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**AN ECONOMIC ANALYSIS OF THE U.S. HONEY INDUSTRY:**

**DATA SUMMARY**

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## **DATA SUMMARY**

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# **AN ECONOMIC ANALYSIS OF THE U.S. HONEY INDUSTRY:**

## **DATA SUMMARY**

### **INTRODUCTION**

The U.S. honey industry is undergoing a period of rapid change. The industry has concern about the possible effects of the infiltration of Africanized honey bees into the United States and what those bees might mean for honey production and providing pollination services. Varroa mites have heightened the industry's awareness of the potential effects of spreading bee diseases and parasites on the migratory behavior of beekeepers and the package bee and queen bee industry. There is continuing concern about the influence of pesticides on bees as they forage for food and pollinate crops. The effects of changing the federal honey price support program has industry participants anxious about the ability to maintain a positive cash flow in the future. Industry support of the National Honey Board, which has taken a role in promoting the use of honey in domestic and export markets, is strong. Finally, honey producers, packers, importers and brokers want to insure that all consumers receive a high quality product that is void of chemical alteration or pesticide residues.

To assist in identifying these issues and other issues that are of concern to the U.S. honey industry an economic study of the national honey industry was recommended and funded by the National Honey Board and the U.S. Department of Agriculture in 1989. This study, conducted by Cornell University, had two major components. The first emphasis was on a survey of the national honey industry. The purpose of the survey was to collect information to identify the needs and current economic status of the honey industry. The second emphasis of the research was to develop and expand an economic model of the national honey industry to aid in understanding the economic relationships in the industry. This model was to be used for simulation analysis of alternative

scenarios. The results were to be interpreted and implications for the industry were to be identified.

This report is one in a series of reports that summarizes the research on the economic analysis of the industry. In this report, summary tables compiled from the data collected by the national honey industry survey are presented. These tables identify characteristics of producers, packers, importers and brokers. Services provided by these industry participants, their financial situation, demographic characteristics are a few of the statistics presented. Several of these statistical tables were used as the basis for a U.S. Department of Agriculture publication on the U.S. beekeeping industry.

Other Cornell University reports included in the series that details the economic analysis of the industry include works (1) describing the survey sample and the type of mailing used, (2) summarizing the statistical frequency, mean, median, standard deviation, minimum and maximum of each question (3) identifying the raw data obtained from the survey, and (4) describing the economic model and scenario analyses. Additional works are to be published through the U.S. Department of Agriculture's publication series and in beekeeping trade journals.

## **SUMMARY TABLES**

## **PRODUCERS**

## **PRODUCERS - GENERAL CHARACTERISTICS**

**Region of primary producer headquarters, by type firm**

| Region of primary beekeeping headquarters | Type Firm |           |       | Total |
|---|-----------|-----------|-------|-------|
|   | Full time | Part time | Hobby |       |
|   | Number    |           |       |       |
| Northeast                                 | 12        | 41        | 7     | 60    |
| Southeast                                 | 42        | 61        | 36    | 139   |
| Midwest                                   | 91        | 119       | 35    | 245   |
| West                                      | 55        | 38        | 9     | 102   |
| Northwest                                 | 89        | 42        | 10    | 141   |
| Total                                     | 289       | 301       | 97    | 687   |

Sample Size=687

1 did not respond

- NE: CT; DE, MA; MD; ME; NH; NJ; NY; PA; RI; VT
- SE: AL; AR; GA; FL; LA; MO; MS; NC; SC; TN; VA; WV
- MW: IA; IL; IN; KS; KY; MI; MN; OH; WI; OK; TX
- W: AZ; CO; CA; HI; NM; NV; UT; WY
- NW: AK; ID; MT; ND; NE; OR; SD; WA

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State of primary producer headquarters, by type firm

| State of<br>primary beekeeping<br>headquarters | Type Firm |           |       | Total |
|--|-----------|-----------|-------|-------|
|  | Full time | Part time | Hobby |       |
|  | Number    |           |       |       |
| Blank  | 1         |           |       | 1     |
| AK   |           | 1         |       | 1     |
| AL   | 6         | 6         | 2     | 14    |
| AR   | 5         | 3         | 3     | 11    |
| AZ   | 6         | 10        | 3     | 19    |
| CA   | 28        | 16        | 3     | 47    |
| CO   | 4         | 2         | 2     | 8     |
| CT   |           | 1         |       | 1     |
| FL   | 12        | 24        | 6     | 42    |
| GA   | 3         | 5         | 4     | 12    |
| IA   | 8         | 14        | 7     | 29    |
| ID   | 9         | 3         |       | 12    |
| IL   | 3         | 4         | 3     | 10    |
| IN   | 2         | 4         |       | 6     |
| KS   | 4         | 1         | 1     | 6     |
| KY   | 1         |           |       | 1     |
| LA   | 4         | 1         | 2     | 7     |
| MA   |           | 2         |       | 2     |
| MD   |           | 2         |       | 2     |
| ME   | 2         |           | 1     | 3     |
| MI   | 16        | 22        | 5     | 43    |
| MN   | 16        | 17        | 6     | 39    |
| MO   | 3         | 2         | 3     | 8     |
| MS   | 3         | 8         | 1     | 12    |
| MT   | 18        | 2         | 1     | 21    |

State of primary producer headquarters, by type firm (continued)

| State of<br>primary beekeeping<br>headquarters | Type Firm |           |       | Total |
|--|-----------|-----------|-------|-------|
|  | Full time | Part time | Hobby |       |
|  | Number    |           |       |       |
| NC   | 5         | 1         | 4     | 10    |
| ND   | 14        | 7         |       | 21    |
| NE   | 10        | 5         | 2     | 17    |
| NH   | 1         |           |       | 1     |
| NJ   |           | 1         |       | 1     |
| NM   | 1         | 1         |       | 2     |
| NV   | 2         |           |       | 2     |
| NY   | 4         | 20        | 2     | 26    |
| OH   | 6         | 20        | 6     | 32    |
| OK   | 1         | 3         |       | 4     |
| OR   | 8         | 11        | 3     | 22    |
| PA   | 3         | 13        | 2     | 18    |
| SC   | 1         | 1         |       | 2     |
| SD   | 23        | 7         | 1     | 31    |
| TN   |           | 5         | 5     | 10    |
| TX   | 17        | 18        | 2     | 37    |
| UT   | 5         | 5         | 1     | 11    |
| VA   |           | 2         | 2     | 4     |
| VT   | 2         | 2         | 2     | 6     |
| WA   | 7         | 6         | 3     | 16    |
| WI   | 17        | 16        | 5     | 38    |
| WV   |           | 3         | 4     | 7     |
| WY   | 9         | 4         |       | 13    |
| Total  | 290       | 301       | 97    | 688   |

Sample Size=688

Location of primary residence, by type firm

| Location            | Type Firm |           |       | Total |
|---------------------|-----------|-----------|-------|-------|
|                     | Full time | Part time | Hobby |       |
|                     | Number    |           |       |       |
| Farm                | 67        | 78        | 32    | 177   |
| Rural, but not farm | 87        | 80        | 26    | 193   |
| Community           |           |           |       |       |
| Less than 2,500     | 58        | 50        | 6     | 114   |
| 2,500 - 24,999      | 39        | 37        | 12    | 88    |
| 25,000 - 49,999     | 6         | 14        | 4     | 24    |
| 50,000 - 99,999     | 10        | 6         | 2     | 18    |
| 100,000 or more     | 11        | 17        | 7     | 35    |

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Sample Size=649

39 did not respond

Average size of producer households, by type firm and age

| Age of household members   | Type Firm        |                 |                  |                 |                  |                 | Total            |                 |
|----------------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|
|                            | Full time        |                 | Part time        |                 | Hobby            |                 |                  |                 |
|                            | Number reporting | Number reported |
|                            | Number           |                 |                  |                 |                  |                 |                  |                 |
| Under 6 years old          | 47               | 69              | 43               | 65              | 14               | 24              | 104              | 158             |
| 6 to 12 years old          | 62               | 102             | 64               | 106             | 19               | 28              | 145              | 236             |
| 13 to 18 years old         | 54               | 83              | 60               | 88              | 19               | 25              | 133              | 196             |
| 19 or older                | 261              | 560             | 253              | 545             | 80               | 171             | 594              | 1276            |
| Total                      | 267              | 814             | 257              | 804             | 82               | 248             | 606              | 1866            |
| No Children under 19 years | 151              |                 | 147              |                 | 45               |                 | 343              |                 |

Sample Size = 606

82 did not respond

Major occupation of producers, by type firm and sex

| Occupation   | Type Firm |        |           |        |       |        | Total |        |
|--------------|-----------|--------|-----------|--------|-------|--------|-------|--------|
|              | Full time |        | Part time |        | Hobby |        |       |        |
|              | Male      | Female | Male      | Female | Male  | Female | Male  | Female |
|              | Number    |        |           |        |       |        |       |        |
| Clerical     | 0         | 0      | 3         | 0      | 0     | 0      | 3     | 0      |
| Professional | 15        | 0      | 42        | 1      | 15    | 1      | 72    | 2      |
| Managerial   | 8         | 0      | 16        | 0      | 5     | 1      | 29    | 1      |
| Technician   | 3         | 0      | 19        | 1      | 5     | 1      | 27    | 2      |
| Laborer      | 11        | 1      | 30        | 0      | 14    | 0      | 55    | 1      |
| Own Business | 4         | 1      | 21        | 1      | 1     | 1      | 26    | 3      |
| Sales        | 10        | 1      | 13        | 1      | 2     | 0      | 25    | 2      |
| Beekeeping   | 198       | 9      | 24        | 5      | 2     | 0      | 224   | 14     |
| Farmer       | 5         | 0      | 19        | 1      | 7     | 0      | 31    | 1      |
| Retired      | 8         | 1      | 52        | 3      | 23    | 0      | 83    | 4      |
| Other        | 5         | 0      | 27        | 3      | 8     | 1      | 40    | 4      |

Sample Size = 649

39 did not respond

Bee colonies and honey production, by type firm and region, 1985-88 average

| Region of<br>primary beekeeping<br>headquarters | Type Firm      |                   |            |               |                  |            |              |               |            | Total          |                   |            |
|---|----------------|-------------------|------------|---------------|------------------|------------|--------------|---------------|------------|----------------|-------------------|------------|
|   | Full time      |                   |            | Part time     |                  |            | Hobby        |               |            | Total          |                   |            |
|   | Colonies       | Production        | Beekeepers | Colonies      | Production       | Beekeepers | Colonies     | Production    | Beekeepers | Colonies       | Production        | Beekeepers |
|   | Number         | Pounds            | Number     | Number        | Pounds           | Number     | Number       | Pounds        | Number     | Number         | Pounds            | Number     |
| Northeast                                       | 10,691         | 711,997           | 11         | 4,382         | 235,713          | 34         | 79           | 5,279         | 7          | 15,152         | 952,989           | 52         |
| Southeast                                       | 62,970         | 3,940,912         | 38         | 5,209         | 296,218          | 47         | 421          | 25,419        | 28         | 68,599         | 4,262,549         | 113        |
| Midwest   | 85,891         | 8,634,681         | 78         | 12,614        | 916,245          | 100        | 363          | 27,036        | 29         | 98,868         | 9,577,963         | 207        |
| West  | 61,089         | 3,802,451         | 51         | 3,993         | 252,144          | 26         | 44           | 3,022         | 7          | 65,126         | 4,057,616         | 84         |
| Northwest                                       | 186,389        | 18,247,508        | 72         | 5,243         | 440,023          | 39         | 101          | 7,022         | 7          | 191,733        | 18,694,553        | 118        |
| <b>Total</b>                                    | <b>407,030</b> | <b>35,337,549</b> | <b>250</b> | <b>31,440</b> | <b>2,140,342</b> | <b>246</b> | <b>1,008</b> | <b>67,778</b> | <b>78</b>  | <b>439,478</b> | <b>37,545,669</b> | <b>574</b> |

NE: CT; MA; MD; ME; NH; NJ; NY; PA; VT; DE; RI  
 SE: AL; AR; GA; FL; LA; MO; MS; NC; SC; TN; VA; WV  
 MW: IA; IL; IN; KS; KY; MI; MN; OH; WI; OK; TX  
 W: AZ; CO; CA; NM; NV; UT; WY; HI  
 NW: AK; ID; MT; ND; NE; OR; SD; WA

Sample Size = 574

114 did not respond

Bee colonies and honey production, by type firm and age, 1985-88 average

| Age Class        | Type Firm |            |            |           |            |            |          |            |            | Total    |            |            |
|------------------|-----------|------------|------------|-----------|------------|------------|----------|------------|------------|----------|------------|------------|
|                  | Full time |            |            | Part time |            |            | Hobby    |            |            |          |            |            |
|                  | Colonies  | Production | Beekeepers | Colonies  | Production | Beekeepers | Colonies | Production | Beekeepers | Colonies | Production | Beekeepers |
|                  | Number    | Pounds     | Number     | Number    | Pounds     | Number     | Number   | Pounds     | Number     | Number   | Pounds     | Number     |
| Less than 35 yrs | 33,631    | 2,710,848  | 24         | 3,059     | 259,416    | 24         | 124      | 8,354      | 9          | 36,815   | 2,978,617  | 57         |
| 35-44 yrs        | 52,202    | 4,277,687  | 49         | 8,442     | 632,730    | 61         | 188      | 13,888     | 14         | 60,832   | 4,924,305  | 124        |
| 45-54 yrs.       | 159,252   | 14,268,474 | 78         | 8,501     | 539,600    | 62         | 259      | 17,827     | 20         | 168,012  | 14,825,900 | 160        |
| 55-64 yrs.       | 101,552   | 8,202,457  | 58         | 5,800     | 371,053    | 49         | 210      | 14,126     | 15         | 107,561  | 8,587,636  | 122        |
| 65 yrs or more   | 49,793    | 4,513,295  | 34         | 4,631     | 282,528    | 41         | 190      | 10,269     | 16         | 54,613   | 4,806,093  | 91         |
| Total            | 396,429   | 33,972,760 | 243        | 30,434    | 2,085,327  | 237        | 971      | 64,463     | 74         | 427,834  | 36,122,550 | 554        |

