	
Machinery		92,520.00	82.90	
TOTAL INVESTMENT		629,475.00	564.05	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		17,240.00		
Honey House		89,600.00	23.40	4,480.00
Wintering Shed		0.00	0.00	0.00
Houses (25%)		19,750.00	19.40	987.50
Other Buildings		50,750.00	25.07	2,537.50
Buildings Sub-Total		160,100.00		8,005.00
Hives		185,000.00	5.00	21,275.00
Pallets		13,360.00	7.20	1,536.40
Fork Lift		49,600.00	14.60	3,968.00
Hive Feeders		8,070.00	8.80	928.05
Super Elevator		0.00	0.00	0.00
Uncapping Machines		9,600.00	16.80	768.00
Honey Extractor		24,200.00	22.60	1,936.00
Dryer/Heat Exchanger		2,300.00	4.20	184.00
Wax Spinner/Separator		6,500.00	8.60	520.00
Honey Tank and Pipe		5,500.00	16.00	632.50
Feed Tank		6,000.00	8.40	690.00
Storage Vessel		0.00	0.00	0.00
Boiler Furnace		4,500.00	16.80	360.00
Water System		0.00	0.00	0.00
Compressor		730.00	10.00	58.40
Pressure Washer		2,440.00	3.00	195.20
Fuel Tank		0.00	0.00	0.00
Scales		1,720.00	13.20	197.80
Barrels		5,860.00	1.20	673.90
Barrel Loader		0.00	0.00	0.00
Carts		1,220.00	7.60	140.30
Fencers/Shockers		3,355.00	1.60	385.82
Shop Tools		3,700.00	8.00	425.50
Staplers		1,030.00	9.60	118.45
Office Equipment		0.00	0.00	0.00
Lawn Mower		3,150.00	5.60	252.00
Over-Wintering Insulation		17,780.00	7.60	2,044.70
Miscellaneous Equipment		4,000.00	3.40	320.00
Equipment Sub-Total		359,615.00		37,610.03
Trucks		75,160.00	7.11	6,012.80
Tractors		8,000.00	6.20	640.00
Other Machinery		9,360.00	15.00	668.80
Power Equipment Sub-Total		92,520.00		7,321.60
TOTAL INVESTMENT		629,475.00		52,936.63

Table 8. Honey Production Costs and Returns, Peace River Region, 2008

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	167,599.44 lbs	237,760.43	189.75	1.42
2. Bulk Honey Inventory	0.00 lbs	0.00	0.00	
3. Consumer Pack Sales	635.56 lbs	1,144.00	.91	
4. Consumer Pack Inventory	23,320.00 lbs	30,005.78	23.95	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	4,758.73 lbs	11,141.78	8.89	
7. Crop Insurance Receipts		10,198.67	8.14	
8. Miscellaneous Receipts		8,666.67	6.92	
9. Less: Honey Purchase for Resale		0.00	0.00	
VALUE OF PRODUCTION		298,917.32	238.56	1.56
(B)				
1. Bee Purchases - Package Bees		0.00	0.00	
2. Bee Purchases - Queens		11,277.11	9.00	
3. Freight and Trucking		7,273.89	5.81	
4. Feed - Sugar		23,288.33	18.59	
5. Medicinal Sugar/Bee Repellent		7,386.67	5.90	
6. Product and Crop Insurance		1,665.11	1.33	
7. Fuel		10,826.00	8.64	
8. Repairs - Machine		6,227.56	4.97	
9. Repairs - Buildings and Improvements		4,781.44	3.82	
10. Utilities and Heating Fuel		8,995.22	7.18	
11. Custom Work and Machine Rental		1,611.56	1.29	
12. Association Dues, Prof'l Fees, Promotion and Travel		7,107.56	5.67	
13. Small Tools, Supplies and Misc., Expenses		11,245.67	8.97	
14. Operating Interest		2,333.33	1.86	
15. Paid Labour and Benefits	5,416.44 hours	72,914.60	58.19	
16. Unpaid Labour	1,088.89 hours	10,580.00	8.44	
VARIABLE COSTS		187,514.04	149.65	0.98
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		1,952.44	1.56	
2. Taxes, Licenses and General Insurance		8,080.00	6.45	
3. Equipment and Building	a) Depreciation	61,765.25	49.29	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		6,895.31	5.50	
TOTAL CAPITAL COSTS		78,693.00	62.80	0.41
(D) CASH COSTS	(B+C-B16-C3a)	193,861.79	154.72	1.01
(E) TOTAL PRODUCTION COSTS	(B+C)	266,207.04	212.46	1.39
(F) GROSS MARGIN	(A-D)	105,055.53	83.84	0.55
RETURN TO UNPAID LABOUR	(A-E+B16)	43,290.28	34.55	0.23
RETURN TO INVESTMENT	(A-E+C4) 5.3%	39,605.59	31.61	0.21
RETURN TO EQUITY	(A-E)	32,710.28	26.11	0.17
MANAGEMENT				
Number of Hives			1,253.00	
Average Yield per Hive (Lbs.)			152.85	
Honey Produced (Lbs.)			191,515.00	

Investment for land, buildings, bee equipment, machinery and vehicles for the nine study participants in the Peace River Region amounted to \$740,782 per beekeeping operation in 2008. Land area associated with beekeeping operations in the Peace Region was estimated around 23 acres valued at \$18,049 (\$785 per acre). Building investment in 2008 was estimated at \$207,228 per average operation or \$165 per hive. Investment for bee equipment based on market value amounted to \$389,094 operation or \$311 per hive. Machinery investment including vehicles was significantly higher for this group of honey producers compared to other two groups. It was estimated at \$126,411 per average operation or \$101 per hive. Investment per hive for an average beekeeping operation in this region (Group III) was marginally higher at \$591 compared to the North West Region but lower than the Southern Central and North East Regions. Details on land, buildings, and bee equipment and machinery investments for the beekeepers in the Peace River Region are presented in Table 9.

Table 9. Honey Production Enterprise Investment, Peace River Region, 2008

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	23.22 acres	18,048.89	14.40	
Buildings		207,227.78	165.39	
Bee Equipment		389,094.44	310.53	
Machinery		126,411.11	100.89	
TOTAL INVESTMENT		740,782.22	591.21	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		18,048.89		
Honey House		105,000.00	12.00	5,250.00
Wintering Shed		0.00	0.00	0.00
Houses (25%)		35,972.22	16.78	1,798.61
Other Buildings		66,255.56	18.64	3,312.78
Buildings Sub-Total		207,227.78		10,361.39
Hives		217,041.67	10.78	24,959.79
Pallets		13,872.22	9.00	1,595.31
Fork Lift		37,666.67	14.11	3,013.33
Hive Feeders		7,641.67	9.56	878.79
Super Elevator		0.00	0.00	0.00
Uncapping Machines		10,405.56	12.33	832.44
Honey Extractor		32,317.78	8.22	2,585.42
Dryer/Heat Exchanger		666.67	0.67	53.33
Wax Spinner/Separator		6,833.33	11.22	546.67
Honey Tank and Pipe		8,777.78	13.22	1,009.44
Feed Tank		3,622.22	10.89	416.56
Storage Vessel		0.00	0.00	0.00
Boiler Furnace		2,055.56	9.56	164.44
Water System		0.00	0.00	0.00
Compressor		1,561.11	9.00	124.89
Pressure Washer		1,311.11	8.67	104.89
Fuel Tank		0.00	0.00	0.00
Scales		2,522.22	22.11	290.06
Barrels		7,283.33	1.22	837.58
Barrel Loader		0.00	0.00	0.00
Carts		733.33	13.89	84.33
Fencers/Shockers		7,005.56	5.56	805.64
Shop Tools		10,444.44	6.33	1,201.11
Staplers		827.78	6.56	95.19
Office Equipment		0.00	0.00	0.00
Lawn Mower		4,266.67	5.44	341.33
Over-Wintering Insulation		8,922.22	6.89	1,026.06
Miscellaneous Equipment		3,315.56	5.22	265.24
Equipment Sub-Total		389,094.44		41,231.86
Trucks		112,777.78	10.17	9,022.22
Tractors		8,111.11	3.56	648.89
Other Machinery		5,522.22	6.75	306.67
Power Equipment Sub-Total		126,411.11		9,977.78
TOTAL INVESTMENT		740,782.22		61,571.03

SECTION V

HONEY PRODUCTION COSTS AND RETURNS BY SIZE OF OPERATION

The study sample of 16 beekeepers was further divided into two groups by size of operation. The main objective of analyzing data by size of operation was to study the economies of scale, i.e., whether the size of operation had any effect on net returns and overall production costs. Following are the two groups by size of operation.

GROUP	SIZE OF OPERATION	NUMBER OF PARTICIPANTS	AVERAGE NUMBER OF HIVES PER BEEKEEPER
IV	Up to 1,000 Hives	9	798
V	Over 1,000 Hives	7	1,650
	TOTAL	16	1,171

Group IV (Up to 1,000 Hives):

Table 10 presents the results for ten study participants in Group IV, i.e., up to 1,000 hives. The number of hives per average study participant for this group was 798. Number of hives owned by this group of participants ranged from 500 to 1,000 hives. In 2008, average honey production per hive for this group was 180 pounds, about 26 pounds per hive higher than the study sample. The value of honey (bulk honey sales, bulk honey inventory, consumer pack sales, consumer pack inventory, wax/pollen sales and other honey sales) amounted to \$247,222 per operation (\$310 per hive) or \$1.72 per pound of honey produced.

Variable Costs:

Average variable costs for this group of honey producers: i.e., up to 1,000 hives, are presented in Table 10. These costs amounted to \$129,061 per operation or \$162 per hive or \$0.90 per pound of honey produced in 2008.

Average operator, family labour and unpaid labour costs for this Group (IV) were about \$82 per hive or \$0.46 per pound of honey produced. The most significant costs for this group of beekeepers were paid labour and benefits at \$63 per hive, followed by feed-sugar, unpaid labour and benefits, fuel, small tools, supplies and miscellaneous expenses, bee purchases, freight and

trucking, utilities and heating fuel, supplies and miscellaneous expenses.

Capital Costs:

Average land rent/lease, depreciation for buildings, bee equipment and vehicles, and capital interest paid by the six apiarists in Group IV amounted to \$50,307 (\$63 per hive) or \$0.35 per pound of honey produced. Breakdown of capital costs is also shown in Table 10.

Total Production Costs:

Average total production costs per study participant in up to 1,000 hives group were estimated at \$179,369 for honey operation with 798 hives. Production costs per hive and per pound of honey produced was \$225 and \$1.25, respectively.

Management Indicators:

Average gross margin (return to value of production over cash costs) for Group IV participants (up to 1,000 hives) was estimated at \$125,300 per beekeeping operation in this size category. It was \$157 per hive or \$0.87 per pound of honey produced. Average return to unpaid labour was positive at \$105 per hive or \$0.58 per pound of honey produced. Return to investment and equity were positive at \$89 and \$85 per hive, respectively. Average return to investment was calculated to be positive at about 14 percent for honey production in 2008. Details on cash, operator and family labour, capital costs, and management indicators are given in Table 10.

Investment Costs:

Average total investment for honey producers in the up to 1,000 hives group was \$514,015 per operation or \$644 per hive. Bee equipment investment was estimated at \$314 per hive, followed by buildings at \$162, and machinery including vehicles, at \$137 per hive. Table 11 presents details on land, buildings, bee equipment, machinery and vehicles investment for Group IV in 2008.

Group V (Over to 1,000 Hives):

Average number of hives for this group of seven (7) beekeepers was 1,650 hives, with an average production of 137 pounds per hive. The number of hives owned by this group of participants ranged from 1,200 to 5,000. Section A in Table 12 presents total value of production (bulk honey sales, consumer pack sales, and honey held in inventory, wax/pollen sales and miscellaneous receipts, and other honey sales). It was estimated at \$356,946 per beekeeping operation or \$216 per hive (\$1.57 per pound).