Sample Size = 554

134 did not respond

Average production per colony of producer operations, by honey production, 1988

| Average production<br>per colony | Honey production (pounds) |                    |                     |                     |                      |                       |                    |
|----------------------------------|---------------------------|--------------------|---------------------|---------------------|----------------------|-----------------------|--------------------|
|                                  | Less than<br>1,250        | 1,250 to<br>14,999 | 15,000 to<br>24,999 | 25,000 to<br>49,999 | 50,000 to<br>249,999 | 250,000 to<br>499,999 | 500,000 or<br>more |
|                                  | lbs/colony                |                    |                     |                     |                      |                       |                    |
|                                  | 15.6                      | 42.6               | 57.4                | 72.9                | 72.5                 | 90.3                  | 117.8              |

Sample Size=492

196 did not respond

Less than 1250 = 51

15000 to 24999 = 49

50,000 to 249999 = 106

500000 or more = 13

1250 to 14999 = 183

25000 to 49999 = 64

250000 to 499999 = 26

Average production per colony of producer operations, by colony size, 1988

| Average production<br>per colony | Colony size     |              |               |               |                   |                   |                   |
|----------------------------------|-----------------|--------------|---------------|---------------|-------------------|-------------------|-------------------|
|                                  | Less than<br>25 | 25 to<br>299 | 300 to<br>499 | 500 to<br>999 | 1,000 to<br>4,999 | 5,000 to<br>9,999 | 10,000 or<br>more |
|                                  | lbs/colony      |              |               |               |                   |                   |                   |
|                                  | 84.0            | 72.4         | 75.8          | 82.2          | 94.3              | 68.4              | 64.6              |

Sample Size=492

Less than 25 = 52

25 to 299 = 202

196 did not respond

300 to 499 = 57

500 to 999 = 63

1000 to 4999 = 106

5000 to 9999 = 9

10,000 or more = 3

Average honey production per colony, by type firm and region, 1985-88 average

| Region of primary beekeeping headquarters | Type Firm |           |           | Total     |
|---|-----------|-----------|-----------|-----------|
|   | Full time | Part time | Hobby     |           |
|   | lb/colony | lb/colony | lb/colony | lb/colony |
| Northeast                                 | 66.6      | 53.8      | 67.0      | 62.9      |
| Southeast                                 | 62.6      | 56.9      | 60.4      | 62.1      |
| Midwest                                   | 100.5     | 72.6      | 74.5      | 96.9      |
| West                                      | 62.2      | 63.2      | 68.3      | 62.3      |
| Northwest                                 | 97.9      | 83.9      | 69.4      | 97.5      |
| Total                                     | 86.8      | 68.1      | 67.2      | 85.4      |

NE: CT; MA; MD; ME; NH; NJ; NY; PA; VT; DE; RI  
 SE: AL; AR; GA; FL; LA; MO; MS; NC; SC; TN; VA; WV  
 MW: IA; IL; IN; KS; KY; MI; MN; OH; WI; OK; TX  
 W: AZ; CO; CA; NM; NV; UT; WY; HI  
 NW: AK; ID; MT; ND; NE; OR; SD; WA

Sample Size = 574

114 did not respond

Average honey production per colony, by type firm and age, 1985-88 average

| Age Class        | Type Firm |           |           | Total     |
|------------------|-----------|-----------|-----------|-----------|
|                  | Full time | Part time | Hobby     |           |
|                  | lb/colony | lb/colony | lb/colony | lb/colony |
| Less than 35 yrs | 80.6      | 84.8      | 67.2      | 80.9      |
| 35-44 yrs        | 81.9      | 74.9      | 74.0      | 80.9      |
| 45-54 yrs.       | 89.6      | 63.5      | 68.8      | 88.2      |
| 55-64 yrs.       | 80.8      | 64.0      | 67.3      | 79.8      |
| 65 yrs or more   | 90.6      | 61.0      | 54.2      | 88.0      |
| Total            | 85.7      | 68.5      | 66.4      | 84.4      |

Sample Size = 554

134 did not respond

Pesticide and winter losses, by type firm, 1988

| Type of loss                         | Unit    | Type firm |           |       | Total |
|--------------------------------------|---------|-----------|-----------|-------|-------|
|                                      |         | Full-time | Part-time | Hobby |       |
| <b>PESTICIDES</b>                    |         |           |           |       |       |
| Beekeepers with losses               | Number  | 147       | 84        | 10    | 241   |
| Colonies affected                    | Percent | 38.8      | 31.2      | 50.0  | 36.6  |
| Colonies with 50% or more loss       | Percent | 28.8      | 29.2      | 49.3  | 29.5  |
| Location of losses                   |         |           |           |       |       |
| Colony                               | Percent | 5.5       | 15.0      | 44.4  | 10.2  |
| Field                                | Percent | 23.3      | 17.5      | 33.3  | 21.7  |
| Both                                 | Percent | 71.2      | 67.5      | 22.2  | 68.1  |
| Reimbursement received for losses    |         |           |           |       |       |
| Yes                                  | Percent | 0.7       | 3.7       | 0.0   | 1.7   |
| No                                   | Percent | 99.3      | 96.3      | 100.0 | 98.3  |
| <b>WINTER KILL</b>                   |         |           |           |       |       |
| Beekeepers with losses               | Number  | 255       | 247       | 50    | 552   |
| Colonies affected                    | Percent | 21.8      | 17.5      | 22.4  | 19.9  |
| Colonies with 50% or more loss       | Percent | 38.2      | 31.7      | 31.8  | 34.7  |
| Method used to replace winter losses |         |           |           |       |       |
| Purchase package bees                | Percent | 21.6      | 18.6      | 30.0  | 21.0  |
| Division with purchased queen        | Percent | 62.0      | 62.3      | 52.0  | 61.2  |
| Division with own queen raised       | Percent | 57.3      | 49.8      | 38.0  | 52.2  |

Reasons for a reduction in production, by type firm, 1985-88

| Reason          | Type firm |      |      |      |         |           |      |      |      |         |       |      |      |      |         | Total |      |      |      |         |
|-----------------|-----------|------|------|------|---------|-----------|------|------|------|---------|-------|------|------|------|---------|-------|------|------|------|---------|
|                 | Full-time |      |      |      |         | Part-time |      |      |      |         | Hobby |      |      |      |         | 1985  | 1986 | 1987 | 1988 | Average |
|                 | 1985      | 1986 | 1987 | 1988 | Average | 1985      | 1986 | 1987 | 1988 | Average | 1985  | 1986 | 1987 | 1988 | Average |       |      |      |      |         |
|                 | Number    |      |      |      |         |           |      |      |      |         |       |      |      |      |         |       |      |      |      |         |
| Drought         | 85        | 72   | 80   | 132  | 92      | 39        | 51   | 79   | 108  | 69      | 7     | 9    | 14   | 28   | 15      | 131   | 132  | 173  | 268  | 176     |
| Disease         | 7         | 6    | 9    | 9    | 8       | 12        | 15   | 20   | 21   | 17      | 4     | 2    | 4    | 3    | 3       | 23    | 23   | 33   | 33   | 28      |
| Mites           | 13        | 15   | 27   | 63   | 30      | 6         | 9    | 15   | 33   | 16      | 1     | 1    | 2    | 5    | 2       | 20    | 25   | 44   | 101  | 48      |
| Other           | 76        | 81   | 69   | 54   | 70      | 46        | 57   | 47   | 55   | 51      | 12    | 9    | 10   | 10   | 10      | 134   | 147  | 126  | 119  | 132     |
| Reported a loss | 148       | 142  | 136  | 178  | 151     | 87        | 108  | 126  | 160  | 120     | 20    | 19   | 6    | 41   | 22      | 254   | 256  | 303  | 360  | 293     |

Sample Size = 688

Bee colony transport, by type firm, 1985-88

| Transport colonies to other states | Type firm |                 |                |           |                 |                |        |                 |                | Total  |                 |                |
|------------------------------------|-----------|-----------------|----------------|-----------|-----------------|----------------|--------|-----------------|----------------|--------|-----------------|----------------|
|                                    | Full-time |                 |                | Part-time |                 |                | Hobby  |                 |                |        |                 |                |
|                                    | Number    | Average mileage | Mileage/colony | Number    | Average mileage | Mileage/colony | Number | Average mileage | Mileage/colony | Number | Average mileage | Mileage/colony |
| YES                                |           |                 |                |           |                 |                |        |                 |                |        |                 |                |
| 1985                               | 103       | 45,539          | 20.0           | 17        | 3,065           | 20.0           | 0      |                 |                | 120    | 39,951          | 20.0           |
| 1986                               | 104       | 44,982          | 19.9           | 21        | 5,479           | 35.2           | 1      | 1,000           | 50.0           | 126    | 38,470          | 20.1           |
| 1987                               | 108       | 45,982          | 19.6           | 30        | 5,396           | 29.1           | 0      |                 |                | 138    | 37,564          | 19.8           |
| 1988                               | 103       | 48,674          | 19.9           | 29        | 6,431           | 26.8           | 0      |                 |                | 132    | 39,576          | 20.1           |
| 1985, 86, 87 or 88                 | 118       | 42,106          | 19.0           | 34        | 4,837           | 27.7           | 1      | 250             | 10.2           | 153    | 33,684          | 19.2           |
| NO                                 |           |                 |                |           |                 |                |        |                 |                |        |                 |                |
| 1985                               | 187       | 12,475          | 10.5           | 284       | 1,692           | 11.6           | 97     | 80              | 4.1            | 568    | 5,954           | 10.6           |
| 1986                               | 186       | 13,360          | 10.8           | 280       | 1,711           | 13.0           | 96     | 86              | 7.1            | 562    | 6,189           | 11.1           |
| 1987                               | 182       | 13,318          | 10.5           | 271       | 1,795           | 13.4           | 97     | 58              | 3.9            | 550    | 5,316           | 10.8           |
| 1988                               | 187       | 13,701          | 10.6           | 272       | 1,743           | 12.3           | 97     | 74              | 4.7            | 556    | 6,228           | 10.7           |
| 1985, 86, 87 or 88                 | 172       | 13,287          | 11.0           | 267       | 1,707           | 13.4           | 96     | 82              | 6.4            | 535    | 5,885           | 11.3           |

Sample Size = 688

Main purpose of transporting bees to other states, by type firm

| Purpose          | Type firm |      |      |      |         |           |      |      |      |         |       |      |      |      |         | Total |      |      |      |         |
|------------------|-----------|------|------|------|---------|-----------|------|------|------|---------|-------|------|------|------|---------|-------|------|------|------|---------|
|                  | Full-time |      |      |      |         | Part-time |      |      |      |         | Hobby |      |      |      |         | 1985  | 1986 | 1987 | 1988 | Average |
|                  | 1985      | 1986 | 1987 | 1988 | Average | 1985      | 1986 | 1987 | 1988 | Average | 1985  | 1986 | 1987 | 1988 | Average |       |      |      |      |         |
|                  | Number    |      |      |      |         |           |      |      |      |         |       |      |      |      |         |       |      |      |      |         |
| Paid pollination | 36        | 38   | 40   | 43   | 39      | 6         | 8    | 13   | 13   | 10      | 0     | 0    | 0    | 0    | 0       | 42    | 46   | 53   | 56   | 49      |
| Floral source    | 37        | 38   | 40   | 36   | 38      | 6         | 6    | 7    | 8    | 7       | 0     | 0    | 0    | 0    | 0       | 43    | 44   | 47   | 44   | 45      |
| Wintering        | 49        | 50   | 51   | 48   | 50      | 7         | 9    | 14   | 13   | 11      | 0     | 0    | 0    | 0    | 0       | 56    | 59   | 65   | 61   | 60      |
| Other            | 15        | 14   | 14   | 14   | 14      | 1         | 1    | 3    | 1    | 2       | 0     | 1    | 0    | 0    | 0       | 16    | 16   | 17   | 15   | 16      |

Sample Size = 688

**PRODUCERS - MARKETING**

Grades of honey marketed, by type firm, 1985-1988 average

| Grade             | Type firm |           |       | Total |
|-------------------|-----------|-----------|-------|-------|
|                   | Full-time | Part-time | Hobby |       |
|                   | Percent   |           |       |       |
| White             | 56.3      | 39.8      | 23.4  | 55.4  |
| Extra light amber | 24.3      | 25.9      | 28.2  | 24.4  |
| Light amber       | 14.7      | 23.5      | 22.0  | 15.2  |
| Amber             | 4.4       | 10.2      | 26.1  | 4.7   |
| Other             | 0.2       | 0.6       | 0.3   | 0.2   |
| Total             | 100.0     | 100.0     | 100.0 | 100.0 |

Sample Size = 535

Grades of honey marketed, by program participation and type firm, 1985-1988 average

| Use honey<br>price support<br>program | Type firm |           |       | Total |
|---------------------------------------|-----------|-----------|-------|-------|
|                                       | Full-time | Part-time | Hobby |       |
|                                       | Percent   |           |       |       |
| <b>YES</b>                            |           |           |       |       |
| White                                 | 56.7      | 40.7      | 23.4  | 55.8  |
| Extra light amber                     | 24.2      | 25.9      | 24.5  | 24.3  |
| Light amber                           | 14.6      | 23.7      | 25.2  | 15.0  |
| Amber                                 | 4.4       | 9.2       | 26.5  | 4.6   |
| Other                                 | 0.2       | 0.6       | 0.3   | 0.2   |
| Total                                 | 100.0     | 100.0     | 100.0 | 100.0 |
| <b>NO</b>                             |           |           |       |       |
| White                                 | 46.1      | 29.4      | 23.7  | 43.9  |
| Extra light amber                     | 28.2      | 25.1      | 41.0  | 28.0  |
| Light amber                           | 20.4      | 21.5      | 10.5  | 20.4  |
| Amber                                 | 5.0       | 23.7      | 24.7  | 7.4   |
| Other                                 | 0.3       | 0.3       | 0.2   | 0.3   |
| Total                                 | 100.0     | 100.0     | 100.0 | 100.0 |

Sample Size = 532

Grades of honey marketed, by beekeepers receiving pollination fees and type firm, 1985-1988 average

| Receive<br>pollination fees | Type firm |           |       | Total |
|-----------------------------|-----------|-----------|-------|-------|
|                             | Full-time | Part-time | Hobby |       |
|                             | Percent   |           |       |       |
| YES                         |           |           |       |       |
| White                       | 54.8      | 29.6      |       | 53.7  |
| Extra light amber           | 24.2      | 35.6      |       | 24.7  |
| Light amber                 | 12.5      | 24.8      |       | 13.0  |
| Amber                       | 8.2       | 9.9       |       | 8.3   |
| Other                       | 0.3       | 0.2       |       | 0.2   |
| Total                       | 100.0     | 100.0     |       | 100.0 |
| NO                          |           |           |       |       |
| White                       | 56.9      | 43.0      | 23.4  | 56.1  |
| Extra light amber           | 24.4      | 22.8      | 28.2  | 24.3  |
| Light amber                 | 15.6      | 23.1      | 22.0  | 16.1  |
| Amber                       | 2.8       | 10.4      | 26.1  | 3.3   |
| Other                       | 0.2       | 0.7       | 0.3   | 0.2   |
| Total                       | 100.0     | 100.0     | 100.0 | 100.0 |

Sample Size = 533

Markets used to dispose of honey crop, by type firm, 1985-88 average

| Market           | Type firm |           |       | Total |
|------------------|-----------|-----------|-------|-------|
|                  | Full-time | Part-time | Hobby |       |
|                  | Percent   |           |       |       |
| Roadside         | 1.2       | 6.3       | 28.2  | 1.5   |
| Retail stores    | 3.4       | 16.3      | 8.9   | 4.0   |
| Institutions     | 0.2       | 0.5       | 1.8   | 0.2   |
| Broker or dealer | 5.1       | 4.4       | 19.6  | 5.1   |
| Packer/bottlers  |           |           |       |       |
| Independent      | 35.8      | 25.0      | 10.6  | 35.2  |
| Cooperative      | 24.2      | 7.3       | 6.4   | 23.3  |
| Direct Export    | 0.2       | 1.0       | 0.0   | 0.2   |
| Industrial user  | 2.9       | 2.5       | 1.5   | 2.9   |
| CCC              | 25.2      | 32.4      | 17.6  | 25.5  |
| Other            | 0.8       | 2.1       | 2.6   | 0.9   |
| Storage          | 0.9       | 2.1       | 2.8   | 1.0   |
| Total            | 100.0     | 100.0     | 100.0 | 100.0 |

Sample Size = 556

Advertising activities of beekeepers, by type firm, 1988

| Type firm<br>and<br>product or service | Advertising activity |           |                        |           |                             |                |               |                  |       |                     |
|--|----------------------|-----------|------------------------|-----------|-----------------------------|----------------|---------------|------------------|-------|---------------------|
|  | Local<br>newspaper   | Circulars | Beekeeping<br>journals | Magazines | Community<br>bulletin board | Direct<br>mail | Road<br>signs | Word of<br>Mouth | Other | Didn't<br>advertise |
|  | Number               |           |                        |           |                             |                |               |                  |       |                     |
| <b>Full-time</b>                       |                      |           |                        |           |                             |                |               |                  |       |                     |
| Honey                                  | 24                   | 9         | 7                      | 7         | 4                           | 18             | 20            | 110              | 32    | 146                 |
| Honey with other products              | 7                    | 2         | 3                      | 3         | 1                           | 6              | 3             | 27               | 14    | 243                 |
| Beeswax                                | 1                    | 0         | 3                      | 1         | 1                           | 1              | 1             | 42               | 10    | 234                 |
| Pollination services                   | 7                    | 3         | 2                      | 4         | 1                           | 4              | 1             | 62               | 12    | 210                 |
| Package bees and queens                | 2                    | 1         | 8                      | 1         | 0                           | 3              | 1             | 18               | 6     | 258                 |
| <b>Part-time</b>                       |                      |           |                        |           |                             |                |               |                  |       |                     |
| Honey                                  | 29                   | 9         | 1                      | 1         | 10                          | 6              | 50            | 147              | 25    | 115                 |
| Honey with other products              | 6                    | 4         | 1                      | 0         | 3                           | 3              | 7             | 33               | 7     | 251                 |
| Beeswax                                | 3                    | 1         | 0                      | 0         | 1                           | 1              | 3             | 40               | 5     | 246                 |
| Pollination services                   | 3                    | 0         | 1                      | 2         | 2                           | 4              | 2             | 39               | 4     | 243                 |
| Package bees and queens                | 1                    | 3         | 1                      | 1         | 2                           | 4              | 2             | 17               | 1     | 271                 |
| <b>Hobby</b>                           |                      |           |                        |           |                             |                |               |                  |       |                     |
| Honey                                  | 6                    | 0         | 0                      | 1         | 4                           | 1              | 18            | 48               | 9     | 31                  |
| Honey with other products              | 3                    | 1         | 2                      | 2         | 0                           | 1              | 2             | 3                | 0     | 81                  |
| Beeswax                                | 0                    | 0         | 0                      | 0         | 0                           | 0              | 1             | 3                | 2     | 81                  |
| Pollination services                   | 0                    | 0         | 0                      | 0         | 0                           | 0              | 1             | 2                | 0     | 84                  |
| Package bees and queens                | 0                    | 0         | 0                      | 0         | 0                           | 0              | 1             | 1                | 0     | 85                  |
| <b>Total</b>                           |                      |           |                        |           |                             |                |               |                  |       |                     |
| Honey                                  | 59                   | 18        | 8                      | 9         | 18                          | 25             | 88            | 305              | 66    | 292                 |
| Honey with other products              | 16                   | 7         | 6                      | 5         | 4                           | 10             | 12            | 63               | 21    | 575                 |
| Beeswax                                | 4                    | 1         | 3                      | 1         | 2                           | 2              | 5             | 85               | 17    | 561                 |
| Pollination services                   | 10                   | 3         | 3                      | 6         | 3                           | 8              | 4             | 103              | 16    | 537                 |
| Package bees and queens                | 3                    | 4         | 9                      | 2         | 2                           | 7              | 4             | 36               | 7     | 614                 |

Sample Size = 663 (Full-time = 286, Part-time = 291, Hobby = 86)

Promotional activities of producers, by type firm, 1988

| Activity                               | Type firm |           |       | Total |
|--|-----------|-----------|-------|-------|
|  | Full-time | Part-time | Hobby |       |
|  | Number    |           |       |       |
| Distribute recipes using honey         | 116       | 76        | 15    | 207   |
| Give demonstrations                    | 92        | 79        | 17    | 188   |
| Distribute honey information           | 80        | 52        | 5     | 137   |
| Distribute free samples                | 94        | 87        | 23    | 204   |
| Publish newspaper articles             | 18        | 16        | 0     | 34    |
| Maintain observation hive              | 39        | 38        | 7     | 84    |
| Contribute to the National Honey Board | 202       | 142       | 24    | 368   |
| Other                                  | 36        | 33        | 5     | 74    |
| Did not Participate                    | 34        | 67        | 31    | 132   |

Sample Size = 606 (Full-time = 271, Part-time = 257, Hobby = 78)

Promotional activities of producers, by type firm, 1988

| Activity                               | Type firm |           |       | Total |
|--|-----------|-----------|-------|-------|
|  | Full-time | Part-time | Hobby |       |
|  | Percent   |           |       |       |
| Distribute recipes using honey         | 42.8      | 29.6      | 19.2  | 34.2  |
| Give demonstrations                    | 33.9      | 30.7      | 21.8  | 31.0  |
| Distribute honey information           | 29.5      | 20.2      | 6.4   | 22.6  |
| Distribute free samples                | 34.7      | 33.9      | 29.5  | 33.7  |
| Publish newspaper articles             | 6.6       | 6.2       | 0.0   | 5.6   |
| Maintain observation hive              | 14.4      | 14.8      | 9.0   | 13.9  |
| Contribute to the National Honey Board | 74.5      | 55.3      | 30.8  | 60.7  |
| Other                                  | 13.3      | 12.8      | 6.4   | 12.2  |
| Did not Participate                    | 12.5      | 26.1      | 39.7  | 21.8  |

Sample Size = 606 (Full-time = 271, Part-time = 257, Hobby = 78)

Advertising activities of beekeepers, by type firm, 1988

| Type firm and product or service | Advertising activity |           |                     |           |                          |             |            |               |       |                  |
|----------------------------------|----------------------|-----------|---------------------|-----------|--------------------------|-------------|------------|---------------|-------|------------------|
|                                  | Local newspaper      | Circulars | Beekeeping journals | Magazines | Community bulletin board | Direct mail | Road signs | Word of Mouth | Other | Didn't advertise |
|                                  | Percent              |           |                     |           |                          |             |            |               |       |                  |
| <b>Full-time</b>                 |                      |           |                     |           |                          |             |            |               |       |                  |
| Honey                            | 8.4                  | 3.1       | 2.4                 | 2.4       | 1.4                      | 6.3         | 7.0        | 38.5          | 11.2  | 51.0             |
| Honey with other products        | 2.4                  | 0.7       | 1.0                 | 1.0       | 0.3                      | 2.1         | 1.0        | 9.4           | 4.9   | 85.0             |
| Beeswax                          | 0.3                  | 0.0       | 1.0                 | 0.3       | 0.3                      | 0.3         | 0.3        | 14.7          | 3.5   | 81.8             |
| Pollination services             | 2.4                  | 1.0       | 0.7                 | 1.4       | 0.3                      | 1.4         | 0.3        | 21.7          | 4.2   | 73.4             |
| Package bees and queens          | 0.7                  | 0.3       | 2.8                 | 0.3       | 0.0                      | 1.0         | 0.3        | 6.3           | 2.1   | 90.2             |
| <b>Part-time</b>                 |                      |           |                     |           |                          |             |            |               |       |                  |
| Honey                            | 10.0                 | 3.1       | 0.3                 | 0.3       | 3.4                      | 2.1         | 17.2       | 50.5          | 8.6   | 39.5             |
| Honey with other products        | 2.1                  | 1.4       | 0.3                 | 0.0       | 1.0                      | 1.0         | 2.4        | 11.3          | 2.4   | 86.3             |
| Beeswax                          | 1.0                  | 0.3       | 0.0                 | 0.0       | 0.3                      | 0.3         | 1.0        | 13.7          | 1.7   | 84.5             |
| Pollination services             | 1.0                  | 0.0       | 0.3                 | 0.7       | 0.7                      | 1.4         | 0.7        | 13.4          | 1.4   | 83.5             |
| Package bees and queens          | 0.3                  | 1.0       | 0.3                 | 0.3       | 0.7                      | 1.4         | 0.7        | 5.8           | 0.3   | 93.1             |
| <b>Hobby</b>                     |                      |           |                     |           |                          |             |            |               |       |                  |
| Honey                            | 7.0                  | 0.0       | 0.0                 | 1.2       | 4.7                      | 1.2         | 20.9       | 55.8          | 10.5  | 36.0             |
| Honey with other products        | 3.5                  | 1.2       | 2.3                 | 2.3       | 0.0                      | 1.2         | 2.3        | 3.5           | 0.0   | 94.2             |
| Beeswax                          | 0.0                  | 0.0       | 0.0                 | 0.0       | 0.0                      | 0.0         | 1.2        | 3.5           | 2.3   | 94.2             |
| Pollination services             | 0.0                  | 0.0       | 0.0                 | 0.0       | 0.0                      | 0.0         | 1.2        | 2.3           | 0.0   | 97.7             |
| Package bees and queens          | 0.0                  | 0.0       | 0.0                 | 0.0       | 0.0                      | 0.0         | 1.2        | 1.2           | 0.0   | 98.8             |
| <b>Total</b>                     |                      |           |                     |           |                          |             |            |               |       |                  |
| Honey                            | 8.9                  | 2.7       | 1.2                 | 1.4       | 2.7                      | 3.8         | 13.3       | 46.0          | 10.0  | 44.0             |
| Honey with other products        | 2.4                  | 1.1       | 0.9                 | 0.8       | 0.6                      | 1.5         | 1.8        | 9.5           | 3.2   | 86.7             |
| Beeswax                          | 0.6                  | 0.2       | 0.5                 | 0.2       | 0.3                      | 0.3         | 0.8        | 12.8          | 2.6   | 84.6             |
| Pollination services             | 1.5                  | 0.5       | 0.5                 | 0.9       | 0.5                      | 1.2         | 0.6        | 15.5          | 2.4   | 81.0             |
| Package bees and queens          | 0.5                  | 0.6       | 1.4                 | 0.3       | 0.3                      | 1.1         | 0.6        | 5.4           | 1.1   | 92.6             |