**Table 10. Honey Production Costs and Returns, By Size of Operation
(up to 1,000 Hives), 2008**

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	116,098.12 lbs	170,728.73	214.01	1.47
2. Bulk Honey Inventory	0.00 lbs	0.00	0.00	
3. Consumer Pack Sales	965.00 lbs	1,813.33	2.27	
4. Consumer Pack Inventory	26,667.33 lbs	41,641.17	52.20	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	2,098.89 lbs	5,395.62	6.76	
7. Crop Insurance Receipts		1,333.33	1.67	
8. Miscellaneous Receipts		26,310.32	32.98	
9. Less: Honey Purchase for Resale		0.00	0.00	
VALUE OF PRODUCTION		247,222.50	309.89	1.72
(B)				
1. Bee Purchases - Package Bees		0.00	0.00	
2. Bee Purchases - Queens		6,064.15	7.60	
3. Freight and Trucking		5,922.45	7.42	
4. Feed - Sugar		14,741.63	18.48	
5. Medicinal Sugar/Bee Repellent		6,006.09	7.53	
6. Product and Crop Insurance		1,717.45	2.15	
7. Fuel		8,095.72	10.15	
8. Repairs - Machine		2,479.28	3.11	
9. Repairs - Buildings and Improvements		1,851.92	2.32	
10. Utilities and Heating Fuel		5,402.07	6.77	
11. Custom Work and Machine Rental		313.62	0.39	
12. Association Dues, Prof'l Fees, Promotion and Travel		3,874.66	4.86	
13. Small Tools, Supplies and Misc., Expenses		6,499.33	8.15	
14. Operating Interest		277.78	0.35	
15. Paid Labour and Benefits	3,198.44 hours	49,901.69	62.55	
16. Unpaid Labour	1,515.56 hours	15,913.33	19.95	
VARIABLE COSTS		129,061.17	161.78	0.90
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		1,921.22	2.41	
2. Taxes, Licenses and General Insurance		3,899.31	4.89	
3. Equipment and Building	a) Depreciation	41,532.30	52.06	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		2,954.53	3.70	
TOTAL CAPITAL COSTS		50,307.37	63.06	0.35
(D) CASH COSTS	(B+C-B16-C3a)	121,922.90	152.83	0.85
(E) TOTAL PRODUCTION COSTS	(B+C)	179,368.54	224.84	1.25
(F) GROSS MARGIN	(A-D)	125,299.61	157.06	0.87
RETURN TO UNPAID LABOUR	(A-E+B16)	83,767.30	105.00	0.58
RETURN TO INVESTMENT	(A-E+C4) 13.8%	70,808.50	88.76	0.49
RETURN TO EQUITY	(A-E)	67,853.97	85.05	0.47
MANAGEMENT				
			797.78	
Number of Hives			180.16	
Average Yield per Hive (Lbs.)			143,730.46	
Honey Produced (Lbs.)				

**Table 11. Honey Production Enterprise Investment, By Size of Operation
(up to 1,000 Hives), 2008**

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	33.44 acres	23,915.56	29.98	
Buildings		129,720.00	162.60	
Bee Equipment		250,792.67	314.36	
Machinery		109,622.89	137.41	
TOTAL INVESTMENT		514,051.11	644.35	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		23,915.56		
Honey House		61,666.67	16.44	3,083.33
Wintering Shed		0.00	0.00	0.00
Houses (25%)		26,944.44	15.56	1,347.22
Other Buildings		41,108.89	16.39	2,055.44
Buildings Sub-Total		129,720.00		6,486.00
Hives		123,644.44	9.67	14,219.11
Pallets		4,070.22	10.40	468.08
Fork Lift		36,058.22	13.15	2,884.66
Hive Feeders		5,326.78	8.22	612.58
Super Elevator		0.00	0.00	0.00
Uncapping Machines		10,464.11	15.89	837.13
Honey Extractor		16,504.11	13.91	1,320.33
Dryer/Heat Exchanger		666.67	0.67	53.33
Wax Spinner/Separator		5,961.22	10.33	476.90
Honey Tank and Pipe		6,651.33	13.20	764.90
Feed Tank		4,664.44	12.24	536.41
Storage Vessel		0.00	0.00	0.00
Boiler Furnace		1,833.33	12.89	146.67
Water System		0.00	0.00	0.00
Compressor		1,259.56	8.78	100.76
Pressure Washer		888.33	5.89	71.07
Fuel Tank		0.00	0.00	0.00
Scales		1,067.78	31.51	122.79
Barrels		3,701.33	3.89	425.65
Barrel Loader		0.00	0.00	0.00
Carts		1,721.00	14.37	197.92
Fencers/Shockers		4,219.56	4.78	485.25
Shop Tools		7,610.22	6.33	875.18
Staplers		586.33	8.63	67.43
Office Equipment		0.00	0.00	0.00
Lawn Mower		3,415.33	4.60	273.23
Over-Wintering Insulation		8,068.56	8.94	927.88
Miscellaneous Equipment		2,409.78	4.33	192.78
Equipment Sub-Total		250,792.67		26,060.03
Trucks		98,411.11	9.30	7,872.89
Tractors		2,222.22	3.33	177.78
Other Machinery		8,989.56	8.60	224.44
Power Equipment Sub-Total		109,622.89		8,275.11
TOTAL INVESTMENT		514,051.11		40,821.14

Variable Costs:

Average variable costs for Group V (Over 1,000 hives) of beekeepers were estimated at \$269,059 per beekeeping operation or \$163 per hive (\$1.19 per pound) during the 2008 honey production year.

Average paid labour and benefits were \$60 per hive, the largest expense item in variable costs. Cash costs (D) for this group amounted to \$288,159 per operation or \$175 per hive or \$1.27 per pound of honey produced (Table 12).

Capital Costs:

Capital costs for Group V honey producers (Over 1,000 hives) were estimated at \$105,808 per operation or \$64 per hive (\$0.47 per pound of honey produced). Overall capital costs for this group of beekeepers were more than double the costs of beekeepers in the up to 1,000 hives group. However, these costs for this group were higher by just over a dollar when compared on a per hive basis.

Total Production Costs:

Average total production costs (variable costs including operator and family, and capital costs) for honey producers in this size group, were \$374,866 per average beekeeping operation. In terms of per hive and per pound of honey produced, average production cost for this group was \$227 and \$1.65, respectively.

Management Indicators:

Gross margin (value of production - cash costs) for Group V participants (Over to 1,000 hives) was estimated at \$68,787 per average beekeeping operation in 2008. It was \$42 per hive or \$0.30 per pound of honey produced. Return to unpaid labour and investment were negative for this group of beekeepers. Return to investment for this group was calculated at negative 0.7 percent in 2008.

The return to equity was also negative at \$11 per hive (\$0.08 per pound of honey produced). Details on total value production, costs and returns are given in Table 12.

Investment Costs:

Average total investment for the study participants in Group V (Over to 1,000 hives) was \$905,645 per operation or \$549 per hive. Land area associated with the honey operation for this group was just under 25 acres, valued at \$19,914 or \$810 per acre (\$12 per hive). Market value

**Table 12. Honey Production Costs and Returns, By Size of Operation
(over 1,000 Hives), 2008**

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	169,633.57 lbs	236,994.84	143.67	1.40
2. Bulk Honey Inventory	0.00 lbs	0.00	0.00	
3. Consumer Pack Sales	0.00 lbs	0.00	0.00	
4. Consumer Pack Inventory	57,075.71 lbs	79,218.14	48.02	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	7,108.66 lbs	16,763.49	10.16	
7. Crop Insurance Receipts		13,112.57	7.95	
8. Miscellaneous Receipts		10,857.14	6.58	
9. Less: Honey Purchase for Resale		0.00	0.00	
VALUE OF PRODUCTION		356,946.19	216.39	1.57
(B)				
1. Bee Purchases - Package Bees		0.00	0.00	
2. Bee Purchases - Queens		25,343.43	15.36	
3. Freight and Trucking		10,291.86	6.24	
4. Feed - Sugar		27,927.86	16.93	
5. Medicinal Sugar/Bee Repellent		12,349.29	7.49	
6. Product and Crop Insurance		1,910.86	1.16	
7. Fuel		20,063.86	12.16	
8. Repairs - Machine		12,586.43	7.63	
9. Repairs - Buildings and Improvements		8,524.57	5.17	
10. Utilities and Heating Fuel		10,713.29	6.49	
11. Custom Work and Machine Rental		2,575.14	1.56	
12. Association Dues, Prof'l Fees, Promotion and Travel		8,892.14	5.39	
13. Small Tools, Supplies and Misc., Expenses		15,052.43	9.13	
14. Operating Interest		3,239.43	1.96	
15. Paid Labour and Benefits	7,086.00 hours	99,105.20	60.08	
16. Unpaid Labour	1,102.86 hours	10,482.86	6.35	
VARIABLE COSTS		269,058.63	163.11	1.19
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		3,031.71	1.84	
2. Taxes, Licenses and General Insurance		15,234.14	9.24	
3. Equipment and Building	a) Depreciation	76,224.40	46.21	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		11,317.43	6.86	
TOTAL CAPITAL COSTS		105,807.69	64.14	0.47
(D) CASH COSTS	(B+C-B16-C3a)	288,159.05	174.69	1.27
(E) TOTAL PRODUCTION COSTS	(B+C)	374,866.32	227.25	1.65
(F) GROSS MARGIN	(A-D)	68,787.14	41.70	0.30
RETURN TO UNPAID LABOUR	(A-E+B16)	(7,437.26)	(4.51)	(0.03)
RETURN TO INVESTMENT	(A-E+C4) -0.7%	(6,602.69)	(4.00)	(0.03)
RETURN TO EQUITY	(A-E)	(17,920.12)	(10.86)	(0.08)
MANAGEMENT				
Number of Hives			1,649.57	
Average Yield per Hive (Lbs.)			137.44	
Honey Produced (Lbs.)			226,709.29	

for buildings was estimated at \$252,714 per average honey operation or \$153 per hive in Group V (Table 13). Bee equipment investment for this group was estimated at \$509,259 per operation or \$309 per hive. Average investment for vehicles was \$123,757 per operation or \$75 per hive. Details on land, buildings, bee equipment, and machinery (vehicles) investment are presented in Table 13.

**Table 13. Honey Production Enterprise Investment, By Size of Operation
(over 1,000 Hives), 2008**

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	24.57 acres	19,914.29	12.07	
Buildings		252,714.29	153.20	
Bee Equipment		509,259.29	308.72	
Machinery		123,757.14	75.02	
TOTAL INVESTMENT		905,645.00	549.02	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		19,914.29		
Honey House		134,714.29	16.86	6,735.71
Wintering Shed		0.00	0.00	0.00
Houses (25%)		34,285.71	21.71	1,714.29
Other Buildings		83,714.29	24.89	4,185.71
Buildings Sub-Total		252,714.29		12,635.71
Hives		267,939.29	7.14	30,813.02
Pallets		24,178.57	7.43	2,780.54
Fork Lift		57,000.00	14.43	4,560.00
Hive Feeders		12,753.57	10.43	1,466.66
Super Elevator		0.00	0.00	0.00
Uncapping Machines		8,928.57	10.00	714.29
Honey Extractor		42,571.43	14.14	3,405.71
Dryer/Heat Exchanger		1,642.86	3.00	131.43
Wax Spinner/Separator		10,357.14	9.43	828.57
Honey Tank and Pipe		10,500.00	14.57	1,207.50
Feed Tank		5,785.71	8.43	665.36
Storage Vessel		0.00	0.00	0.00
Boiler Furnace		3,785.71	9.14	302.86
Water System		0.00	0.00	0.00
Compressor		1,150.00	7.86	92.00
Pressure Washer		2,757.14	6.29	220.57
Fuel Tank		0.00	0.00	0.00
Scales		3,242.86	7.14	372.93
Barrels		9,007.14	1.29	1,035.82
Barrel Loader		0.00	0.00	0.00
Carts		1,085.71	8.43	124.86
Fencers/Shockers		8,239.29	3.29	947.52
Shop Tools		8,285.71	8.71	952.86
Staplers		1,178.57	7.71	135.54
Office Equipment		0.00	0.00	0.00
Lawn Mower		4,992.86	6.57	399.43
Over-Wintering Insulation		17,342.86	5.00	1,994.43
Miscellaneous Equipment		6,534.29	5.14	522.74
Equipment Sub-Total		509,259.29		53,674.62
Trucks		101,971.43	8.52	8,157.71
Tractors		13,285.71	4.71	1,062.86
Other Machinery		8,500.00	9.04	649.14
Power Equipment Sub-Total		123,757.14		9,869.71
TOTAL INVESTMENT		905,645.00		76,180.05

SECTION VI

COSTS AND RETURNS FOR POLLINATING HIVES, 2008

Honeybees have been used for pollinating crops to improve yield and seed production for centuries. In Alberta, commercial use of honeybees to pollinate crops started about thirteen years ago with introduction of transgenic canola. Other crops for which bees have been used for pollination are borage, alfalfa and clover, etc. Over the last few years, the number of pollinating hives has more than tripled from about 20,000 hives in 1996 to over 70,000 hives in 2009. During the last few years the number of pollinating hives continued to increase as the area for transgenic canola and other crops expanded. However, due to some concerns regarding the markets for hybrid canola, demand for pollinating hives decreased marginally for the 2000 crop but has picked up again.