Sample Size = 663 (Full-time = 286, Part-time = 291, Hobby = 86)

**PRODUCERS - POLLINATION SERVICES**

Receipt of pollination fees, by type firm

| Year | Type Firm |           |       | Total |
|------|-----------|-----------|-------|-------|
|      | Full time | Part time | Hobby |       |
|      | Number    |           |       |       |
| Yes  |           |           |       |       |
| 1985 | 86        | 42        | 1     | 129   |
| 1986 | 92        | 45        | 1     | 138   |
| 1987 | 96        | 49        | 2     | 147   |
| 1988 | 103       | 51        | 0     | 154   |
| No   |           |           |       |       |
| 1985 | 204       | 259       | 96    | 559   |
| 1986 | 198       | 256       | 96    | 550   |
| 1987 | 194       | 252       | 95    | 541   |
| 1988 | 187       | 250       | 97    | 534   |

Sample Size = 688

Receipt of pollination fees, by age and firm type, 1988

| Receipt of<br>pollination<br>fees | Age Class             |                |                |                |                     | Total |
|-----------------------------------|-----------------------|----------------|----------------|----------------|---------------------|-------|
|                                   | Less than<br>35 years | 35-44<br>years | 45-54<br>years | 55-64<br>years | 65 years<br>or more |       |
| <b>Full time</b>                  |                       |                | Number         |                |                     |       |
| Yes                               | 4                     | 39             | 24             | 19             | 15                  | 101   |
| No                                | 22                    | 40             | 42             | 50             | 25                  | 179   |
| All                               | 26                    | 79             | 66             | 69             | 40                  | 280   |
| <b>Part time</b>                  |                       |                |                |                |                     |       |
| Yes                               | 8                     | 16             | 15             | 7              | 5                   | 51    |
| No                                | 22                    | 55             | 53             | 51             | 50                  | 231   |
| All                               | 30                    | 71             | 68             | 58             | 55                  | 282   |
| <b>Hobby</b>                      |                       |                |                |                |                     |       |
| Yes                               | 0                     | 0              | 0              | 0              | 0                   | 0     |
| No                                | 11                    | 15             | 21             | 18             | 25                  | 90    |
| All                               | 11                    | 15             | 21             | 18             | 25                  | 90    |
| <b>All response</b>               |                       |                |                |                |                     |       |
| Yes                               | 12                    | 55             | 39             | 26             | 20                  | 152   |
| No                                | 55                    | 110            | 116            | 119            | 100                 | 500   |
| All                               | 67                    | 165            | 155            | 145            | 120                 | 652   |

Sample Size = 652

36 did not respond

Receipt of pollination fees, by age and firm type, 1988

| Receipt of pollination fees | Age Class          |             |             |             |                  | Total |
|-----------------------------|--------------------|-------------|-------------|-------------|------------------|-------|
|                             | Less than 35 years | 35-44 years | 45-54 years | 55-64 years | 65 years or more |       |
| <b>Full time</b>            |                    |             | Percent     |             |                  |       |
| Yes                         | 4                  | 39          | 24          | 19          | 15               | 100   |
| No                          | 12                 | 22          | 23          | 28          | 14               | 100   |
| All                         | 9                  | 28          | 24          | 25          | 14               | 100   |
| <b>Part time</b>            |                    |             |             |             |                  |       |
| Yes                         | 16                 | 31          | 29          | 14          | 10               | 100   |
| No                          | 10                 | 24          | 23          | 22          | 22               | 100   |
| All                         | 11                 | 25          | 24          | 21          | 20               | 100   |
| <b>Hobby</b>                |                    |             |             |             |                  |       |
| Yes                         |                    |             |             |             |                  |       |
| No                          | 12                 | 17          | 23          | 20          | 28               | 100   |
| All                         | 12                 | 17          | 23          | 20          | 28               | 100   |
| <b>All response</b>         |                    |             |             |             |                  |       |
| Yes                         | 8                  | 36          | 26          | 17          | 13               | 100   |
| No                          | 11                 | 22          | 23          | 24          | 20               | 100   |
| All                         | 10                 | 25          | 24          | 22          | 18               | 100   |

Sample Size = 652

36 did not respond

Receipt of pollination fees, by education and firm type, 1988

| Receipt of pollination fees | Education Class |               |          |                |                  | Total |
|-----------------------------|-----------------|---------------|----------|----------------|------------------|-------|
|                             | 1 to 8 years    | 9 to 11 years | 12 years | 13 to 15 years | 16 years or more |       |
| <b>Full time</b>            |                 |               | Number   |                |                  |       |
| Yes                         | 3               | 8             | 30       | 30             | 30               | 101   |
| No                          | 9               | 14            | 59       | 41             | 56               | 179   |
| All                         | 12              | 22            | 89       | 71             | 86               | 280   |
| <b>Part time</b>            |                 |               |          |                |                  |       |
| Yes                         | 1               | 3             | 14       | 11             | 22               | 51    |
| No                          | 20              | 23            | 82       | 39             | 70               | 234   |
| All                         | 21              | 26            | 96       | 50             | 92               | 285   |
| <b>Hobby</b>                |                 |               |          |                |                  |       |
| Yes                         | 0               | 0             | 0        | 0              | 0                | 0     |
| No                          | 7               | 5             | 29       | 24             | 25               | 90    |
| All                         | 7               | 5             | 29       | 24             | 25               | 90    |
| <b>All response</b>         |                 |               |          |                |                  |       |
| Yes                         | 4               | 11            | 44       | 41             | 52               | 152   |
| No                          | 36              | 42            | 170      | 104            | 151              | 503   |
| All                         | 40              | 53            | 214      | 145            | 203              | 655   |

Sample Size = 655

33 did not respond

Receipt of pollination fees, by education and firm type, 1988

| Receipt of<br>pollination<br>fees | Education Class |                  |             |                   |                     | Total |
|-----------------------------------|-----------------|------------------|-------------|-------------------|---------------------|-------|
|                                   | 1 to 8<br>years | 9 to 11<br>years | 12<br>years | 13 to 15<br>years | 16 years<br>or more |       |
| <b>Full time</b>                  |                 |                  | Percent     |                   |                     |       |
| Yes                               | 3               | 8                | 30          | 30                | 30                  | 100   |
| No                                | 5               | 8                | 33          | 23                | 31                  | 100   |
| All                               | 4               | 8                | 32          | 25                | 31                  | 100   |
| <b>Part time</b>                  |                 |                  |             |                   |                     |       |
| Yes                               | 2               | 6                | 27          | 22                | 43                  | 100   |
| No                                | 9               | 10               | 35          | 17                | 30                  | 100   |
| All                               | 7               | 9                | 34          | 18                | 32                  | 100   |
| <b>Hobby</b>                      |                 |                  |             |                   |                     |       |
| Yes                               |                 |                  |             |                   |                     |       |
| No                                | 8               | 6                | 32          | 27                | 28                  | 100   |
| All                               | 8               | 6                | 32          | 27                | 28                  | 100   |
| <b>All response</b>               |                 |                  |             |                   |                     |       |
| Yes                               | 3               | 7                | 29          | 27                | 34                  | 100   |
| No                                | 7               | 8                | 34          | 21                | 30                  | 100   |
| All                               | 6               | 8                | 33          | 22                | 31                  | 100   |

Sample Size = 655

33 did not respond

Honey production of producers receiving pollination fees, by type firm, 1985-88

| Receive<br>pollination<br>fees | Average honey production |         |         |         |            |      |      |      |
|--------------------------------|--------------------------|---------|---------|---------|------------|------|------|------|
|                                | Total                    |         |         |         | Per colony |      |      |      |
|                                | 1985                     | 1986    | 1987    | 1988    | 1985       | 1986 | 1987 | 1988 |
|                                | Pounds                   |         |         |         |            |      |      |      |
| <b>Full-time</b>               |                          |         |         |         |            |      |      |      |
| YES                            | 78,061                   | 111,888 | 150,640 | 131,346 | 52         | 73   | 94   | 78   |
| NO                             | 126,291                  | 157,843 | 191,142 | 161,036 | 76         | 94   | 112  | 94   |
| <b>Part-time</b>               |                          |         |         |         |            |      |      |      |
| YES                            | 6,881                    | 6,808   | 8,581   | 10,850  | 50         | 47   | 54   | 62   |
| NO                             | 7,080                    | 7,912   | 9,767   | 10,708  | 62         | 70   | 81   | 79   |

1985 Sample Size = 418

1986 Sample Size = 452

1987 Sample Size = 475

1988 Sample Size = 478

Average colony size, by receipt of pollination fees and type firm

| Receipt of<br>pollination fees | Type Firm |           |       | Total |
|--------------------------------|-----------|-----------|-------|-------|
|                                | Full time | Part time | Hobby |       |
| Number                         |           |           |       |       |
| 1985                           |           |           |       |       |
| Yes                            | 1,426     | 135       | 2     | 1,019 |
| No                             | 1,639     | 114       | 11    | 682   |
| All                            | 1,575     | 117       | 11    | 748   |
| 1986                           |           |           |       |       |
| Yes                            | 1,584     | 140       | 2     | 1,102 |
| No                             | 1,605     | 114       | 12    | 656   |
| All                            | 1,599     | 118       | 12    | 748   |
| 1987                           |           |           |       |       |
| Yes                            | 1,634     | 154       | 4     | 1,121 |
| No                             | 1,674     | 122       | 14    | 671   |
| All                            | 1,661     | 127       | 14    | 768   |
| 1988                           |           |           |       |       |
| Yes                            | 1,732     | 177       |       | 1,217 |
| No                             | 1,666     | 133       | 15    | 656   |
| All                            | 1,690     | 140       | 15    | 783   |

1985 Sample Size = 635

1986 Sample Size = 653

1987 Sample Size = 670

1988 Sample Size = 678

Bee colonies used for paid pollination services, by type firm, 1988

| Cost item                   | Type Firm |           |       | Total   |
|-----------------------------|-----------|-----------|-------|---------|
|                             | Full time | Part time | Hobby |         |
| <b>Total miles hauled</b>   |           |           |       |         |
| Mean                        | 18,487    | 1,165     |       | 12,590  |
| Median                      | 7,350     | 455       |       | 2,350   |
| Range-Min                   | 10        | 20        |       | 10      |
| Range-Max                   | 150,000   | 5,000     |       | 150,000 |
| <b>Pollination receipts</b> |           |           |       |         |
| Mean                        | 42,730    | 2,744     |       | 29,118  |
| Median                      | 20,127    | 1,809     |       | 7,470   |
| Range-Min                   | 250       | 117       |       | 117     |
| Range-Max                   | 298,866   | 17,182    |       | 298,866 |
| <b>Total colonies</b>       |           |           |       |         |
| Mean                        | 1,307     | 115       |       | 902     |
| Median                      | 580       | 74        |       | 300     |
| Range-Min                   | 22        | 12        |       | 12      |
| Range-Max                   | 6,000     | 581       |       | 6,000   |
| <b>Times relocated</b>      |           |           |       |         |
| Mean                        | 4         | 2         |       | 3       |
| Median                      | 2         | 2         |       | 2       |
| Range-Min                   | 1         | 1         |       | 1       |
| Range-Max                   | 75        | 8         |       | 75      |
| <b>Miles per colony</b>     |           |           |       |         |
| Mean                        | 14        | 10        |       | 14      |
| Median                      | 8         | 7         |       | 8       |
| Range-Min                   | 0         | 0         |       | 0       |
| Range-Max                   | 200       | 51        |       | 200     |
| <b>Receipts per colony</b>  |           |           |       |         |
| Mean                        | 32.68     | 23.81     |       | 32.29   |
| Median                      | 26.06     | 21.91     |       | 25.00   |
| Range-Min                   | 6.94      | 2.99      |       | 2.99    |
| Range-Max                   | 92.29     | 53.71     |       | 92.29   |
| <b>Receipts per mile</b>    |           |           |       |         |
| Mean                        | 2.31      | 2.36      |       | 2.31    |
| Median                      | 3.57      | 2.92      |       | 3.27    |
| Range-Min                   | 0.08      | 0.25      |       | 0.08    |
| Range-Max                   | 109.79    | 53.73     |       | 109.79  |

Sample Size = 94 594 did not report complete information

Characteristics of pollination services provided, full time beekeepers, 1988

| Crop        | State where service provided | Average colonies used per acre | Average fee per colony | Average length of service | Beekeepers pollinating crop |
|-------------|------------------------------|--------------------------------|------------------------|---------------------------|-----------------------------|
|             |                              | Number                         | Dollars                | Days                      | Number                      |
| Alfalfa     | CA                           | 3.1                            | 17.75                  | 52                        | 6                           |
|             | ID                           | 3.0                            | 10.00                  | 30                        | 1                           |
|             | MT                           |                                |                        | 45                        | 1                           |
|             | UT                           | 1.0                            | 0.00                   | 45                        | 1                           |
| Almonds     | CA                           | 2.3                            | 26.80                  | 31                        | 35                          |
| Apples      | AL                           | 1.0                            | 15.00                  | 14                        | 1                           |
|             | CA                           | 2.4                            | 12.60                  | 22                        | 5                           |
|             | IL                           |                                | 20.00                  | 10                        | 1                           |
|             | ME                           |                                | 30.00                  | 30                        | 1                           |
|             | MI                           | 0.5                            | 18.50                  | 13                        | 3                           |
|             | MN                           | 1.0                            | 30.00                  | 12                        | 1                           |
|             | OR                           | 1.0                            | 21.00                  | 30                        | 1                           |
|             | UT                           |                                | 9.00                   | 30                        | 1                           |
|             | VT                           |                                | 20.00                  | 10                        | 1                           |
|             | WA                           | 1.6                            | 21.33                  | 20                        | 6                           |
|             | WI                           |                                | 20.00                  | 12                        | 1                           |
| Apricots    | WA                           | 1.0                            | 25.00                  | 10                        | 1                           |
| Avocado     | CA                           | 2.5                            | 2.50                   | 38                        | 2                           |
| Blueberries | ME                           | 1.5                            | 30.00                  | 26                        | 2                           |
|             | MI                           | 1.0                            | 19.17                  | 22                        | 3                           |
|             | NC                           | 1.0                            | 15.00                  | 28                        | 1                           |
| Cabbage     | CA                           | 5.0                            | 10.00                  | 30                        | 1                           |
| Cantalope   | CA                           | 1.0                            | 11.00                  | 26                        | 2                           |
|             | TX                           | 1.0                            | 20.00                  | 40                        | 1                           |
|             | AZ                           | 1.0                            | 15.00                  | 11                        | 2                           |
| Carrots     | ID                           | 5.5                            | 16.50                  | 38                        | 2                           |

Characteristics of pollination services provided, full time beekeepers, 1988 (continued)

| Crop        | State where service provided | Average colonies used per acre | Average fee per colony | Average length of service | Beekeepers pollinating crop |
|-------------|------------------------------|--------------------------------|------------------------|---------------------------|-----------------------------|
|             |                              | Number                         | Dollars                | Days                      | Number                      |
| Cherries    | CA                           | 1.7                            | 15.00                  | 21                        | 3                           |
|             | MI                           | 0.5                            | 22.50                  | 10                        | 1                           |
|             | OR                           | 1.0                            | 21.00                  | 30                        | 1                           |
|             | UT                           |                                | 9.00                   | 30                        | 1                           |
|             | WA                           | 2.5                            | 25.00                  | 15                        | 2                           |
| Citrus      | CA                           | 3.0                            | 0.00                   | 30                        | 1                           |
| Clover      | ID                           | 3.0                            | 18.00                  | 30                        | 1                           |
| Cotton      | AZ                           | 1.0                            | 15.00                  | 13                        | 1                           |
|             | CA                           | 3.0                            | 0.00                   | 60                        | 1                           |
| Cranberries | WI                           | 1.0                            | 30.00                  | 25                        | 1                           |
| Cucumbers   | MI                           | 0.3                            | 35.00                  | 12                        | 1                           |
|             | GA                           | 1.0                            | 10.00                  | 30                        | 1                           |
|             | MI                           | 0.5                            | 21.50                  | 25                        | 2                           |
|             | TX                           | 2.0                            | 15.00                  | 15                        | 1                           |
| Fruit       | MI                           | 1.0                            | 25.00                  | 7                         | 1                           |
| Kiwi        | CA                           | 3.0                            | 20.00                  | 10                        | 1                           |
| Melons      | CA                           | 1.3                            | 14.17                  | 31                        | 6                           |
|             | GA                           | 0.5                            | 10.00                  | 30                        | 1                           |
| Onions      | CA                           | 3.0                            | 14.50                  | 30                        | 2                           |
|             | ID                           | 5.5                            | 16.50                  | 38                        | 2                           |
|             | WA                           | 3.0                            | 20.00                  | 30                        | 1                           |
| Pears       | WA                           | 2.3                            | 25.00                  | 18                        | 2                           |
| Pickles     | MI                           | 1.0                            | 26.67                  | 45                        | 3                           |
|             | OH                           | 1.0                            | 30.00                  | 53                        | 2                           |
| Plums       | AL                           | 1.0                            | 15.00                  | 14                        | 1                           |
|             | CA                           | 1.7                            | 28.67                  | 19                        | 3                           |

Characteristics of pollination services provided, full time beekeepers, 1988 (continued)

| Crop           | State where service provided | Average colonies used per acre | Average fee per colony | Average length of service | Beekeepers pollinating crop |
|----------------|------------------------------|--------------------------------|------------------------|---------------------------|-----------------------------|
|                |                              | Number                         | Dollars                | Days                      | Number                      |
| Prunes         | OR                           | 1.0                            | 21.00                  | 30                        | 1                           |
|                | CA                           | 1.8                            | 2.83                   | 19                        | 3                           |
| Squash         | CA                           | 1.5                            | 12.50                  | 57                        | 2                           |
|                | FL                           | 1.0                            | 20.00                  | 52                        | 1                           |
| Sunflowers     | MI                           | 1.0                            | 25.00                  | 7                         | 1                           |
|                | ND                           | 1.0                            | 0.00                   | 28                        | 1                           |
| Vegetable Seed | CA                           | 2.5                            | 15.00                  | 35                        | 2                           |

Sample Size = 60

Characteristics of pollination services provided, part time beekeepers, 1988

| Crop      | State where service provided | Average colonies used per acre | Average fee per colony | Average length of service | Beekeepers pollinating crop |   |
|-----------|------------------------------|--------------------------------|------------------------|---------------------------|-----------------------------|---|
|           |                              | Number                         | Dollars                | Days                      | Number                      |   |
| Alfalfa   | CA                           |                                | 18.00                  | 60                        | 1                           |   |
| Almonds   | CA                           | 2.5                            | 25.77                  | 36                        | 9                           |   |
| Apples    | CA                           |                                | 30.00                  | 21                        | 1                           |   |
|           | IA                           | 1.0                            | 16.00                  | 10                        | 1                           |   |
|           | IL                           | 2.0                            | 15.00                  | 7                         | 1                           |   |
|           | MA                           | 0.5                            | 35.00                  | 10                        | 1                           |   |
|           | MI                           | 1.3                            | 19.17                  | 9                         | 3                           |   |
|           | NE                           | 0.5                            | 15.00                  | 15                        | 1                           |   |
|           | NY                           | 0.9                            | 23.50                  | 12                        | 2                           |   |
|           | OR                           | 2.5                            | 15.00                  | 23                        | 2                           |   |
|           | PA                           | 1.0                            | 20.00                  | 12                        | 3                           |   |
|           | UT                           | 2.0                            | 8.00                   | 30                        | 1                           |   |
|           | VT                           | 0.4                            | 32.50                  | 9                         | 2                           |   |
|           | WA                           | 1.8                            | 22.50                  | 33                        | 2                           |   |
|           | Blueberries                  | ME                             | 0.3                    | 26.00                     | 30                          | 1 |
| MI        |                              |                                | 15.00                  | 21                        | 1                           |   |
| OR        |                              | 2.8                            | 15.33                  | 29                        | 3                           |   |
| PA        |                              | 1.0                            | 20.00                  | 20                        | 1                           |   |
| MI        |                              | 1.0                            | 22.50                  | 35                        | 1                           |   |
| Cantalope | MI                           | 1.0                            | 22.50                  | 35                        | 1                           |   |
|           | Cherries                     | OR                             | 2.0                    | 14.00                     | 18                          | 4 |
|           |                              | UT                             | 2.0                    | 8.00                      | 30                          | 1 |
| Clover    | WA                           | 1.5                            | 25.00                  | 45                        | 1                           |   |
|           | OR                           | 1.3                            | 11.33                  | 27                        | 3                           |   |
|           | OR                           | 2.0                            | 15.00                  | 75                        | 1                           |   |

Characteristics of pollination services provided, part time beekeepers, 1988 (continued)

| Crop      | State where service provided | Average colonies used per acre | Average fee per colony | Average length of service | Beekeepers pollinating crop |
|-----------|------------------------------|--------------------------------|------------------------|---------------------------|-----------------------------|
|           |                              | Number                         | Dollars                | Days                      | Number                      |
| Fruit     | MI                           | 1.0                            | 22.50                  | 65                        | 1                           |
|           | MI                           | 1.0                            | 22.67                  | 26                        | 4                           |
| Pears     | NY                           | 1.0                            | 23.00                  | 8                         | 1                           |
|           | OR                           | 1.5                            | 10.00                  | 10                        | 1                           |
| Pickles   | PA                           |                                | 20.00                  | 21                        | 1                           |
|           | OH                           | 1.0                            | 25.00                  | 40                        | 1                           |
| Raspberry | OR                           | 2.0                            | 15.00                  | 36                        | 2                           |
| Squash    | OR                           | 1.0                            | 16.00                  | 30                        | 1                           |
| Vetch     | OR                           | 1.0                            | 0.00                   | 21                        | 1                           |

Sample Size = 30

Producers receiving pollination fees, by family annual gross income, 1985-88

| Receive<br>pollination<br>fees | Family annual gross income |                            |                            |                            |                            |                              |                              |                              |                                |                     | Total |
|--------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|---------------------|-------|
|                                | \$9,999<br>or<br>less      | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$69,999 | \$70,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$1,000,000 | Over<br>\$1,000,000 |       |
|                                | Number                     |                            |                            |                            |                            |                              |                              |                              |                                |                     |       |
| Full-time<br>YES               | 16                         | 12                         | 25                         | 27                         | 8                          | 6                            | 2                            | 1                            | 1                              | 0                   | 98    |
| NO                             | 18                         | 21                         | 43                         | 40                         | 16                         | 13                           | 1                            | 6                            | 2                              | 0                   | 160   |
| Part-time<br>YES               | 0                          | 9                          | 24                         | 17                         | 3                          | 3                            | 0                            | 0                            | 0                              | 0                   | 56    |
| NO                             | 30                         | 35                         | 78                         | 52                         | 11                         | 3                            | 0                            | 0                            | 0                              | 0                   | 209   |

Sample Size = 523

Producers receiving pollination fees, by gross income, 1985-88

| Receive<br>pollination<br>fees | Gross Income          |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                           | Total |
|--------------------------------|-----------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|---------------------------|-------|
|                                | \$2,499<br>or<br>less | \$2,500<br>to<br>\$4,999 | \$5,000<br>to<br>\$9,999 | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$49,999 | \$50,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$999,999 | \$1,000,000<br>or<br>more |       |
|                                | Number                |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                           |       |
| Full-time<br>YES               | 1                     | 0                        | 3                        | 8                          | 19                         | 7                          | 20                         | 14                           | 7                            | 17                           | 4                            | 0                         | 100   |
| NO                             | 1                     | 1                        | 7                        | 26                         | 29                         | 18                         | 29                         | 22                           | 3                            | 23                           | 4                            | 2                         | 165   |
| Part-time<br>YES               | 8                     | 14                       | 9                        | 14                         | 7                          | 1                          | 3                          | 0                            | 0                            | 0                            | 0                            | 0                         | 56    |
| NO                             | 69                    | 49                       | 42                       | 33                         | 13                         | 1                          | 2                          | 1                            | 0                            | 0                            | 0                            | 0                         | 210   |

Sample Size = 531

Producers receiving pollination fees, by net income, 1985-88

| Receive<br>pollination<br>fees | Net Income                  |               |                       |                          |                          |                            |                            |                            |                         | Total |
|--------------------------------|-----------------------------|---------------|-----------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|-------------------------|-------|
|                                | Costs<br>exceeded<br>income | Broke<br>even | \$2,499<br>or<br>less | \$2,500<br>to<br>\$4,999 | \$5,000<br>to<br>\$9,999 | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$49,999 | \$50,000<br>to<br>\$99,999 | \$100,000<br>or<br>more |       |
|                                | Number                      |               |                       |                          |                          |                            |                            |                            |                         |       |
| Full-time<br>YES               | 11                          | 4             | 5                     | 7                        | 19                       | 17                         | 28                         | 5                          | 2                       | 98    |
| NO                             | 32                          | 4             | 8                     | 8                        | 21                       | 35                         | 37                         | 10                         | 6                       | 161   |
| Part-time<br>YES               | 13                          | 4             | 16                    | 10                       | 7                        | 4                          | 2                          | 0                          | 0                       | 56    |
| NO                             | 34                          | 21            | 86                    | 28                       | 25                       | 11                         | 0                          | 1                          | 0                       | 206   |