Eight (8) beekeepers who rented their hives for pollination purposes provided detailed information on their operations for the 2008 production year. These eight were in addition to the sixteen beekeepers who were primarily involved in honey production. Before discussing costs and returns data for this group of beekeepers, readers or users of this report, please note that almost 73 percent of the income for this group was generated from renting beehives for pollination purposes. Balance of the income was received from honey sales, wax and pollen and miscellaneous receipts.

The total number of hives for the pollination group of beekeepers was 24,850. Average yield for honey production was about 83 pounds per hive. Average honey production per operation for this group was 256,656 pounds per beekeeping operation. Almost 85 percent of the honey produced was sold as bulk honey and the remainder in consumer pack sales and kept as consumer pack inventory. Average wax sales amounted to \$15,904 per operation or \$5 per hive.

Average honey sales (bulk, consumer pack sales and inventory, wax/pollen sales and miscellaneous receipts) for this group amounted to \$352,592 for a 3,107 beehive operation, or \$113 per hive (\$1.37 per pound of honey produced).

When hive rental income for pollination was combined with honey sales and miscellaneous receipts average value of production increased to \$624,861 per operation. In terms of income per hive, it was estimated at \$201 for the 2008 honey production year.

Variable Costs:

Average variable costs for the pollination group of beekeepers were estimated at \$393,802 operation of 3,107 hives or \$127 per hive. Paid labour and benefits was the leading expense item at \$49 per hive, followed by expenses for sugar and bee purchases. Other notable expenses for this group were supplies and miscellaneous expenses, unpaid labour and machine repairs.

Capital Costs:

Average capital costs for the eight beekeepers in the pollination group were estimated at \$160,408 per operation or \$52 per hive. The most significant cost item for this group was equipment and building depreciation at \$40 per hive.

Cash Costs:

Average cash costs for the 2008 production year amounted to \$425,435 per operation or \$137 per hive for the pollination beekeepers group. Cash costs as mentioned earlier represent costs that are out-of-pocket expenses incurred during the production period. These costs do not include expenses for unpaid labour and equipment and building depreciation.

Total Production Costs:

Average total production costs for the pollination beekeepers group were calculated at \$554,210 per operation. In terms of total production cost per hive, it was \$178 for an average pollination operation. Total production cost comprised of 71 percent variable costs and about 29 percent capital costs. Details on gross revenue variable costs, capital costs are presented in Table 14.

Management Indicators:

Average gross margin for the pollination group of beekeepers was \$199,427 per operation or \$65 per hive. Return to unpaid labour for this group was positive at \$75,676 per operation (\$24 per hive). Average return to investment and equity were also positive at \$25 and \$23 per hive, respectively.

Details on value of production, variable costs, capital costs, total production costs, gross margin, return to unpaid labour, investment and equity are presented in Table 14.

Table 14. Pollination Production Costs and Returns, Alberta, 2008

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	218,233.13 lbs	264,840.63	85.25	1.21
2. Bulk Honey Inventory	16,065.00 lbs	24,097.50	7.76	
3. Consumer Pack Sales	1,706.00 lbs	3,583.75	1.15	
4. Consumer Pack Inventory	20,651.88 lbs	30,867.19	9.94	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	6,104.88 lbs	15,903.74	5.12	
7. Crop Insurance Receipts		0.00	0.00	
8. Miscellaneous Receipts		13,299.13	4.28	
9. Less: Honey Purchase for Resale		0.00	0.00	
10. Hive Rental – Pollination		272,269.38	146.16	
VALUE OF PRODUCTION		624,861.31	201.14	2.43
(B)				
1. Bee Purchases – Package Bees		2,343.75	0.75	
2. Bee Purchases – Queens		39,694.44	12.78	
3. Freight and Trucking		28,592.00	9.20	
4. Feed – Sugar		43,476.25	13.99	
5. Medicinal Sugar/Bee Repellent		26,707.25	8.60	
6. Product and Crop Insurance		537.50	0.17	
7. Fuel		25,904.25	8.34	
8. Repairs – Machine		14,909.50	4.80	
9. Repairs – Buildings and Improvements		3,510.25	1.13	
10. Utilities and Heating Fuel		12,606.50	4.06	
11. Custom Work and Machine Rental		1,793.25	0.58	
12. Association Dues, Prof'l Fees, Promotion and Travel		13,064.25	4.21	
13. Small Tools, Supplies and Misc., Expenses		19,558.81	6.30	
14. Operating Interest		4,126.75	1.33	
15. Paid Labour and Benefits	9,688.50 hours	151,952.25	48.91	
16. Unpaid Labour	480.00 hours	5,025.00	1.62	
VARIABLE COSTS		393,802.00	126.76	1.53
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		5,692.63	1.83	
2. Taxes, Licenses and General Insurance		22,658.25	7.29	
3. Equipment and Building	a) Depreciation	123,750.25	39.83	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		8,306.75	2.67	
TOTAL CAPITAL COSTS		160,407.88	51.63	0.62
(D) CASH COSTS	(B+C-B16-C3a)	425,434.63	136.94	1.66
(E) TOTAL PRODUCTION COSTS	(B+C)	554,209.88	178.40	2.16
(F) GROSS MARGIN	(A-D)	199,426.68	64.19	0.78
RETURN TO UNPAID LABOUR	(A-E+B16)	75,676.43	24.36	0.29
RETURN TO INVESTMENT	(A-E+C4) 5.6%	78,958.18	25.42	0.31
RETURN TO EQUITY	(A-E)	70,651.43	22.74	0.28
MANAGEMENT				
			3,106.63	
			82.62	
			256,656.00	

Table 15. Pollination Production Enterprise Investment, Alberta, 2008

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	39.38 acres	44,075.00	14.19	
Buildings		355,875.00	114.55	
Bee Equipment		845,953.13	272.31	
Machinery		164,750.00	53.03	
TOTAL INVESTMENT		1,410,653.13	454.08	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		44,075.00		
Honey House		187,250.00	9.25	9,362.50
Wintering Shed		0.00	0.00	0.00
Houses (25%)		60,312.50	17.00	3,015.63
Other Buildings		108,312.50	19.96	5,415.63
Buildings Sub-Total		355,875.00		17,793.75
Hives		601,406.25	9.13	69,161.72
Pallets		19,209.38	7.38	2,209.08
Fork Lift		57,375.00	5.00	4,590.00
Hive Feeders		15,437.50	6.50	1,775.31
Super Elevator		0.00	0.00	0.00
Uncapping Machines		6,937.50	8.00	555.00
Honey Extractor		30,368.75	12.88	2,429.50
Dryer/Heat Exchanger		5,562.50	5.38	445.00
Wax Spinner/Separator		11,250.00	9.25	900.00
Honey Tank and Pipe		8,375.00	12.38	963.13
Feed Tank		7,550.00	5.13	868.25
Storage Vessel		0.00	0.00	0.00
Boiler Furnace		4,562.50	7.88	365.00
Water System		0.00	0.00	0.00
Compressor		1,268.75	6.00	101.50
Pressure Washer		2,337.50	4.13	187.00
Fuel Tank		0.00	0.00	0.00
Scales		3,462.50	7.75	398.19
Barrels		14,709.38	2.13	1,691.58
Barrel Loader		0.00	0.00	0.00
Carts		812.50	7.75	93.44
Fencers/Shockers		2,375.00	1.63	273.13
Shop Tools		13,125.00	7.00	1,509.38
Staplers		1,093.75	4.63	125.78
Office Equipment		0.00	0.00	0.00
Lawn Mower		6,203.13	4.13	496.25
Over-Wintering Insulation		29,593.75	5.50	3,403.28
Miscellaneous Equipment		2,937.50	1.38	235.00
Equipment Sub-Total		845,953.13		92,776.50
Trucks		144,100.00	6.46	11,528.00
Tractors		8,125.00	4.13	650.00
Other Machinery		12,525.00	4.63	1,002.00
Power Equipment Sub-Total		164,750.00		13,180.00
TOTAL INVESTMENT		1,410,653.13		123,750.25

Pollination Production Costs and Returns in Southern, Central and North East Regions

Results presented in Table 16 are based on the average of six beekeepers that rented their hives for pollination and also produced honey. Average size of the beekeeping operation was 3,025 hives in 2008. Honey production for this group was almost 90 pounds per hive, about seven pounds more than the sample size for pollination. Honey produced for bulk sales amounted to 242,086 pounds. Honey for consumer pack sales and inventory was 43,098 pounds. Wax production was 3,640 pounds, almost 1.2 pounds per hive. Average value of honey sales including wax and miscellaneous receipts for these beekeepers was \$352,380 per beekeeper or \$186.71 per hive (\$2.08 per pound). Income from hive rental for pollination purposes was around 38 percent of total value of production. Details on value of production (honey and pollination) are presented in Table 16.

Average variable costs for this group of participants were estimated at \$347,039 per beekeeper and \$115 per hive or \$1.28 per pound of honey produced. Average capital costs for this group amounted to \$151,573 per operation, \$50 per hive (\$0.56 per pound). Average total production costs for beekeepers in this group were calculated at \$498,612 per operation and \$165 per hive or \$1.84 per pound of honey produced.

Average gross margin for the six beekeepers in this group was estimated at \$189,040 per operation with 3,025 hives. It was \$62.48 per hive or \$0.70 per pound of honey produced. Average return to unpaid labour (value of production – total production costs and unpaid labour) was positive at \$70,894 per operation and \$23.43 per hive (\$0.26 per pound). Returns to investment and equity were also positive. Details on gross margin, return to unpaid labour, investment and equity are given in Table 16.

Average total investment for land, buildings, bee equipment and machinery for this group was estimated at \$1,350,921 per operation or \$447 per hive. Details on investment are presented in Table 17.

Table 16. Pollination Production Costs and Returns, Southern, Central and North East Regions, 2008

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	242,085.83 lbs	291,450.00	96.33	1.20
2. Bulk Honey Inventory	0.00 lbs	0.00	0.00	
3. Consumer Pack Sales	1,941.33 lbs	4,111.67	1.36	
4. Consumer Pack Inventory	27,535.83 lbs	41,156.25	13.60	
5. Other Honey Sales	0.00 lbs	0.00	0.00	
6. Wax/Pollen/Other Sales	3,639.83 lbs	8,429.99	2.79	
7. Crop Insurance Receipts		0.00	0.00	
8. Miscellaneous Receipts		7,232.17	2.39	
9. Less: Honey Purchase for Resale		0.00	0.00	
10. Hive Rental – Pollination		212,525.83	146.52	
VALUE OF PRODUCTION		564,905.91	186.71	2.08
(B)				
1. Bee Purchases – Package Bees		3,125.00	1.08	
2. Bee Purchases – Queens		25,659.25	8.48	
3. Freight and Trucking		15,167.67	5.01	
4. Feed – Sugar		43,385.00	14.34	
5. Medicinal Sugar/Bee Repellent		26,651.00	8.81	
6. Product and Crop Insurance		716.67	0.24	
7. Fuel		21,178.00	7.00	
8. Repairs – Machine		12,423.00	4.11	
9. Repairs – Buildings and Improvements		3,847.00	1.27	
10. Utilities and Heating Fuel		9,442.00	3.12	
11. Custom Work and Machine Rental		1,637.33	0.54	
12. Association Dues, Prof'l Fees, Promotion and Travel		10,571.33	3.49	
13. Small Tools, Supplies and Misc., Expenses		18,481.58	6.11	
14. Operating Interest		2,423.00	0.80	
15. Paid Labour and Benefits	9,010.17 hours	147,730.83	48.83	
16. Unpaid Labour	440.00 hours	4,600.00	1.52	
VARIABLE COSTS		347,038.67	114.70	1.28
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		5,356.83	1.77	
2. Taxes, Licenses and General Insurance		23,587.67	7.80	
3. Equipment and Building	a) Depreciation	118,145.33	39.05	
	b) Lease Payments	0.00	0.00	
4. Paid Capital Interest		4,483.17	1.48	
TOTAL CAPITAL COSTS		151,573.00	50.10	0.56
(D)	CASH COSTS (B+C-B16-C3a)	375,866.33	124.23	1.38
(E)	TOTAL PRODUCTION COSTS (B+C)	498,611.67	164.80	1.84
(F)	GROSS MARGIN (A-D)	189,039.57	62.48	0.70
	RETURN TO UNPAID LABOUR (A-E+B16)	70,894.24	23.43	0.26
	RETURN TO INVESTMENT (A-E+C4) 5.2%	70,777.41	23.39	0.26
	RETURN TO EQUITY (A-E)	66,294.24	21.91	0.24
MANAGEMENT				
	Number of Hives		3,025.50	
	Average Yield per Hive (Lbs.)		89.76	
	Honey Produced (Lbs.)		271,563.00	

Table 17. Pollination Production Enterprise Investment, Southern, Central and North East Regions, 2008

INVESTMENT SUMMARY:		Total \$	\$/Hive
Land	45.33 acres	51,600.00	17.06
Buildings		319,466.67	105.59
Bee Equipment		798,937.50	264.07
Machinery		180,916.67	59.80
TOTAL INVESTMENT		1,350,920.83	446.51
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)
Land		51,600.00	
Honey House		157,500.00	10.50
Wintering Shed		0.00	0.00
Houses (25%)		61,666.67	14.83
Other Buildings		100,300.00	23.44
Buildings Sub-Total		319,466.67	15,973.33
Hives		570,208.33	8.50
Pallets		13,029.17	8.17
Fork Lift		45,666.67	4.33
Hive Feeders		15,250.00	7.00
Super Elevator		0.00	0.00
Uncapping Machines		6,750.00	9.17
Honey Extractor		32,991.67	14.17
Dryer/Heat Exchanger		5,750.00	7.00
Wax Spinner/Separator		12,166.67	10.33
Honey Tank and Pipe		9,333.33	9.00
Feed Tank		7,066.67	5.67
Storage Vessel		0.00	0.00
Boiler Furnace		3,583.33	6.83
Water System		0.00	0.00
Compressor		1,408.33	4.33
Pressure Washer		2,400.00	4.50
Fuel Tank		0.00	0.00
Scales		3,783.33	6.83
Barrels		14,529.17	2.50
Barrel Loader		0.00	0.00
Carts		583.33	8.67
Fencers/Shockers		166.67	1.17
Shop Tools		13,333.33	6.00
Staplers		791.67	5.00
Office Equipment		0.00	0.00
Lawn Mower		6,104.17	4.33
Over-Wintering Insulation		31,458.33	6.67
Miscellaneous Equipment		2,583.33	1.50
Equipment Sub-Total		798,937.50	87,698.67
Trucks		160,050.00	6.24
Tractors		10,833.33	5.50
Other Machinery		10,033.33	5.50
Power Equipment Sub-Total		180,916.67	14,473.33
TOTAL INVESTMENT		1,350,920.83	118,145.33

SECTION VII

SUMMARY

This section provides a summary of the value of production (bulk honey sales and inventory, consumer pack sales and inventory, and any other honey sales, receipts from wax/pollen, crop insurance receipts, and miscellaneous income). It also provides estimates of cash costs, operator and family labour, capital costs and management indicators for the study sample of 24 beekeepers across the province for the 2008 honey crop. A list of this information is also presented for the various groups by region and size of operation in Table 18.

Average yield per hive for the study sample was 154 pounds during the 2008 production year. This number is significantly higher than the provincial average of 115 pounds per hive. When yield per hive was compared among the groups by region, it ranged from 153 pounds for Group III (Peace River) to about 156 pounds for Group II (North West). Honey production per hive by size of operation was 180 pounds for up to 1,000 hives group and 137 pounds for over 1,000 hives.

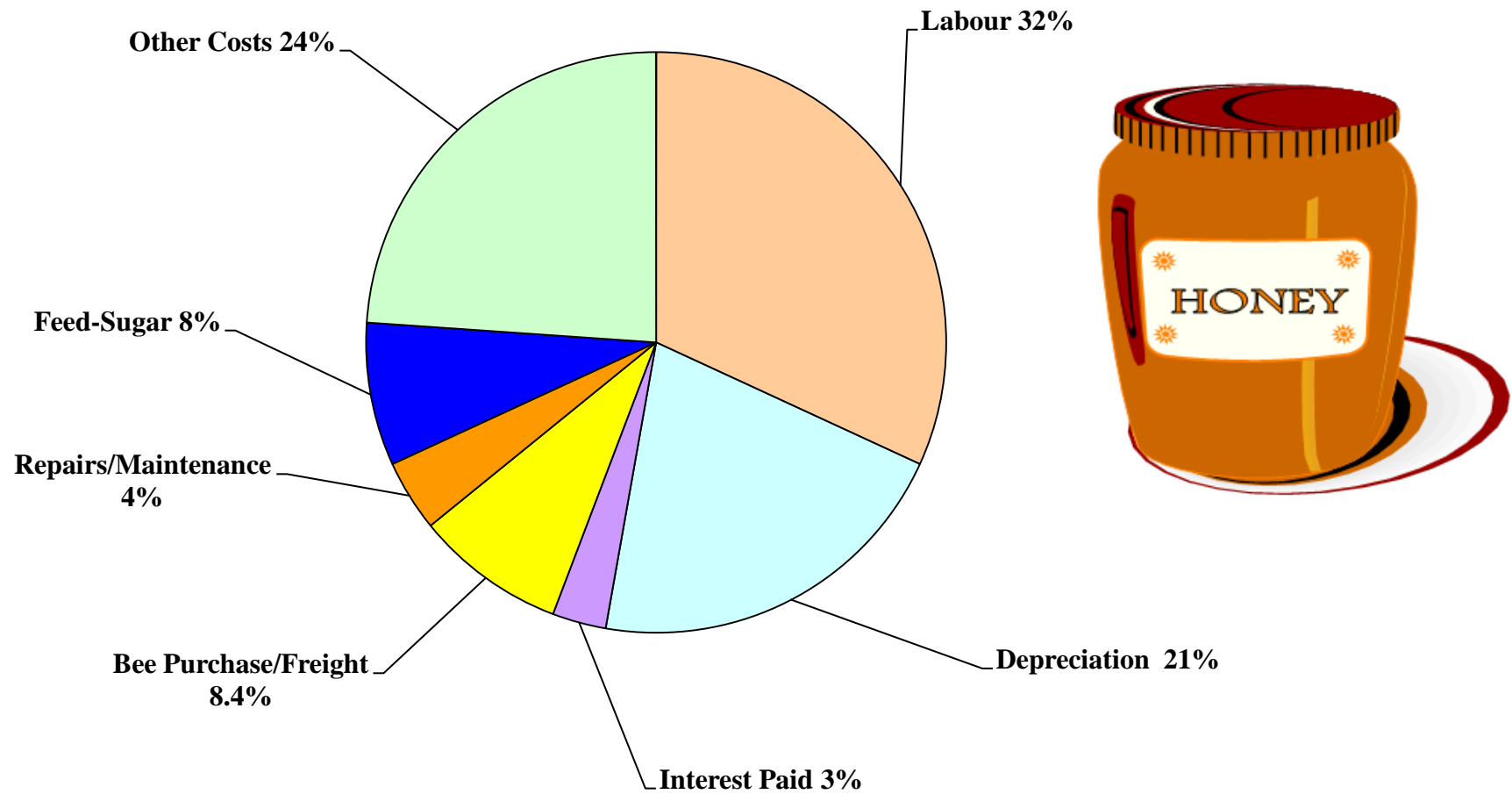
Average total value of production (bulk honey sales, other honey sales and miscellaneous income) was \$241 per hive for the study sample. It ranged from \$239 per hive in the Southern, Central and North East Regions to \$245 per hive in the North West Region. By size of operation, average value of production was \$279 per hive for Group IV (up to 1,000 hives) and \$216 per hive for Group V (over 1,000 hives).

Details on cash costs (input costs, feed-sugar and hired labour), operator and family labour, capital costs are also presented in Table 18 for the study sample (Alberta), by regions and size of operation. Average total production cost was estimated at \$226 per hive for the study sample (\$1.47 per pound of honey produced). Figure 5 shows the relative proportions of all costs for honey production in Alberta. These costs ranged from \$212 per hive in the Peace River Region in the North-East Region to \$256 per hive. By size of operation, total production cost was \$225 per hive (\$1.25 per pound) for Group IV (up to 1,000 hives) and \$227 per hive (\$1.65 per pound) for Group V (over 1,000 hives).

Table 18. Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2008

	ALBERTA		SOUTHERN CENTRAL NE REGIONS		NORTH-WEST REGION		PEACE RIVER REGION		UP TO 1,000 HIVES		OVER 1,000 HIVES	
Average Number of Hives	1,170		935		1,116		1,253		798		1,650	
	Per Hive	Per Lbs. of Honey Produced	Per Hive	Per Lbs. of Honey Produced	Per Hive	Per Lbs. of Honey Produced	Per Hive	Per Lbs. of Honey Produced	Per Hive	Per Lbs. of Honey Produced	Per Hive	Per Lbs. of Honey Produced
Average Yield Per Hive (lbs)	153.82		153.60		155.86		152.85		180.16		137.44	
Bulk Honey Sales (\$)	170.64	1.11	218.33	1.42	116.02	0.74	189.75	1.24	214.01	1.19	143.67	1.05
Other Honey Sales/Inventory*	59.35	0.39	13.11	0.09	126.59	0.81	33.75	0.22	61.23	0.34	58.18	0.42
Miscellaneous Income	10.58	0.07	7.09	0.05	2.69	0.02	15.06	0.10	4.21	0.02	14.53	0.11
TOTAL VALUE OF PRODUCTION	240.57	1.56	238.53	1.55	245.30	1.57	238.56	1.56	279.45	1.55	216.39	1.57
Cash Costs (\$)	87.76	0.57	62.54	0.41	104.31	0.67	72.87	0.48	71.80	0.40	97.68	0.71
Feed – Sugar	17.52	0.11	18.38	0.12	15.09	0.10	18.59	0.12	18.48	0.10	16.93	0.12
Hired Labour	61.03	0.40	55.62	0.36	68.57	0.44	58.19	0.38	62.55	0.35	60.08	0.44
A TOTAL CASH COSTS (\$)	166.31	1.08	136.54	0.89	187.97	1.28	149.65	0.98	152.83	0.85	174.69	1.27
B Operator & Family Labour	11.57	0.08	37.28	0.24	9.26	0.06	8.44	0.06	19.95	0.11	6.35	0.05
C Capital Costs	63.73	0.41	54.99	0.36	68.52	0.44	62.80	0.41	63.06	0.35	64.14	0.47
TOTAL PRODUCTION COST-\$ (A+B+C)	226.32	1.47	219.93	1.43	256.50	1.65	212.46	1.39	224.84	1.25	227.25	1.65
RETURN OVER CASH COSTS (\$)	74.26	0.48	101.99	0.66	45.60	0.29	83.84	0.55	126.62	0.77	41.70	0.30
RETURN TO INVESTMENT (\$)	19.89	0.13	18.60	0.12	(3.35)	(0.02)	31.61	0.21	58.32	0.32	(4.00)	(0.03)
RETURN TO EQUITY (\$)	14.24	0.09	18.60	0.12	(11.19)	(0.07)	26.11	0.17	54.62	0.30	(10.86)	(0.08)
AV. INVESTMENT PER HIVE (\$)	585.57	3.81	615.81	4.09	564.05	3.62	591.21	3.87	644.35	3.58	549.02	3.99
*Includes consumer pack sales, honey inventory and wax/pollen/other sales												
** Includes crop insurance and miscellaneous receipts												

Figure 5: Breakdown of Honey Production Costs, 2008



Returns to value of honey production over cash costs were positive for the study sample and all groups (by regions and size of operation). The highest gross margin was \$102 per hive (\$0.66 per pound) for the honey producers in the Southern, Central and North East Region. It was \$46 in the North West Region and \$84 per hive in the Peace River Region. Average gross margin was \$74 per hive for the study sample in 2008.