Sample Size = 521

Producers receiving pollination fees, by total value of assets, 1985-88

| Receive<br>pollination<br>fees | Total value of assets |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                                  |                                  |                           | Total |
|--------------------------------|-----------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|----------------------------------|---------------------------|-------|
|                                | \$2,499<br>or<br>less | \$2,500<br>to<br>\$4,999 | \$5,000<br>to<br>\$9,999 | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$49,999 | \$50,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$999,999 | \$1,000,000<br>to<br>\$1,499,999 | \$1,500,000<br>to<br>\$1,999,999 | \$2,000,000<br>or<br>more |       |
|                                | Number                |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                                  |                                  |                           |       |
| Full-time<br>YES               | 0                     | 0                        | 1                        | 2                          | 8                          | 2                          | 18                         | 14                           | 10                           | 24                           | 15                           | 3                                | 2                                | 1                         | 100   |
| NO                             | 0                     | 0                        | 2                        | 1                          | 16                         | 7                          | 32                         | 17                           | 22                           | 41                           | 13                           | 10                               | 2                                | 4                         | 167   |
| Part-time<br>YES               | 1                     | 3                        | 7                        | 12                         | 20                         | 5                          | 4                          | 2                            | 1                            | 0                            | 0                            | 0                                | 0                                | 0                         | 55    |
| NO                             | 24                    | 26                       | 37                       | 40                         | 42                         | 10                         | 19                         | 6                            | 2                            | 1                            | 0                            | 0                                | 0                                | 1                         | 208   |

Sample Size = 530

Producers receiving pollination fees, by total debt, 1985-88

| Receive pollination fees | Total debt |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     | Total |
|--------------------------|------------|-----------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|------------------------|------------------------|------------------------|------------------------|----------------------------|----------------------------|---------------------|-------|
|                          | No debt    | \$2,499 or less | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$39,999 | \$40,000 to \$49,999 | \$50,000 to \$99,999 | \$100,000 to \$149,999 | \$150,000 to \$199,999 | \$200,000 to \$499,999 | \$500,000 to \$999,999 | \$1,000,000 to \$1,499,999 | \$1,500,000 to \$1,999,999 | \$2,000,000 or more |       |
|                          | Number     |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Full-time YES            | 28         | 3               | 4                  | 6                  | 5                    | 17                   | 3                    | 12                   | 8                      | 4                      | 10                     | 1                      | 0                          | 0                          | 0                   | 101   |
| Full-time NO             | 69         | 7               | 6                  | 11                 | 11                   | 17                   | 6                    | 16                   | 15                     | 6                      | 3                      | 2                      | 0                          | 1                          | 0                   | 170   |
| Part-time YES            | 39         | 5               | 3                  | 4                  | 2                    | 1                    | 1                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 55    |
| Part-time NO             | 158        | 12              | 10                 | 8                  | 8                    | 6                    | 3                    | 1                    | 0                      | 0                      | 0                      | 0                      | 1                          | 0                          | 0                   | 207   |

Sample Size = 533

**PRODUCERS - HONEY SUPPORT PROGRAM**

Participation in honey price support program, by type firm

| Use honey price support program | Type firm |           |       | Total |
|---------------------------------|-----------|-----------|-------|-------|
|                                 | Full time | Part time | Hobby |       |
| Yes                             | 268       | 253       | 63    | 584   |
| No                              | 22        | 48        | 34    | 104   |
| Total                           | 290       | 301       | 97    | 688   |

Sample Size=688

Participation in honey price support program, by type firm and year

| Year | Type firm and use of honey price support program |     |           |     |       |    |       |     |
|------|--|-----|-----------|-----|-------|----|-------|-----|
|      | Full time  |     | Part time |     | Hobby |    | Total |     |
|      | Yes  | No  | Yes       | No  | Yes   | No | Yes   | No  |
|      | Number   |     |           |     |       |    |       |     |
| 1981 | 32   | 244 | 5         | 231 | 1     | 61 | 38    | 536 |
| 1982 | 37   | 245 | 6         | 242 | 1     | 63 | 44    | 550 |
| 1983 | 51   | 232 | 18        | 237 | 1     | 71 | 70    | 540 |
| 1984 | 73   | 212 | 34        | 235 | 2     | 73 | 109   | 520 |
| 1985 | 127  | 159 | 96        | 185 | 7     | 80 | 230   | 424 |
| 1986 | 150  | 139 | 124       | 167 | 16    | 73 | 290   | 379 |
| 1987 | 168  | 122 | 177       | 119 | 37    | 55 | 382   | 296 |
| 1988 | 210  | 79  | 197       | 98  | 47    | 47 | 454   | 224 |

1981 Sample Size = 574

114 Did not Respond

1982 Sample Size = 594

94 Did not Respond

1983 Sample Size = 610

78 Did not Respond

1984 Sample Size = 629

59 Did not Respond

1985 Sample Size = 654

34 Did not Respond

1986 Sample Size = 669

19 Did not Respond

1987 Sample Size = 678

10 Did not Respond

1988 Sample Size = 678

10 Did not Respond

Participation in honey price support program, by age

| Use honey price support program | Age Class          |             |             |             |                  | Total |
|---------------------------------|--------------------|-------------|-------------|-------------|------------------|-------|
|                                 | Less than 35 years | 35-44 years | 45-54 years | 55-64 years | 65 years or more |       |
|                                 |                    |             | Number      |             |                  |       |
| Full time                       |                    |             |             |             |                  |       |
| Yes                             | 31                 | 75          | 61          | 65          | 34               | 266   |
| No                              | 2                  | 4           | 5           | 4           | 6                | 21    |
| All                             | 33                 | 79          | 66          | 69          | 40               | 287   |
| Part time                       |                    |             |             |             |                  |       |
| Yes                             | 27                 | 62          | 64          | 50          | 39               | 242   |
| No                              | 3                  | 9           | 4           | 8           | 16               | 40    |
| All                             | 30                 | 71          | 68          | 58          | 55               | 282   |
| Hobby                           |                    |             |             |             |                  |       |
| Yes                             | 8                  | 11          | 17          | 9           | 15               | 60    |
| No                              | 3                  | 4           | 4           | 9           | 10               | 30    |
| All                             | 11                 | 15          | 21          | 18          | 25               | 90    |
| All response                    |                    |             |             |             |                  |       |
| Yes                             | 66                 | 148         | 142         | 124         | 88               | 568   |
| No                              | 8                  | 17          | 13          | 21          | 32               | 91    |
| All                             | 74                 | 165         | 155         | 145         | 120              | 659   |

Sample Size=659

29 Did not Respond

Participation in honey price support program, by education

| Use honey price support program | Education Class |               |          |                |                  | Total |
|---------------------------------|-----------------|---------------|----------|----------------|------------------|-------|
|                                 | 1 to 8 years    | 9 to 11 years | 12 years | 13 to 15 years | 16 years or more |       |
|                                 |                 |               | Number   |                |                  |       |
| Full time                       |                 |               |          |                |                  |       |
| Yes                             | 12              | 19            | 83       | 65             | 80               | 259   |
| No                              | 0               | 3             | 5        | 6              | 6                | 20    |
| All                             | 12              | 22            | 88       | 71             | 86               | 279   |
| Part time                       |                 |               |          |                |                  |       |
| Yes                             | 16              | 20            | 83       | 42             | 84               | 245   |
| No                              | 5               | 6             | 13       | 8              | 8                | 40    |
| All                             | 21              | 26            | 96       | 50             | 92               | 285   |
| Hobby                           |                 |               |          |                |                  |       |
| Yes                             | 2               | 2             | 20       | 16             | 20               | 60    |
| No                              | 5               | 3             | 9        | 8              | 5                | 30    |
| All                             | 7               | 5             | 29       | 24             | 25               | 90    |
| All response                    |                 |               |          |                |                  |       |
| Yes                             | 30              | 41            | 186      | 123            | 184              | 564   |
| No                              | 10              | 12            | 27       | 22             | 19               | 90    |
| All                             | 40              | 53            | 213      | 145            | 203              | 654   |

Sample Size=654

34 Did not Respond

Average products and services produced or provided, by program participation and firm type

| Use honey<br>price support<br>program | Products and services |         |                     |                 |                  |                |                         |
|---------------------------------------|-----------------------|---------|---------------------|-----------------|------------------|----------------|-------------------------|
|                                       | Honey                 | Beeswax | Royal<br>jelly, etc | Package<br>bees | Nucs             | Queens<br>sold | Pollination<br>colonies |
|                                       | -----Pounds-----      |         |                     |                 | -----Number----- |                |                         |
| Full time<br>Yes                      |                       |         |                     |                 |                  |                |                         |
| 1985                                  | 126,816               | 2,036   | 191                 | 647             | 95               | 433            | 255                     |
| 1986                                  | 166,948               | 2,566   | 126                 | 589             | 105              | 138            | 306                     |
| 1987                                  | 201,910               | 3,317   | 157                 | 505             | 127              | 103            | 458                     |
| 1988                                  | 163,431               | 3,333   | 146                 | 200             | 155              | 81             | 500                     |
| No                                    |                       |         |                     |                 |                  |                |                         |
| 1985                                  | 85,741                | 1,770   | 55                  | 49              | 106              | 60             | 481                     |
| 1986                                  | 111,997               | 2,071   | 199                 | 109             | 121              | 1,163          | 476                     |
| 1987                                  | 142,117               | 2,294   | 238                 | 51              | 136              | 185            | 445                     |
| 1988                                  | 121,847               | 1,963   | 387                 | 82              | 108              | 314            | 441                     |
| All                                   |                       |         |                     |                 |                  |                |                         |
| 1985                                  | 101,591               | 1,873   | 107                 | 280             | 101              | 204            | 394                     |
| 1986                                  | 133,367               | 2,264   | 171                 | 296             | 114              | 765            | 410                     |
| 1987                                  | 166,546               | 2,712   | 205                 | 237             | 132              | 151            | 450                     |
| 1988                                  | 143,123               | 2,664   | 264                 | 142             | 132              | 195            | 471                     |
| Part time<br>Yes                      |                       |         |                     |                 |                  |                |                         |
| 1985                                  | 8,434                 | 101     | 12                  | 0               | 1                | 0              | 19                      |
| 1986                                  | 8,647                 | 115     | 23                  | 0               | 1                | 23             | 21                      |
| 1987                                  | 10,731                | 127     | 55                  | 0               | 2                | 0              | 25                      |
| 1988                                  | 11,140                | 434     | 35                  | 0               | 2                | 5              | 28                      |

Average products and services produced or provided, by program participation and firm type (continued)

| Use honey<br>price support<br>program | Products and services |         |                     |                 |                    |                |                         |
|---------------------------------------|-----------------------|---------|---------------------|-----------------|--------------------|----------------|-------------------------|
|                                       | Honey                 | Beeswax | Royal<br>jelly, etc | Package<br>bees | Nucs               | Queens<br>sold | Pollination<br>colonies |
|                                       | ----- Pounds -----    |         |                     |                 | ----- Number ----- |                |                         |
| No                                    |                       |         |                     |                 |                    |                |                         |
| 1985                                  | 5,570                 | 56      | 11                  | 0               | 1                  | 0              | 26                      |
| 1986                                  | 6,215                 | 64      | 15                  | 0               | 4                  | 0              | 26                      |
| 1987                                  | 7,371                 | 88      | 10                  | 0               | 1                  | 30             | 27                      |
| 1988                                  | 9,120                 | 114     | 63                  | 0               | 0                  | 24             | 34                      |
| All                                   |                       |         |                     |                 |                    |                |                         |
| 1985                                  | 6,558                 | 72      | 11                  | 0               | 1                  | 0              | 23                      |
| 1986                                  | 7,205                 | 85      | 18                  | 0               | 3                  | 9              | 24                      |
| 1987                                  | 9,162                 | 109     | 34                  | 0               | 2                  | 14             | 26                      |
| 1988                                  | 10,204                | 286     | 48                  | 0               | 1                  | 14             | 31                      |
| Hobby                                 |                       |         |                     |                 |                    |                |                         |
| Yes                                   |                       |         |                     |                 |                    |                |                         |
| 1985                                  | 1,200                 | 25      | 0                   | 0               | 0                  | 0              | 0                       |
| 1986                                  | 781                   | 19      | 0                   | 0               | 0                  | 0              | 1                       |
| 1987                                  | 1,114                 | 10      | 0                   | 0               | 0                  | 0              | 0                       |
| 1988                                  | 1,153                 | 25      | 0                   | 0               | 0                  | 0              | 0                       |
| No                                    |                       |         |                     |                 |                    |                |                         |
| 1985                                  | 680                   | 7       | 0                   | 0               | 0                  | 0              | 3                       |
| 1986                                  | 728                   | 6       | 0                   | 0               | 0                  | 0              | 3                       |
| 1987                                  | 780                   | 9       | 0                   | 0               | 0                  | 0              | 2                       |
| 1988                                  | 1,088                 | 7       | 0                   | 0               | 0                  | 0              | 2                       |

Average products and services produced or provided, by program participation and firm type (continued)

| Use honey<br>price support<br>program | Products and services |         |                     |                 |                    |                |                         |
|---------------------------------------|-----------------------|---------|---------------------|-----------------|--------------------|----------------|-------------------------|
|                                       | Honey                 | Beeswax | Royal<br>jelly, etc | Package<br>bees | Nucs               | Queens<br>sold | Pollination<br>colonies |
| All                                   | ----- Pounds -----    |         |                     |                 | ----- Number ----- |                |                         |
| 1985                                  | 698                   | 7       | 0                   | 0               | 0                  | 0              | 3                       |
| 1986                                  | 738                   | 9       | 0                   | 0               | 0                  | 0              | 3                       |
| 1987                                  | 902                   | 9       | 0                   | 0               | 0                  | 0              | 2                       |
| 1988                                  | 1,120                 | 16      | 0                   | 0               | 0                  | 0              | 1                       |
| All response                          |                       |         |                     |                 |                    |                |                         |
| Yes                                   |                       |         |                     |                 |                    |                |                         |
| 1985                                  | 75,071                | 1,191   | 113                 | 364             | 54                 | 244            | 152                     |
| 1986                                  | 85,398                | 1,305   | 72                  | 287             | 51                 | 78             | 159                     |
| 1987                                  | 86,976                | 1,403   | 91                  | 204             | 52                 | 42             | 197                     |
| 1988                                  | 77,682                | 1,676   | 80                  | 89              | 70                 | 38             | 234                     |
| No                                    |                       |         |                     |                 |                    |                |                         |
| 1985                                  | 40,083                | 803     | 28                  | 22              | 47                 | 26             | 222                     |
| 1986                                  | 53,600                | 970     | 97                  | 50              | 56                 | 530            | 228                     |
| 1987                                  | 72,483                | 1,158   | 120                 | 25              | 67                 | 102            | 228                     |
| 1988                                  | 59,718                | 947     | 203                 | 38              | 50                 | 154            | 217                     |
| All                                   |                       |         |                     |                 |                    |                |                         |
| 1985                                  | 51,606                | 931     | 56                  | 135             | 49                 | 98             | 199                     |
| 1986                                  | 65,458                | 1,095   | 88                  | 138             | 55                 | 361            | 202                     |
| 1987                                  | 79,094                | 1,270   | 107                 | 107             | 60                 | 74             | 214                     |
| 1988                                  | 69,045                | 1,325   | 139                 | 64              | 60                 | 94             | 226                     |

1985 Sample Size=501

187 Did not Respond

1986 Sample Size=539

149 Did not Respond

1987 Sample Size=570

118 Did not Respond

1988 Sample Size=572

116 Did not Respond

Size of beekeeping operations, by participation in the honey price support program and type firm

| Use honey price support program | Year   |        |          |        |           |
|---------------------------------|--------|--------|----------|--------|-----------|
|                                 | 1985   | 1986   | 1987     | 1988   | 85-88 Ave |
| Full time                       |        |        | Colonies |        |           |
| Yes                             |        |        |          |        |           |
| Mean                            | 1,618  | 1,662  | 1,707    | 1,737  | 1,668     |
| Median                          | 950    | 975    | 1,000    | 1,000  | 1,000     |
| Min                             | 175    | 300    | 250      | 168    | 300       |
| Max                             | 27,367 | 26,706 | 28,503   | 29,640 | 28,054    |
| No                              |        |        |          |        |           |
| Mean                            | 1,060  | 848    | 1,105    | 1,091  | 1,032     |
| Median                          | 775    | 650    | 800      | 672    | 788       |
| Min                             | 275    | 285    | 350      | 320    | 311       |
| Max                             | 5,500  | 2,910  | 5,500    | 5,500  | 4,263     |
| All                             |        |        |          |        |           |
| Mean                            | 1,575  | 1,599  | 1,661    | 1,690  | 1,620     |
| Median                          | 900    | 923    | 1,000    | 1,000  | 963       |
| Min                             | 175    | 285    | 250      | 168    | 300       |
| Max                             | 27,367 | 26,706 | 28,503   | 29,640 | 28,054    |
| Part time                       |        |        |          |        |           |
| Yes                             |        |        |          |        |           |
| Mean                            | 121    | 122    | 132      | 148    | 131       |
| Median                          | 100    | 110    | 124      | 130    | 125       |
| Min                             | 7      | 10     | 20       | 18     | 25        |
| Max                             | 600    | 440    | 360      | 600    | 299       |

Size of beekeeping operations, by participation in the honey price support program and type firm (continued)

| Use honey price support program | Year |      |          |      |           |
|---------------------------------|------|------|----------|------|-----------|
|                                 | 1985 | 1986 | 1987     | 1988 | 85-88 Ave |
| No                              |      |      | Colonies |      |           |
| Mean                            | 96   | 95   | 101      | 98   | 98        |
| Median                          | 58   | 68   | 62       | 62   | 67        |
| Min                             | 15   | 20   | 26       | 25   | 26        |
| Max                             | 300  | 325  | 410      | 350  | 275       |
| All                             |      |      |          |      |           |
| Mean                            | 117  | 118  | 127      | 140  | 126       |
| Median                          | 90   | 100  | 110      | 119  | 115       |
| Min                             | 7    | 10   | 20       | 18   | 25        |
| Max                             | 600  | 440  | 410      | 600  | 299       |
| Hobby                           |      |      |          |      |           |
| Yes                             |      |      |          |      |           |
| Mean                            | 12   | 13   | 15       | 17   | 14        |
| Median                          | 12   | 12   | 15       | 15   | 15        |
| Min                             | 2    | 2    | 2        | 2    | 2         |
| Max                             | 30   | 31   | 30       | 50   | 25        |
| No                              |      |      |          |      |           |
| Mean                            | 9    | 10   | 10       | 10   | 10        |
| Median                          | 6    | 8    | 9        | 9    | 9         |
| Min                             | 2    | 3    | 1        | 2    | 3         |
| Max                             | 40   | 24   | 22       | 30   | 24        |

Size of beekeeping operations, by participation in the honey price support program and type firm (continued)

| Use honey price support program | Year   |        |          |        |           |
|---------------------------------|--------|--------|----------|--------|-----------|
|                                 | 1985   | 1986   | 1987     | 1988   | 85-88 Ave |
| All                             |        |        | Colonies |        |           |
| Mean                            | 11     | 12     | 14       | 15     | 13        |
| Median                          | 10     | 12     | 15       | 14     | 14        |
| Min                             | 2      | 2      | 1        | 2      | 2         |
| Max                             | 40     | 31     | 30       | 50     | 25        |
| All response                    |        |        |          |        |           |
| Yes                             |        |        |          |        |           |
| Mean                            | 828    | 837    | 849      | 869    | 824       |
| Median                          | 261    | 250    | 250      | 275    | 251       |
| Min                             | 2      | 2      | 2        | 2      | 2         |
| Max                             | 27,367 | 26,706 | 28,503   | 29,640 | 28,054    |
| No                              |        |        |          |        |           |
| Mean                            | 292    | 239    | 297      | 279    | 267       |
| Median                          | 50     | 52     | 49       | 50     | 55        |
| Min                             | 2      | 3      | 1        | 2      | 3         |
| Max                             | 5,500  | 2,910  | 5,500    | 5,500  | 4,263     |
| All                             |        |        |          |        |           |
| Mean                            | 748    | 748    | 768      | 783    | 740       |
| Median                          | 202    | 202    | 200      | 239    | 203       |
| Min                             | 2      | 2      | 1        | 2      | 2         |
| Max                             | 27,367 | 26,706 | 28,503   | 29,640 | 28,054    |

1985 Sample Size=635    53 Did not Respond    1986 Sample Size=653    35 Did not Respond  
 1987 Sample Size=670    18 Did not Respond    1988 Sample Size=678    10 Did not Respond

Participation in honey price support program, by family annual gross income, 1988

| Use honey price support program | Family annual gross income |                      |                      |                      |                      |                        |                        |                        |                          |                  | Total |
|---------------------------------|----------------------------|----------------------|----------------------|----------------------|----------------------|------------------------|------------------------|------------------------|--------------------------|------------------|-------|
|                                 | Less than \$9,999          | \$10,000 to \$19,999 | \$20,000 to \$39,999 | \$40,000 to \$69,999 | \$70,000 to \$99,999 | \$100,000 to \$149,999 | \$150,000 to \$199,999 | \$200,000 to \$499,999 | \$500,000 to \$1,000,000 | Over \$1,000,000 |       |
| Full time                       |                            |                      |                      |                      | Number               |                        |                        |                        |                          |                  |       |
| Yes                             | 32                         | 30                   | 62                   | 65                   | 24                   | 19                     | 3                      | 6                      | 3                        | 0                | 244   |
| No                              | 2                          | 3                    | 6                    | 2                    | 0                    | 0                      | 0                      | 1                      | 0                        | 0                | 14    |
| All                             | 34                         | 33                   | 68                   | 67                   | 24                   | 19                     | 3                      | 7                      | 3                        | 0                | 258   |
| Part time                       |                            |                      |                      |                      |                      |                        |                        |                        |                          |                  |       |
| Yes                             | 22                         | 39                   | 84                   | 65                   | 13                   | 6                      | 0                      | 0                      | 0                        | 0                | 229   |
| No                              | 8                          | 6                    | 18                   | 4                    | 1                    | 0                      | 0                      | 0                      | 0                        | 0                | 37    |
| All                             | 30                         | 45                   | 102                  | 69                   | 14                   | 6                      | 0                      | 0                      | 0                        | 0                | 266   |
| Hobby                           |                            |                      |                      |                      |                      |                        |                        |                        |                          |                  |       |
| Yes                             | 6                          | 9                    | 28                   | 11                   | 4                    | 0                      | 0                      | 0                      | 0                        | 0                | 58    |
| No                              | 2                          | 6                    | 9                    | 5                    | 2                    | 0                      | 0                      | 1                      | 0                        | 0                | 25    |
| All                             | 8                          | 15                   | 37                   | 16                   | 6                    | 0                      | 0                      | 1                      | 0                        | 0                | 83    |
| All response                    |                            |                      |                      |                      |                      |                        |                        |                        |                          |                  |       |
| Yes                             | 60                         | 78                   | 174                  | 141                  | 41                   | 25                     | 3                      | 6                      | 3                        | 0                | 531   |
| No                              | 12                         | 15                   | 33                   | 11                   | 3                    | 0                      | 0                      | 2                      | 0                        | 0                | 76    |
| All                             | 72                         | 93                   | 207                  | 152                  | 44                   | 25                     | 3                      | 8                      | 3                        | 0                | 607   |

Sample Size=607  
81 Did not Respond

Size of beekeeping operations, by participation in the honey price support program and type firm (continued)

| Use honey price support program | Year   |        |          |        |           |
|---------------------------------|--------|--------|----------|--------|-----------|
|                                 | 1985   | 1986   | 1987     | 1988   | 85-88 Ave |
| All                             |        |        | Colonies |        |           |
| Mean                            | 11     | 12     | 14       | 15     | 13        |
| Median                          | 10     | 12     | 15       | 14     | 14        |
| Min                             | 2      | 2      | 1        | 2      | 2         |
| Max                             | 40     | 31     | 30       | 50     | 25        |
| All response                    |        |        |          |        |           |
| Yes                             |        |        |          |        |           |
| Mean                            | 828    | 837    | 849      | 869    | 824       |
| Median                          | 261    | 250    | 250      | 275    | 251       |
| Min                             | 2      | 2      | 2        | 2      | 2         |
| Max                             | 27,367 | 26,706 | 28,503   | 29,640 | 28,054    |
| No                              |        |        |          |        |           |
| Mean                            | 292    | 239    | 297      | 279    | 267       |
| Median                          | 50     | 52     | 49       | 50     | 55        |
| Min                             | 2      | 3      | 1        | 2      | 3         |
| Max                             | 5,500  | 2,910  | 5,500    | 5,500  | 4,263     |
| All                             |        |        |          |        |           |
| Mean                            | 748    | 748    | 768      | 783    | 740       |
| Median                          | 202    | 202    | 200      | 239    | 203       |
| Min                             | 2      | 2      | 1        | 2      | 2         |
| Max                             | 27,367 | 26,706 | 28,503   | 29,640 | 28,054    |

1985 Sample Size=635    53 Did not Respond    1986 Sample Size=653    35 Did not Respond  
 1987 Sample Size=670    18 Did not Respond    1988 Sample Size=678    10 Did not Respond