Gross margin or return over cash costs for honey producers by size of operation was \$127 per hive (\$0.77 per pound) for producers in Group IV (up to 1,000 hives) and \$42 per hive (\$0.30 per pound) for Group V (over 1,000 hives). Average return to unpaid labour for the study sample was \$26 per hive (\$0.17 per pound of honey produced). The return to investment was estimated at \$20 per hive. Return to equity was positive at \$14 per hive for the study sample.

Return to unpaid labour for the beekeepers in Group I (Southern, Central and North East Regions), and Group III (Peace River Region) were positive at \$56 and \$35 per hive, respectively. Return to unpaid labour for Group II (Northwest Region) was marginally negative at \$2 per hive. Return to unpaid labour was estimated at \$75 per hive for Group IV (up to 1,000 hives) beekeepers. It was negative at \$18 per hive for beekeepers in Group V (over 1,000 hives). Returns to investment and equity were positive for beekeepers in Groups I, III and IV. These were negative for beekeepers in Group II (North West Region) and Group V (over 1,000 hives).

Details on management indicators for the study sample, by region and size of operation are presented in Table 16. Average investment per hive for the various groups, including the study sample, is also given in this Table. In 2008 investment per hive for the study sample of 24 beekeepers was estimated at \$586. By regions, investment per hive ranged from \$654 (North West Region) for Group II to \$616 for Group I (Southern, Central and North East Region). By size of operation, average investment per hive was \$644 for Group IV (up to 1,000 hives) and \$549 for Group V (over 1,000 hives).

APPENDICES

Table 2. Honey Production Costs and Returns, Alberta, 2005

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	188,145.70 lbs	167,885.76	97.63	.89
2. Bulk Honey Inventory	6,525.04 lbs	6,266.57	3.64	
3. Consumer Pack Sales	7,334.61 lbs	14,755.23	8.58	
4. Consumer Pack Inventory	54,062.87 lbs	43,897.98	25.53	
5. Other Honey Sales	27.39 lbs	27.39	.02	
6. Wax/Pollen/Other Sales	5,242.61 lbs	13,384.75	7.78	
7. Crop Insurance Receipts		661.35	.38	
8. Miscellaneous Receipts		4,636.20	2.70	
9. Less: Honey Purchase for Resale		295.65	.17	
VALUE OF PRODUCTION		251,810.89	146.44	.98
(B)				
1. Bee Purchases - Package Bees		859.43	.50	
2. Bee Purchases - Queens		14,277.09	8.30	
3. Freight and Trucking		3,917.03	2.28	
4. Feed - Sugar		23,218.33	13.50	
5. Medicinal Sugar/Bee Repellent		4,959.57	2.88	
6. Product and Crop Insurance		3,159.63	1.84	
7. Fuel		8,024.62	4.67	
8. Repairs - Machine		6,579.18	3.83	
9. Repairs - Buildings and Improvements		8,193.44	4.76	
10. Utilities and Heating Fuel		9,212.25	5.36	
11. Custom Work and Machine Rental		442.90	.26	
12. Association Dues, Prof'l Fees, Promotion and Travel		8,564.41	4.98	
13. Small Tools, Supplies and Misc., Expenses		10,775.45	6.27	
14. Operating Interest		4,115.43	2.39	
15. Paid Labour and Benefits	5,094.57 hours	70,519.54	41.01	
16. Unpaid Labour	845.65 hours	8,879.35	5.16	
VARIABLE COSTS		185,697.67	107.99	.73
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		4,588.42	2.67	
2. Taxes, Licenses and General Insurance		11,540.36	6.71	
3. Equipment and Building	a) Depreciation	82,680.40	48.08	
	b) Lease Payments	2,391.30	1.39	
4. Paid Capital Interest		3,004.99	1.75	
TOTAL CAPITAL COSTS		104,205.48	60.60	.41
(D) CASH COSTS	(B+C-B16-C3a)	198,343.40	115.35	.77
(E) TOTAL PRODUCTION COSTS	(B+C)	289,903.15	168.59	1.13
(F) GROSS MARGIN	(A-D)	53,467.49	31.09	.21
RETURN TO UNPAID LABOUR	(A-E+B16)	(29,212.92)	(16.99)	(.11)
RETURN TO INVESTMENT	(A-E+C4) -3.8%	(35,087.27)	(20.40)	(.14)
RETURN TO EQUITY	(A-E)	(38,092.26)	(22.15)	(.15)
MANAGEMENT				
			1,719.57	
Number of Hives			148.93	
Average Yield per Hive (Lbs.)			256,095.61	
Honey Produced (Lbs.)				

Table 3. Honey Production Enterprise Investment, Alberta, 2005

INVESTMENT SUMMARY:		Total \$	\$/Hive
Land	27.26 acres	13,318.52	7.75
Buildings		245,591.74	142.82
Bee Equipment		549,087.87	319.32
Machinery		117,541.70	68.36
TOTAL INVESTMENT		925,539.83	538.24
INVESTMENT DETAIL:		Enterprise Value	Age
		(\$)	(Years)
Land		13,318.52	
Honey House		85,433.91	13.91
Wintering Shed		.00	.00
Houses (25%)		34,000.00	22.57
Other Buildings		126,157.83	15.73
Buildings Sub-Total		245,591.74	12,279.59
Hives		396,954.35	10.88
Pallets		13,752.43	6.73
Fork Lift		25,693.17	11.39
Hive Feeders		9,799.35	8.30
Super Elevator		.00	.00
Uncapping Machines		10,701.83	7.04
Honey Extractor		15,305.43	12.17
Dryer/Heat Exchanger		1,006.52	2.70
Wax Spinner/Separator		6,017.48	8.83
Honey Tank and Pipe		7,433.00	15.22
Feed Tank		4,387.78	7.48
Storage Vessel		.00	.00
Boiler Furnace		2,808.70	7.43
Water System		.00	.00
Compressor		1,284.78	8.48
Pressure Washer		1,462.83	4.61
Fuel Tank		.00	.00
Scales		2,031.52	10.78
Barrels		8,312.61	3.96
Barrel Loader		.00	.00
Carts		799.57	13.00
Fencers/Shockers		1,751.00	3.48
Shop Tools		8,469.57	10.17
Staplers		701.17	6.30
Office Equipment		.00	.00
Lawn Mower		1,931.48	5.30
Over-Wintering Insulation		17,609.39	6.65
Miscellaneous Equipment		10,873.91	1.06
Equipment Sub-Total		549,087.87	60,645.07
Trucks		87,548.22	9.45
Tractors		1,043.48	.96
Other Machinery		28,950.00	10.65
Power Equipment Sub-Total		117,541.70	81,60.55
TOTAL INVESTMENT		925,539.83	81,085.21

**Table 10. Honey Production Costs and Returns, By Size of Operation
(up to 1,000 Hives), 2005**

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	38,200.30 lbs	32,368.57	80.26	.85
2. Bulk Honey Inventory	150.00 lbs	127.50	.32	
3. Consumer Pack Sales	7,432.90 lbs	18,482.17	45.83	
4. Consumer Pack Inventory	4,127.30 lbs	3,882.27	9.63	
5. Other Honey Sales	63.00 lbs	63.00	.16	
6. Wax/Pollen/Other Sales	648.20 lbs	1,394.08	3.46	
7. Crop Insurance Receipts		152.20	.38	
8. Miscellaneous Receipts		3,217.80	7.98	
9. Less: Honey Purchase for Resale		680.00	1.69	
VALUE OF PRODUCTION		60,367.59	149.68	1.21
(B)				
1. Bee Purchases - Package Bees		1,264.70	3.14	
2. Bee Purchases - Queens		3,732.20	9.25	
3. Freight and Trucking		718.80	1.78	
4. Feed - Sugar		5,272.73	13.07	
5. Medicinal Sugar/Bee Repellent		1,611.30	4.00	
6. Product and Crop Insurance		1,225.49	3.04	
7. Fuel		3,289.78	8.16	
8. Repairs - Machine		1,998.07	4.95	
9. Repairs - Buildings and Improvements		2,012.39	4.99	
10. Utilities and Heating Fuel		3,940.75	9.77	
11. Custom Work and Machine Rental		12.30	.03	
12. Association Dues, Prof'l Fees, Promotion and Travel		1,629.96	4.04	
13. Small Tools, Supplies and Misc., Expenses		3,759.55	9.32	
14. Operating Interest		894.50	2.22	
15. Paid Labour and Benefits	560.40 hours	5,266.60	13.06	
16. Unpaid Labour	1,319.00 hours	13,849.50	34.34	
VARIABLE COSTS		50,478.61	125.16	1.01
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		936.50	2.32	
2. Taxes, Licenses and General Insurance		4,535.52	11.25	
3. Equipment and Building	a) Depreciation	19,551.71	48.48	
	b) Lease Payments	.00	.00	
4. Paid Capital Interest		1,623.78	4.03	
TOTAL CAPITAL COSTS		26,647.51	66.07	.53
(D) CASH COSTS	(B+C-B16-C3a)	43,724.91	108.42	.87
(E) TOTAL PRODUCTION COSTS	(B+C)	77,126.12	191.24	1.54
(F) GROSS MARGIN	(A-D)	16,642.68	41.27	.33
RETURN TO UNPAID LABOUR	(A-E+B16)	(2,909.03)	(7.21)	(.06)
RETURN TO INVESTMENT	(A-E+C4) -6.2%	(15,134.75)	(37.53)	(.30)
RETURN TO EQUITY	(A-E)	(16,758.53)	(41.55)	(.34)
MANAGEMENT				
			403.30	
Number of Hives			123.91	
Average Yield per Hive (Lbs.)			49,973.50	
Honey Produced (Lbs.)				

**Table 11. Honey Production Enterprise Investment, By Size of Operation
(up to 1,000 Hives), 2005**

INVESTMENT SUMMARY:		Total \$	\$/Hive
Land	11.70 acres	8,037.50	19.93
Buildings		92,998.00	230.59
Bee Equipment		118,353.60	293.46
Machinery		24,680.00	61.20
TOTAL INVESTMENT		244,069.10	605.18
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years) Depreciation (\$)
Land		8,037.50	
Honey House		48,400.00	16.80 2,420.00
Wintering Shed		.00	.00 .00
Houses (25%)		27,125.00	28.30 1,356.25
Other Buildings		17,473.00	16.59 873.65
Buildings Sub-Total		92,998.00	4,649.90
Hives		79,215.00	14.05 9,109.73
Pallets		2,218.00	6.30 255.07
Fork Lift		4,728.00	14.30 378.24
Hive Feeders		1,660.50	10.10 190.96
Super Elevator		.00	.00 .00
Uncapping Machines		3,770.00	9.70 301.60
Honey Extractor		6,120.00	18.90 489.60
Dryer/Heat Exchanger		.00	.00 .00
Wax Spinner/Separator		2,160.00	11.10 172.80
Honey Tank and Pipe		1,710.00	22.30 196.65
Feed Tank		1,625.50	6.60 186.93
Storage Vessel		.00	.00 .00
Boiler Furnace		1,060.00	9.80 84.80
Water System		.00	.00 .00
Compressor		405.00	10.80 32.40
Pressure Washer		525.00	4.00 42.00
Fuel Tank		.00	.00 .00
Scales		600.00	12.20 69.00
Barrels		2,250.00	3.50 258.75
Barrel Loader		.00	.00 .00
Carts		730.00	12.70 83.95
Fencers/Shockers		905.40	2.80 104.12
Shop Tools		3,700.00	10.60 425.50
Staplers		222.70	6.20 25.61
Office Equipment		.00	.00 .00
Lawn Mower		1,283.50	6.60 102.68
Over-Wintering Insulation		3,425.00	6.90 393.88
Miscellaneous Equipment		40.00	.20 4.60
Equipment Sub-Total		118,353.60	12,908.86
Trucks		19,975.00	13.22 1,598.00
Tractors		.00	.00 .00
Other Machinery		4,705.00	13.36 334.00
Power Equipment Sub-Total		24,680.00	1,932.00
TOTAL INVESTMENT		244,069.10	19,490.76

**Table 12. Honey Production Costs and Returns, By Size of Operation
(over 1,000 Hives), 2005**

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	303,488.31 lbs	272,129.75	99.61	.90
2. Bulk Honey Inventory	11,428.92 lbs	10,988.92	4.02	
3. Consumer Pack Sales	7,259.00 lbs	11,888.35	4.35	
4. Consumer Pack Inventory	92,474.85 lbs	74,679.30	27.33	
5. Other Honey Sales	0.00 lbs	.00	.00	
6. Wax/Pollen/Other Sales	8,776.77 lbs	22,608.35	8.28	
7. Crop Insurance Receipts		1,053.00	.39	
8. Miscellaneous Receipts		5,727.28	2.10	
9. Less: Honey Purchase for Resale		.00	.00	
VALUE OF PRODUCTION		399,074.96	146.07	.96
(B)				
1. Bee Purchases - Package Bees		547.69	.20	
2. Bee Purchases - Queens		22,388.54	8.19	
3. Freight and Trucking		6,377.21	2.33	
4. Feed - Sugar		37,022.64	13.55	
5. Medicinal Sugar/Bee Repellent		7,535.15	2.76	
6. Product and Crop Insurance		4,647.43	1.70	
7. Fuel		11,666.80	4.27	
8. Repairs - Machine		10,103.11	3.70	
9. Repairs - Buildings and Improvements		12,948.09	4.74	
10. Utilities and Heating Fuel		13,267.26	4.86	
11. Custom Work and Machine Rental		774.14	.28	
12. Association Dues, Prof'l Fees, Promotion and Travel		13,898.61	5.09	
13. Small Tools, Supplies and Misc., Expenses		16,172.30	5.92	
14. Operating Interest		6,593.08	2.41	
15. Paid Labour and Benefits	8,582.38 hours	120,714.12	44.18	
16. Unpaid Labour	481.54 hours	5,056.15	1.85	
VARIABLE COSTS		289,712.33	106.04	.70
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		7,397.58	2.71	
2. Taxes, Licenses and General Insurance		16,928.70	6.20	
3. Equipment and Building	a) Depreciation	131,240.94	48.04	
	b) Lease Payments	4,230.77	1.55	
4. Paid Capital Interest		4,067.46	1.49	
TOTAL CAPITAL COSTS		163,865.45	59.98	.40
(D) CASH COSTS	(B+C-B16-C3a)	317,280.69	116.13	.77
(E) TOTAL PRODUCTION COSTS	(B+C)	453,577.79	166.02	1.09
(F) GROSS MARGIN	(A-D)	81,794.26	29.94	.20
RETURN TO UNPAID LABOUR	(A-E+B16)	(49,446.68)	(18.10)	(.12)
RETURN TO INVESTMENT	(A-E+C4) -3.5%	(50,435.37)	(18.46)	(.12)
RETURN TO EQUITY	(A-E)	(54,502.83)	(19.95)	(.13)
MANAGEMENT				
			2,732.08	
Number of Hives				
Average Yield per Hive (Lbs.)			151.77	
Honey Produced (Lbs.)			414,651.08	

**Table 13. Honey Production Enterprise Investment, By Size of Operation
(over 1,000 Hives), 2005**

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	39.23 acres	17,380.85	6.36	
Buildings		362,971.54	132.86	
Bee Equipment		880,421.92	322.25	
Machinery		188,973.77	69.17	
TOTAL INVESTMENT		1,449,748.08	530.64	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		17,380.85		
Honey House		113,921.54	11.69	5,696.08
Wintering Shed		.00	.00	.00
Houses (25%)		39,288.46	18.15	1,964.42
Other Buildings		209,761.54	15.07	10,488.08
Buildings Sub-Total		362,971.54		18,148.58
Hives		641,369.23	8.43	73,757.46
Pallets		22,625.08	7.06	2,601.88
Fork Lift		41,820.23	9.15	3,345.62
Hive Feeders		16,060.00	6.92	1,846.90
Super Elevator		.00	.00	.00
Uncapping Machines		16,034.00	5.00	1,282.72
Honey Extractor		22,371.15	7.00	1,789.69
Dryer/Heat Exchanger		1,780.77	4.77	142.46
Wax Spinner/Separator		8,984.77	7.08	718.78
Honey Tank and Pipe		11,835.31	9.77	1,361.06
Feed Tank		6,512.62	8.15	748.95
Storage Vessel		.00	.00	.00
Boiler Furnace		4,153.85	5.62	332.31
Water System		.00	.00	.00
Compressor		1,961.54	6.69	156.92
Pressure Washer		2,184.23	5.08	174.74
Fuel Tank		.00	.00	.00
Scales		3,132.69	9.69	360.26
Barrels		12,976.15	4.31	1,492.26
Barrel Loader		.00	.00	.00
Carts		853.08	13.23	98.10
Fencers/Shockers		2,401.46	4.00	276.17
Shop Tools		12,138.46	9.85	1,395.92
Staplers		1,069.23	6.38	122.96
Office Equipment		.00	.00	.00
Lawn Mower		2,429.92	4.31	194.39
Over-Wintering Insulation		28,520.46	6.46	3,279.85
Miscellaneous Equipment		19,207.69	1.72	1,885.81
Equipment Sub-Total		880,421.92		97,365.23
Trucks		139,527.62	6.54	11,162.21
Tractors		1,846.15	1.69	147.69
Other Machinery		47,600.00	8.56	1,641.85
Power Equipment Sub-Total		188,973.77		12,951.75
TOTAL INVESTMENT		1,449,748.08		128,465.55

Table 14. Pollination Production Costs and Returns, Alberta, 2005

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	157,108.33 lbs	127,955.17	28.39	.81
2. Bulk Honey Inventory	0.00 lbs	.00	.00	
3. Consumer Pack Sales	1,285.83 lbs	2,571.67	.57	
4. Consumer Pack Inventory	102,916.67 lbs	81,620.83	18.11	
5. Other Honey Sales	0.00 lbs	.00	.00	
6. Wax/Pollen/Other Sales	5,995.67 lbs	12,902.53	2.86	
7. Crop Insurance Receipts		.00	.00	
8. Miscellaneous Receipts		6,392.00	1.42	
9. Less: Honey Purchase for Resale		666.67	.15	
10. Hive Rental - Pollination		396,685.83	130.34	
VALUE OF PRODUCTION		628,794.70	139.52	2.41
(B)				
1. Bee Purchases - Package Bees		111,158.33	24.66	
2. Bee Purchases - Queens		22,600.00	5.01	
3. Freight and Trucking		6,240.00	1.38	
4. Feed - Sugar		59,633.33	13.23	
5. Medicinal Sugar/Bee Repellent		15,284.00	3.39	
6. Product and Crop Insurance		4,333.33	.96	
7. Fuel		21,655.50	4.80	
8. Repairs - Machine		17,325.67	3.84	
9. Repairs - Buildings and Improvements		23,964.00	5.32	
10. Utilities and Heating Fuel		15,047.17	3.34	
11. Custom Work and Machine Rental		2,393.33	.53	
12. Association Dues, Prof'l Fees, Promotion and Travel		12,346.00	2.74	
13. Small Tools, Supplies and Misc., Expenses		12,118.00	2.69	
14. Operating Interest		4,050.00	.90	
15. Paid Labour and Benefits	14,974.50 hours	183,654.00	40.75	
16. Unpaid Labour	1,332.92 hours	12,206.88	2.71	
VARIABLE COSTS		524,009.54	116.27	2.01
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		6,400.83	1.42	
2. Taxes, Licenses and General Insurance		22,964.67	5.10	
3. Equipment and Building	a) Depreciation	193,270.00	42.88	
	b) Lease Payments	.00	.00	
4. Paid Capital Interest		13,399.00	2.97	
TOTAL CAPITAL COSTS		236,034.50	52.37	.90
(D) CASH COSTS	(B+C-B16-C3a)	554,567.17	123.05	2.12
(E) TOTAL PRODUCTION COSTS	(B+C)	760,044.04	168.64	2.91
(F) GROSS MARGIN	(A-D)	74,227.53	16.47	.28
RETURN TO UNPAID LABOUR	(A-E+B16)	(119,042.47)	(26.41)	(.46)
RETURN TO INVESTMENT	(A-E+C4) -5.7%	(117,850.34)	(26.15)	(.45)
RETURN TO EQUITY	(A-E)	(131,249.34)	(29.12)	(.50)
MANAGEMENT				
			4,507.00	
			57.98	
			261,310.83	

Table 15. Pollination Production Enterprise Investment, Alberta, 2005

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	7.33 acres	4,825.00	1.07	
Buildings		451,408.33	100.16	
Bee Equipment		1,337,183.33	296.69	
Machinery		263,766.67	58.52	
TOTAL INVESTMENT		2,057,183.33	456.44	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		4,825.00		
Honey House		152,833.33	9.83	7,641.67
Wintering Shed		.00	.00	.00
Houses (25%)		28,125.00	24.83	1,406.25
Other Buildings		270,450.00	15.19	13,522.50
Buildings Sub-Total		451,408.33		22,570.42
Hives		1,084,263.33	8.18	124,690.28
Pallets		15,866.67	6.17	1,824.67
Fork Lift		75,833.33	7.17	6,066.67
Hive Feeders		23,026.67	6.50	2,648.07
Super Elevator		.00	.00	.00
Uncapping Machines		10,250.00	11.33	820.00
Honey Extractor		15,233.33	9.33	1,218.67
Dryer/Heat Exchanger		2,600.00	6.83	208.00
Wax Spinner/Separator		8,000.00	5.50	640.00
Honey Tank and Pipe		12,750.00	6.33	1,466.25
Feed Tank		10,400.00	9.50	1,196.00
Storage Vessel		.00	.00	.00
Boiler Furnace		4,283.33	3.50	342.67
Water System		.00	.00	.00
Compressor		3,583.33	4.50	286.67
Pressure Washer		1,616.67	3.00	129.33
Fuel Tank		.00	.00	.00
Scales		4,400.00	7.17	506.00
Barrels		11,220.00	3.17	1,290.30
Barrel Loader		.00	.00	.00
Carts		450.00	4.50	51.75
Fencers/Shockers		133.33	1.00	15.33
Shop Tools		18,575.00	7.50	2,136.13
Staplers		617.50	2.83	71.01
Office Equipment		.00	.00	.00
Lawn Mower		2,333.33	2.50	186.67
Over-Wintering Insulation		22,253.33	4.17	2,559.13
Miscellaneous Equipment		9,494.17	.97	1,091.83
Equipment Sub-Total		1,337,183.33		149,445.42
Trucks		248,233.33	7.53	19,858.67
Tractors		.00	.00	.00
Other Machinery		15,533.33	5.27	893.33
Power Equipment Sub-Total		263,766.67		20,752.00
TOTAL INVESTMENT		2,057,183.33		192,767.83

Table 16. Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2005

	ALBERTA		SOUTHERN CENTRAL NORTH EAST REGIONS		NORTH WEST REGION		PEACE RIVER REGION		UP TO 1,000 HIVES		OVER 1,000 HIVES	
Average Number of Hives	1,720		1,705		1,476		1,951		403		2,732	
	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced
Average Yield Per Hive (lbs)	148.93		137.86		169.18		155.51		123.91		151.77	
Bulk Honey Sales (\$)	135.40	0.91	83.07	0.60	154.48	0.91	128.54	0.83	126.41	1.02	107.98	0.71
Other Honey Sales/Inventory*	7.96	0.05	43.83	0.32	31.01	0.18	17.01	0.11	13.25	0.25	35.61	0.23
Miscellaneous Income	3.08	0.02	2.64	0.02	3.35	0.02	3.68	0.02	10.05	0.08	2.49	0.02
TOTAL VALUE OF PRODUCTION	146.44	0.98	129.54	0.94	188.84	1.12	149.23	0.96	149.68	1.21	146.07	0.96
Cash Costs (\$)	48.32	0.32	41.77	0.34	34.19	0.20	68.67	0.44	64.69	0.52	50.16	0.33
Feed – Sugar	13.50	0.09	12.71	0.09	14.63	0.09	14.18	0.09	13.07	0.11	13.55	0.09
Hired Labour	41.01	0.28	36.91	0.27	45.11	0.27	45.59	0.29	13.06	0.11	44.18	0.29
A TOTAL CASH COSTS (\$)	102.83	0.69	91.39	0.66	93.93	0.56	128.44	0.83	90.82	0.73	107.89	0.71
B Operator and Family Labour	5.16	0.03	4.20	0.03	8.31	0.05	4.86	0.03	34.34	0.28	1.85	0.01
C Capital Costs	60.60	0.41	55.98	0.41	60.85	0.36	68.51	0.44	66.07	0.58	59.98	0.40
TOTAL PRODUCTION COST-\$ (A+B+C)	168.59	1.13	151.58	1.10	163.09	0.96	201.81	1.30	191.24	1.54	166.02	1.09
RETURN OVER CASH COSTS (\$)	31.09	0.21	26.92	0.20	84.33	0.50	4.81	0.03	41.27	0.33	29.94	0.20
RETURN TO INVESTMENT (\$)	(16.99)	(0.14)	(20.51)	(0.15)	26.28	0.16	(49.67)	(0.32)	(37.53)	(0.30)	(18.46)	(10.12)
RETURN TO EQUITY (\$)	(22.15)	(0.15)	(22.03)	(0.16)	25.70	0.15	(52.58)	(0.34)	41.55	(0.34)	(19.95)	(0.13)
AV. INVESTMENT PER HIVE (\$)	538.24	3.61	496.20	3.60	576.48	3.41	587.62	3.78	605.18	4.88	530.64	3.50
*Includes honey inventory and wax/pollen/other sales												

Table 1. Honey Production Costs and Returns, Alberta, 2002

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	227,398.19 lbs	447,812.72	321.72	2.10
2. Bulk Honey Inventory	208.33 lbs	416.67	.28	
3. Consumer Pack Sales	2,393.08 lbs	6,030.46	4.06	
4. Consumer Pack Inventory	17,857.75 lbs	31,033.98	20.90	
5. Other Honey Sales	6,271.08 lbs	13,002.71	8.76	
6. Wax/Pollen/Other Sales	3,117.85 lbs	7,769.88	5.23	
7. Crop Insurance Receipts		5,752.53	3.87	
8. Miscellaneous Receipts		9,446.01	6.36	
9. Less: Honey Purchase for Resale		1,139.96	.77	
VALUE OF PRODUCTION		552,404.91	371.95	2.17
(B)				
1. Bee Purchases - Package Bees		6,247.17	4.21	
2. Bee Purchases - Queens		8,515.60	5.73	
3. Freight and Trucking		2,241.32	1.51	
4. Feed - Sugar		19,736.23	13.29	
5. Medicinal Sugar/Bee Repellent		9,069.23	6.11	
6. Product and Crop Insurance		482.29	.32	
7. Fuel		6,223.69	4.19	
8. Repairs - Machine		9,557.65	6.44	
9. Repairs - Buildings and Improvements		6,413.17	4.32	
10. Utilities and Heating Fuel		7,470.58	5.03	
11. Custom Work and Machine Rental		2,866.70	1.93	
12. Association Dues, Prof'l Fees, Promotion and Travel		5,749.82	3.87	
13. Small Tools, Supplies and Misc., Expenses		9,703.74	6.53	
14. Operating Interest		1,724.04	1.16	
15. Paid Labour and Benefits	4,066.36 hours	52,085.41	35.07	
16. Unpaid Labour	1,586.42 hours	16,657.38	11.22	
VARIABLE COSTS		164,744.01	110.93	.65
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		1,525.58	1.03	
2. Taxes, Licenses and General Insurance		5,507.47	3.71	
3. Equipment and Building	a) Depreciation	58,107.99	39.13	
	b) Lease Payments	.00	.00	
4. Paid Capital Interest		6,400.21	4.31	
TOTAL CAPITAL COSTS		71,541.26	48.17	.28
(D) CASH COSTS	(B+C-B16-C3a)	161,519.91	108.76	.64
(E) TOTAL PRODUCTION COSTS	(B+C)	236,285.27	159.10	.93
(F) GROSS MARGIN	(A-D)	410,260.01	276.24	1.61
RETURN TO UNPAID LABOUR	(A-E+B16)	352,152.02	237.11	1.39
RETURN TO INVESTMENT	(A-E+C4) 52.9%	341,894.86	230.21	1.35
RETURN TO EQUITY	(A-E)	335,494.64	225.90	1.32
MANAGEMENT				
	Number of Hives		1,485.17	
	Average Yield per Hive (Lbs.)		171.11	
	Honey Produced (Lbs.)		254,128.44	

Table 2. Honey Production Enterprise Investment, Alberta, 2002

INVESTMENT SUMMARY:		Total \$	\$/Hive	
Land	12.66 acres	11,649.83	7.84	
Buildings		145,419.14	97.91	
Bee Equipment		395,180.31	266.08	
Machinery		93,614.65	63.03	
TOTAL INVESTMENT		645,863.94	434.88	
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years)	Depreciation (\$)
Land		11,649.83		
Honey House		76,743.67	12.08	3,837.18
Wintering Shed		1,960.00	.50	98.00
Houses (25%)		6,372.52	15.92	318.63
Other Buildings		60,342.96	11.51	3,017.15
Buildings Sub-Total		145,419.14		7,270.96
Hives		253,969.75	12.33	29,206.52
Pallets		11,269.17	7.25	1,295.95
Fork Lift		22,645.83	9.98	1,811.67
Hive Feeders		3,244.92	8.83	373.17
Super Elevator		.00	.00	.00
Uncapping Machines		6,612.50	8.75	529.00
Honey Extractor		12,283.33	9.75	982.67
Dryer/Heat Exchanger		1,331.67	3.33	106.53
Wax Spinner/Separator		4,758.33	11.58	380.67
Honey Tank and Pipe		5,792.58	7.92	666.15
Feed Tank		3,633.17	7.75	417.81
Storage Vessel		.00	.00	.00
Boiler Furnace		1,180.00	9.33	94.40
Water System		.00	.00	.00
Compressor		575.50	4.92	46.04
Pressure Washer		1,199.58	8.00	95.97
Fuel Tank		.00	.00	.00
Scales		1,333.00	7.43	153.29
Barrels		3,409.17	2.83	392.05
Barrel Loader		390.83	2.63	44.95
Carts		934.96	7.50	107.52
Fencers/Shockers		729.75	5.92	83.92
Shop Tools		4,346.67	6.75	499.87
Staplers		831.58	5.25	95.63
Office Equipment		.00	.00	.00
Lawn Mower		2,926.25	4.82	234.10
Over-Wintering Insulation		9,256.92	4.17	1,064.55
Miscellaneous Equipment		42,524.85	6.39	4,631.24
Equipment Sub-Total		395,180.31		43,313.66
Trucks		79,213.65	11.68	6,337.09
Tractors		2,258.33	6.08	180.67
Other Machinery		12,142.67	4.69	893.25
Power Equipment Sub-Total		93,614.65		7,411.01
TOTAL INVESTMENT		645,863.94		57,995.62

**Table 3. Honey Production Costs and Returns, By Size of Operation
(up to 1,000 Hives), 2002**

		Total \$	\$/Hive	\$/Lb.
(A)				
1. Bulk Honey Sales	83,226.67 lbs	149,301.42	249.67	1.79
2. Bulk Honey Inventory	416.67 lbs	833.33	1.39	
3. Consumer Pack Sales	3,686.17 lbs	10,150.50	16.97	
4. Consumer Pack Inventory	13,560.50 lbs	17,757.97	29.70	
5. Other Honey Sales	12,375.50 lbs	25,755.42	43.07	
6. Wax/Pollen/Other Sales	513.17 lbs	2,008.00	3.36	
7. Crop Insurance Receipts		3,045.89	5.09	
8. Miscellaneous Receipts		1,595.29	2.67	
9. Less: Honey Purchase for Resale		950.00	1.59	
VALUE OF PRODUCTION		211,397.82	353.51	1.87
(B)				
1. Bee Purchases - Package Bees		4,161.00	6.96	
2. Bee Purchases - Queens		4,506.04	7.54	
3. Freight and Trucking		756.67	1.27	
4. Feed - Sugar		10,821.67	18.10	
5. Medicinal Sugar/Bee Repellent		3,394.92	5.68	
6. Product and Crop Insurance		381.25	.64	
7. Fuel		5,877.62	9.83	
8. Repairs - Machine		8,422.08	14.08	
9. Repairs - Buildings and Improvements		5,076.80	8.49	
10. Utilities and Heating Fuel		5,526.59	9.24	
11. Custom Work and Machine Rental		771.17	1.29	
12. Association Dues, Prof'l Fees, Promotion and Travel		4,247.07	7.10	
13. Small Tools, Supplies and Misc., Expenses		11,856.09	19.83	
14. Operating Interest		1,595.27	2.67	
15. Paid Labour and Benefits	1,517.07 hours	18,868.33	31.55	
16. Unpaid Labour	1,414.17 hours	14,848.75	24.83	
VARIABLE COSTS		101,111.31	169.08	.89
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		2,195.83	3.67	
2. Taxes, Licenses and General Insurance		4,658.66	7.79	
3. Equipment and Building	a) Depreciation	29,583.07	49.47	
	b) Lease Payments	.00	.00	
4. Paid Capital Interest		958.33	1.60	
TOTAL CAPITAL COSTS		37,395.90	62.53	.33
(D) CASH COSTS	(B+C-B16-C3a)	94,075.38	157.32	.83
(E) TOTAL PRODUCTION COSTS	(B+C)	138,507.20	231.62	1.22
(F) GROSS MARGIN	(A-D)	117,322.43	196.19	1.04
RETURN TO UNPAID LABOUR	(A-E+B16)	87,739.36	146.72	.77
RETURN TO INVESTMENT	(A-E+C4) 22.4%	73,848.95	123.49	.65
RETURN TO EQUITY	(A-E)	72,890.61	121.89	.64
MANAGEMENT				
	Number of Hives		598.00	
	Average Yield per Hive (Lbs.)		189.41	
	Honey Produced (Lbs.)		113,265.50	

**Table 4. Honey Production Enterprise Investment, By Size of Operation
(up to 1,000 Hives), 2002**

INVESTMENT SUMMARY:	Total \$		\$/Hive
Land 7.42 acres	7,112.50		11.89
Buildings	75,327.17		125.97
Bee Equipment	207,462.50		346.93
Machinery	39,187.00		65.53
TOTAL INVESTMENT	329,089.17		550.32
	Enterprise Value	Age	Depreciation
INVESTMENT DETAIL:	(\$)	(Years)	(\$)
Land	7,112.50		
Honey House	46,327.33	16.67	2,316.37
Wintering Shed	3,920.00	1.00	196.00
Houses (25%)	6,645.83	24.83	332.29
Other Buildings	18,434.00	9.94	921.70
Buildings Sub-Total	75,327.17		3,766.36
Hives	137,137.50	19.67	15,770.81
Pallets	3,388.33	9.00	389.66
Fork Lift	12,583.33	12.26	1,006.67
Hive Feeders	2,733.17	12.17	314.31
Super Elevator	.00	.00	.00
Uncapping Machines	4,541.67	11.33	363.33
Honey Extractor	6,300.00	13.83	504.00
Dryer/Heat Exchanger	416.67	.17	33.33
Wax Spinner/Separator	3,383.33	18.00	270.67
Honey Tank and Pipe	5,518.50	10.67	634.63
Feed Tank	3,515.17	10.33	404.24
Storage Vessel	.00	.00	.00
Boiler Furnace	583.33	13.83	46.67
Water System	.00	.00	.00
Compressor	439.83	7.33	35.19
Pressure Washer	1,041.67	6.67	83.33
Fuel Tank	.00	.00	.00
Scales	1,118.50	10.20	128.63
Barrels	2,680.33	2.83	308.24
Barrel Loader	781.67	5.25	89.89
Carts	828.33	12.83	95.26
Fencers/Shockers	1,099.50	9.17	126.44
Shop Tools	6,000.00	8.50	690.00
Staplers	579.83	7.17	66.68
Office Equipment	.00	.00	.00
Lawn Mower	4,724.17	6.81	377.93
Over-Wintering Insulation	4,994.17	6.00	574.33
Miscellaneous Equipment	3,073.50	5.79	301.88
Equipment Sub-Total	207,462.50		22,616.13
Trucks	27,351.67	19.15	2,188.13
Tractors	3,016.67	9.67	241.33
Other Machinery	8,818.67	7.38	555.49
Power Equipment Sub-Total	39,187.00		2,984.96
TOTAL INVESTMENT	329,089.17		29,367.44

**Table 5. Honey Production Costs and Returns, By Size of Operation
(over 1,000 Hives), 2002**

(A)		Total \$	\$/Hive	\$/Lb.
1. Bulk Honey Sales	371,569.72 lbs	806,324.03	339.89	2.17
2. Bulk Honey Inventory	.00 lbs	.00	.00	
3. Consumer Pack Sales	1,100.00 lbs	1,910.42	.81	
4. Consumer Pack Inventory	22,155.00 lbs	44,310.00	18.68	
5. Other Honey Sales	166.67 lbs	250.00	.11	
6. Wax/Pollen/Other Sales	5,722.54 lbs	13,531.75	5.70	
7. Crop Insurance Receipts		8,459.17	3.57	
8. Miscellaneous Receipts		17,296.72	7.29	
9. Less: Honey Purchase for Resale		1,329.93	.56	
VALUE OF PRODUCTION		893,412.01	376.60	2.26
(B)				
1. Bee Purchases - Package Bees		8,333.33	3.51	
2. Bee Purchases - Queens		12,525.17	5.28	
3. Freight and Trucking		3,725.96	1.57	
4. Feed - Sugar		28,650.78	12.08	
5. Medicinal Sugar/Bee Repellent		14,743.55	6.21	
6. Product and Crop Insurance		583.33	.25	
7. Fuel		6,569.76	2.77	
8. Repairs - Machine		10,693.21	4.51	
9. Repairs - Buildings and Improvements		7,749.54	3.27	
10. Utilities and Heating Fuel		9,414.57	3.97	
11. Custom Work and Machine Rental		4,962.24	2.09	
12. Association Dues, Prof'l Fees, Promotion and Travel		7,252.58	3.06	
13. Small Tools, Supplies and Misc., Expenses		7,551.39	3.18	
14. Operating Interest		1,852.82	.78	
15. Paid Labour and Benefits	6,615.64 hours	85,302.49	35.96	
16. Unpaid Labour	1,758.67 hours	18,466.00	7.78	
VARIABLE COSTS		228,376.72	96.27	.58
(C)				
1. Land Rent/Lease, Bldg. Rent and Forage Access		855.33	.36	
2. Taxes, Licenses and General Insurance		6,356.29	2.68	
3. Equipment and Building	a) Depreciation	86,632.91	36.52	
	b) Lease Payments	.00	.00	
4. Paid Capital Interest		11,842.09	4.99	
TOTAL CAPITAL COSTS		105,686.62	44.55	.27
(D) CASH COSTS	(B+C-B16-C3a)	228,964.43	96.51	.58
(E) TOTAL PRODUCTION COSTS	(B+C)	334,063.34	140.82	.85
(F) GROSS MARGIN	(A-D)	703,197.58	296.42	1.78
RETURN TO UNPAID LABOUR	(A-E+B16)	616,564.67	259.90	1.56
RETURN TO INVESTMENT	(A-E+C4) 63.4%	609,940.76	257.11	1.54
RETURN TO EQUITY	(A-E)	598,098.67	252.11	1.51
MANAGEMENT				
			2,372.33	
Number of Hives				
Average Yield per Hive (Lbs.)			166.50	
Honey Produced (Lbs.)			394,991.38	

**Table 6. Honey Production Enterprise Investment, By Size of Operation
(over 1,000 Hives), 2002**

INVESTMENT SUMMARY:		Total \$	\$/Hive
Land	17.91 acres	16,187.17	6.82
Buildings		215,511.12	90.84
Bee Equipment		582,898.12	245.71
Machinery		148,042.30	62.40
TOTAL INVESTMENT		962,638.71	405.78
INVESTMENT DETAIL:		Enterprise Value (\$)	Age (Years) Depreciation (\$)
Land		16,187.17	
Honey House		107,160.00	7.50 5,358.00
Wintering Shed		.00	.00 .00
Houses (25%)		6,099.21	7.00 304.96
Other Buildings		102,251.91	13.07 5,112.60
Buildings Sub-Total		215,511.12	10,775.56
Hives		370,802.00	5.00 42,642.23
Pallets		19,150.00	5.50 2,202.25
Fork Lift		32,708.33	7.70 2,616.67
Hive Feeders		3,756.67	5.50 432.02
Super Elevator		.00	.00 .00
Uncapping Machines		8,683.33	6.17 694.67
Honey Extractor		18,266.67	5.67 1,461.33
Dryer/Heat Exchanger		2,246.67	6.50 179.73
Wax Spinner/Separator		6,133.33	5.16 490.67
Honey Tank and Pipe		6,066.67	5.17 697.67
Feed Tank		3,751.17	5.17 431.38
Storage Vessel		.00	.00 .00
Boiler Furnace		1,776.67	4.83 142.13
Water System		.00	.00 .00
Compressor		711.17	2.50 56.89
Pressure Washer		1,357.50	9.33 108.60
Fuel Tank		.00	.00 .00
Scales		1,547.50	4.67 177.96
Barrels		4,138.00	2.83 475.87
Barrel Loader		.00	.00 .00
Carts		1,041.58	2.17 119.78
Fencers/Shockers		360.00	2.67 41.40
Shop Tools		2,693.33	5.00 309.73
Staplers		1,083.33	3.33 124.58
Office Equipment		.00	.00 .00
Lawn Mower		1,128.33	2.83 90.27
Over-Wintering Insulation		13,519.67	2.33 1,554.76
Miscellaneous Equipment		81,976.20	6.99 8,960.60
Equipment Sub-Total		582,898.12	64,011.20
Trucks		131,075.64	4.20 10,486.05
Tractors		1,500.00	2.50 120.00
Other Machinery		15,466.67	2.01 1,231.00
Power Equipment Sub-Total		148,042.30	11,837.05
TOTAL INVESTMENT		962,638.71	86,623.80

Table 7. Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2002

	ALBERTA		SOUTHERN CENTRAL NORTH EAST REGIONS		NORTH WEST REGION		PEACE RIVER REGION		UP TO 1,000 HIVES		OVER 1,000 HIVES	
Average Number of Hives	1,485		1,617		1,879		565		598		2,372	
	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced
Average Yield Per Hive (lbs)	171.11		155.95		179.92		155.85		189.41		166.50	
Bulk Honey Sales (\$)	321.72	1.88	272.94	1.75	347.21	1.93	291.79	1.87	249.67	1.32	339.89	2.04
Other Honey Sales/Inventory*	43.87	0.25	47.23	0.30	41.98	0.23	46.77	0.30	103.84	0.55	29.42	0.18
Miscellaneous Income	6.36	0.04	3.65	0.02	8.07	0.04	2.71	0.02	2.67	0.01	7.29	0.04
TOTAL VALUE OF PRODUCTION	371.95	2.17	323.82	2.08	397.26	2.21	341.27	2.19	353.51	1.87	376.60	2.24
Cash Costs (\$)	60.40	0.35	53.07	0.34	53.89	0.30	124.55	0.80	107.67	0.57	48.47	0.29
Feed – Sugar	13.29	0.08	8.39	0.05	14.63	0.08	18.38	0.12	18.10	0.10	12.08	0.07
Hired Labour	35.07	0.20	38.55	0.25	34.58	0.19	28.38	0.18	31.55	0.16	35.96	0.22
A TOTAL CASH COSTS (\$)	108.76	0.64	100.01	0.64	103.10	0.57	171.31	1.10	157.32	0.83	96.51	0.58
B Operator and Family Labour	11.22	0.07	8.89	0.06	11.03	0.06	19.13	0.12	24.83	0.13	7.78	0.05
C Capital Costs	48.17	0.28	32.50	0.21	51.78	0.29	69.00	0.44	62.53	0.33	44.55	0.27
TOTAL PRODUCTION COST-\$ (A+B+C)	159.10	0.93	136.76	0.88	155.61	0.86	246.18	1.58	231.62	1.22	140.82	0.85
RETURN OVER CASH COSTS (\$)	263.19	1.54	223.81	1.44	294.16	1.63	169.94	1.09	196.19	1.04	280.08	1.68
RETURN TO INVESTMENT (\$)	217.16	1.27	187.59	1.20	247.88	1.38	97.48	0.63	123.49	0.65	240.77	1.45
RETURN TO EQUITY (\$)	212.85	1.24	187.06	1.20	241.65	1.34	95.10	0.61	121.89	0.64	235.78	1.42
AV. INVESTMENT PER HIVE (\$)	434.88	2.54	328.17	2.10	450.71	2.51	634.76	4.07	550.32	2.91	405.78	2.44
*Includes honey inventory and wax/pollen/other sales												

Table 8. Summary of Honey Production Costs and Returns by Regions and Size of Operation, 2000

	ALBERTA		SOUTHERN CENTRAL NORTH EAST REGIONS		NORTH-WEST REGION		PEACE RIVER REGION		UP TO 1,000 HIVES		OVER 1,000 HIVES	
Average Number of Hives	1,478		1,603		1,746		1,018		830		2,033	
	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced	Per Hive	Per Lbs Produced
Average Yield Per Hive (lbs)	147.61		181.30		135.34		120.85		124.82		155.58	
Bulk Honey Sales (\$)	107.54	0.73	134.56	0.74	94.93	0.70	92.02	0.76	95.38	0.76	111.79	0.72
Other Honey Sales/Inventory*	10.28	0.07	9.23	0.05	10.96	0.08	10.58	0.09	12.32	0.10	9.58	0.06
Miscellaneous Income	9.40	0.06	5.03	0.03	7.04	0.05	21.31	0.18	7.69	0.06	9.99	0.06
TOTAL VALUE OF PRODUCTION	127.21	0.86	148.82	0.82	112.88	0.83	123.91	1.03	115.40	0.92	131.35	0.84
Cash Costs (\$)	50.28	0.34	67.83	0.37	32.83	0.24	60.09	0.50	58.85	0.47	47.30	0.30
Feed - Sugar	9.70	0.07	12.62	0.07	4.45	0.03	16.36	0.13	10.89	0.09	9.28	0.06
Hired Labour	32.04	0.28	35.28	0.20	25.92	0.19	40.04	0.33	29.44	0.23	32.94	0.22
A TOTAL CASH COSTS (\$)	92.02	0.62	115.73	0.64	63.20	0.47	116.49	0.96	99.18	0.79	89.52	0.58
B Operator and Family Labour	7.40	0.05	7.53	0.04	8.32	0.06	5.21	0.04	11.94	0.10	5.81	0.04
C Capital Costs	31.26	0.21	36.93	0.20	28.72	0.21	27.78	0.23	30.49	0.24	31.52	0.20
TOTAL PRODUCTION COST-\$ (A+B+C)	130.68	0.89	160.19	0.88	100.20	0.74	149.48	1.24	141.61	1.13	126.86	0.82
RETURN OVER CASH COSTS (\$)	35.19	0.24	33.09	0.18	49.68	0.37	7.42	0.06	16.21	0.13	41.83	0.27
RETURN TO INVESTMENT (\$)	1.18	0.01	-4.07	-0.02	13.71	0.10	-17.40	-0.14	-23.15	-0.19	9.69	0.06
RETURN TO EQUITY (\$)	-3.47	-0.02	-11.36	-0.06	12.64	0.09	-25.57	-0.21	-26.22	-0.21	4.49	0.03
AV. INVESTMENT PER HIVE (\$)	343.91	2.33	381.59	2.11	327.42	2.42	319.93	2.65	333.84	2.67	347.43	2.23
*Includes honey inventory and wax/pollen/other sales												