Participation in honey price support program, by family annual gross income, 1988

| Use honey price support program | Family annual gross income |                      |                      |                      |                      |                        |                        |                        |                          |                  | Total |
|---------------------------------|----------------------------|----------------------|----------------------|----------------------|----------------------|------------------------|------------------------|------------------------|--------------------------|------------------|-------|
|                                 | Less than \$9,999          | \$10,000 to \$19,999 | \$20,000 to \$39,999 | \$40,000 to \$69,999 | \$70,000 to \$99,999 | \$100,000 to \$149,999 | \$150,000 to \$199,999 | \$200,000 to \$499,999 | \$500,000 to \$1,000,000 | Over \$1,000,000 |       |
|                                 |                            |                      |                      |                      | Number               |                        |                        |                        |                          |                  |       |
| Full time                       |                            |                      |                      |                      |                      |                        |                        |                        |                          |                  |       |
| Yes                             | 32                         | 30                   | 62                   | 65                   | 24                   | 19                     | 3                      | 6                      | 3                        | 0                | 244   |
| No                              | 2                          | 3                    | 6                    | 2                    | 0                    | 0                      | 0                      | 1                      | 0                        | 0                | 14    |
| All                             | 34                         | 33                   | 68                   | 67                   | 24                   | 19                     | 3                      | 7                      | 3                        | 0                | 258   |
| Part time                       |                            |                      |                      |                      |                      |                        |                        |                        |                          |                  |       |
| Yes                             | 22                         | 39                   | 84                   | 65                   | 13                   | 6                      | 0                      | 0                      | 0                        | 0                | 229   |
| No                              | 8                          | 6                    | 18                   | 4                    | 1                    | 0                      | 0                      | 0                      | 0                        | 0                | 37    |
| All                             | 30                         | 45                   | 102                  | 69                   | 14                   | 6                      | 0                      | 0                      | 0                        | 0                | 266   |
| Hobby                           |                            |                      |                      |                      |                      |                        |                        |                        |                          |                  |       |
| Yes                             | 6                          | 9                    | 28                   | 11                   | 4                    | 0                      | 0                      | 0                      | 0                        | 0                | 58    |
| No                              | 2                          | 6                    | 9                    | 5                    | 2                    | 0                      | 0                      | 1                      | 0                        | 0                | 25    |
| All                             | 8                          | 15                   | 37                   | 16                   | 6                    | 0                      | 0                      | 1                      | 0                        | 0                | 83    |
| All response                    |                            |                      |                      |                      |                      |                        |                        |                        |                          |                  |       |
| Yes                             | 60                         | 78                   | 174                  | 141                  | 41                   | 25                     | 3                      | 6                      | 3                        | 0                | 531   |
| No                              | 12                         | 15                   | 33                   | 11                   | 3                    | 0                      | 0                      | 2                      | 0                        | 0                | 76    |
| All                             | 72                         | 93                   | 207                  | 152                  | 44                   | 25                     | 3                      | 8                      | 3                        | 0                | 607   |

Sample Size=607  
81 Did not Respond

Participation in honey price support program, by gross income, 1988

| Use honey price support program | Gross income    |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                     | Total |
|---------------------------------|-----------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|------------------------|------------------------|------------------------|------------------------|---------------------|-------|
|                                 | \$2,499 or less | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$39,999 | \$40,000 to \$49,999 | \$50,000 to \$99,999 | \$100,000 to \$149,999 | \$150,000 to \$199,999 | \$200,000 to \$499,999 | \$500,000 to \$999,999 | \$1,000,000 or more |       |
| Full time                       |                 |                    |                    |                      | Number               |                      |                      |                        |                        |                        |                        |                     |       |
| Yes                             | 2               | 1                  | 10                 | 31                   | 43                   | 22                   | 45                   | 35                     | 10                     | 38                     | 8                      | 2                   | 247   |
| No                              | 0               | 0                  | 0                  | 3                    | 5                    | 3                    | 4                    | 1                      | 0                      | 2                      | 0                      | 0                   | 18    |
| All                             | 2               | 1                  | 10                 | 34                   | 48                   | 25                   | 49                   | 36                     | 10                     | 40                     | 8                      | 2                   | 265   |
| Part time                       |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                     |       |
| Yes                             | 61              | 52                 | 47                 | 43                   | 20                   | 2                    | 5                    | 1                      | 0                      | 0                      | 0                      | 0                   | 231   |
| No                              | 16              | 11                 | 4                  | 4                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                   | 35    |
| All                             | 77              | 63                 | 51                 | 47                   | 20                   | 2                    | 5                    | 1                      | 0                      | 0                      | 0                      | 0                   | 266   |
| Hobby                           |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                     |       |
| Yes                             | 55              | 2                  | 0                  | 1                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                   | 58    |
| No                              | 22              | 0                  | 0                  | 0                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                   | 22    |
| All                             | 77              | 2                  | 0                  | 1                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                   | 80    |
| All response                    |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                     |       |
| Yes                             | 118             | 55                 | 57                 | 75                   | 63                   | 24                   | 50                   | 36                     | 10                     | 38                     | 8                      | 2                   | 536   |
| No                              | 38              | 11                 | 4                  | 7                    | 5                    | 3                    | 4                    | 1                      | 0                      | 2                      | 0                      | 0                   | 75    |
| All                             | 156             | 66                 | 61                 | 82                   | 68                   | 27                   | 54                   | 37                     | 10                     | 40                     | 8                      | 2                   | 611   |

Sample Size=611

77 Did not Respond

Participation in honey price support program, by net income, 1988

| Use honey price support program | Net income            |            |                 |                    |                    |                      |                      |                      |                   | Total |
|---------------------------------|-----------------------|------------|-----------------|--------------------|--------------------|----------------------|----------------------|----------------------|-------------------|-------|
|                                 | Costs exceeded income | Broke even | \$2,499 or less | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$49,999 | \$50,000 to \$99,999 | \$100,000 or more |       |
|                                 |                       |            |                 |                    | Number             |                      |                      |                      |                   |       |
| Full time                       |                       |            |                 |                    |                    |                      |                      |                      |                   |       |
| Yes                             | 38                    | 6          | 13              | 14                 | 38                 | 47                   | 63                   | 14                   | 8                 | 241   |
| No                              | 5                     | 2          | 0               | 1                  | 2                  | 5                    | 2                    | 1                    | 0                 | 18    |
| All                             | 43                    | 8          | 13              | 15                 | 40                 | 52                   | 65                   | 15                   | 8                 | 259   |
| Part time                       |                       |            |                 |                    |                    |                      |                      |                      |                   |       |
| Yes                             | 39                    | 17         | 86              | 36                 | 30                 | 15                   | 2                    | 1                    | 0                 | 226   |
| No                              | 8                     | 8          | 16              | 2                  | 2                  | 0                    | 0                    | 0                    | 0                 | 36    |
| All                             | 47                    | 25         | 102             | 38                 | 32                 | 15                   | 2                    | 1                    | 0                 | 262   |
| Hobby                           |                       |            |                 |                    |                    |                      |                      |                      |                   |       |
| Yes                             | 17                    | 10         | 29              | 2                  | 0                  | 0                    | 0                    | 0                    | 0                 | 58    |
| No                              | 8                     | 6          | 8               | 0                  | 0                  | 0                    | 0                    | 0                    | 0                 | 22    |
| All                             | 25                    | 16         | 37              | 2                  | 0                  | 0                    | 0                    | 0                    | 0                 | 80    |
| All response                    |                       |            |                 |                    |                    |                      |                      |                      |                   |       |
| Yes                             | 94                    | 33         | 128             | 52                 | 68                 | 62                   | 65                   | 15                   | 8                 | 525   |
| No                              | 21                    | 16         | 24              | 3                  | 4                  | 5                    | 2                    | 1                    | 0                 | 76    |
| All                             | 115                   | 49         | 152             | 55                 | 72                 | 67                   | 67                   | 16                   | 8                 | 601   |

Sample Size=601

87 Did not Respond

Participation in honey price support program, by total value of assets, 1988

| Use honey price support program | Total value of assets |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     | Total |
|---------------------------------|-----------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|------------------------|------------------------|------------------------|------------------------|----------------------------|----------------------------|---------------------|-------|
|                                 | \$2,499 or less       | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$39,999 | \$40,000 to \$49,999 | \$50,000 to \$99,999 | \$100,000 to \$149,999 | \$150,000 to \$199,999 | \$200,000 to \$499,999 | \$500,000 to \$999,999 | \$1,000,000 to \$1,499,999 | \$1,500,000 to \$1,999,999 | \$2,000,000 or more |       |
|                                 |                       |                    |                    |                      | Number               |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Full time                       |                       |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 0                     | 0                  | 3                  | 1                    | 23                   | 8                    | 45                   | 28                     | 31                     | 61                     | 27                     | 13                         | 4                          | 5                   | 249   |
| No                              | 0                     | 0                  | 0                  | 2                    | 1                    | 1                    | 5                    | 3                      | 1                      | 4                      | 1                      | 0                          | 0                          | 0                   | 18    |
| All                             | 0                     | 0                  | 3                  | 3                    | 24                   | 9                    | 50                   | 31                     | 32                     | 65                     | 28                     | 13                         | 4                          | 5                   | 267   |
| Part time                       |                       |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 15                    | 24                 | 37                 | 45                   | 59                   | 14                   | 22                   | 7                      | 2                      | 2                      | 0                      | 0                          | 0                          | 1                   | 228   |
| No                              | 10                    | 5                  | 7                  | 7                    | 3                    | 1                    | 1                    | 1                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 35    |
| All                             | 25                    | 29                 | 44                 | 52                   | 62                   | 15                   | 23                   | 8                      | 2                      | 2                      | 0                      | 0                          | 0                          | 1                   | 263   |
| Hobby                           |                       |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 37                    | 15                 | 6                  | 0                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 58    |
| No                              | 18                    | 4                  | 0                  | 0                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 22    |
| All                             | 55                    | 19                 | 6                  | 0                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 80    |
| All response                    |                       |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 52                    | 39                 | 46                 | 46                   | 82                   | 22                   | 67                   | 35                     | 33                     | 63                     | 27                     | 13                         | 4                          | 6                   | 535   |
| No                              | 28                    | 9                  | 7                  | 9                    | 4                    | 2                    | 6                    | 4                      | 1                      | 4                      | 1                      | 0                          | 0                          | 0                   | 75    |
| All                             | 80                    | 48                 | 53                 | 55                   | 86                   | 24                   | 73                   | 39                     | 34                     | 67                     | 28                     | 13                         | 4                          | 6                   | 610   |

Sample Size=610  
78 Did not Respond

Participation in honey price support program, by total debt, 1988

| Use honey price support program | Total debt |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     | Total |
|---------------------------------|------------|-----------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|------------------------|------------------------|------------------------|------------------------|----------------------------|----------------------------|---------------------|-------|
|                                 | No debt    | \$2,499 or less | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$39,999 | \$40,000 to \$49,999 | \$50,000 to \$99,999 | \$100,000 to \$149,999 | \$150,000 to \$199,999 | \$200,000 to \$499,999 | \$500,000 to \$999,999 | \$1,000,000 to \$1,499,999 | \$1,500,000 to \$1,999,999 | \$2,000,000 or more |       |
| Full time                       |            |                 |                    |                    |                      | Number               |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 87         | 8               | 10                 | 17                 | 14                   | 32                   | 8                    | 26                   | 23                     | 9                      | 13                     | 3                      | 0                          | 1                          | 0                   | 251   |
| No                              | 10         | 2               | 0                  | 0                  | 2                    | 2                    | 1                    | 2                    | 0                      | 1                      | 0                      | 0                      | 0                          | 0                          | 0                   | 20    |
| All                             | 97         | 10              | 10                 | 17                 | 16                   | 34                   | 9                    | 28                   | 23                     | 10                     | 13                     | 3                      | 0                          | 1                          | 0                   | 271   |
| Part time                       |            |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 170        | 14              | 12                 | 11                 | 8                    | 6                    | 4                    | 1                    | 0                      | 0                      | 0                      | 0                      | 1                          | 0                          | 0                   | 227   |
| No                              | 27         | 3               | 1                  | 1                  | 2                    | 1                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 35    |
| All                             | 197        | 17              | 13                 | 12                 | 10                   | 7                    | 4                    | 1                    | 0                      | 0                      | 0                      | 0                      | 1                          | 0                          | 0                   | 262   |
| Hobby                           |            |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 52         | 4               | 1                  | 1                  | 0                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 58    |
| No                              | 23         | 0               | 0                  | 0                  | 0                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 23    |
| All                             | 75         | 4               | 1                  | 1                  | 0                    | 0                    | 0                    | 0                    | 0                      | 0                      | 0                      | 0                      | 0                          | 0                          | 0                   | 81    |
| All response                    |            |                 |                    |                    |                      |                      |                      |                      |                        |                        |                        |                        |                            |                            |                     |       |
| Yes                             | 309        | 26              | 23                 | 29                 | 22                   | 38                   | 12                   | 27                   | 23                     | 9                      | 13                     | 3                      | 1                          | 1                          | 0                   | 536   |
| No                              | 60         | 5               | 1                  | 1                  | 4                    | 3                    | 1                    | 2                    | 0                      | 1                      | 0                      | 0                      | 0                          | 0                          | 0                   | 78    |
| All                             | 369        | 31              | 24                 | 30                 | 26                   | 41                   | 13                   | 29                   | 23                     | 10                     | 13                     | 3                      | 1                          | 1                          | 0                   | 614   |

Sample Size=614  
74 Did not Respond

Average gross receipts from beekeeping products, services, and programs, by firm type

| Type firm<br>and<br>year | Products, services, and programs |                         |         |                 |                    |                        |        | Total   |
|--------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|--------|---------|
|                          | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other  |         |
|                          | Dollars                          |                         |         |                 |                    |                        |        |         |
| Full time                |                                  |                         |         |                 |                    |                        |        |         |
| Yes                      |                                  |                         |         |                 |                    |                        |        |         |
| 1985                     | 8,203                            | 8,304                   | 2,014   | 4,051           | 3,044              | 75,543                 | 3,711  | 104,871 |
| 1986                     | 29,769                           | 8,271                   | 2,449   | 3,353           | 1,250              | 60,983                 | 7,997  | 114,071 |
| 1987                     | 55,668                           | 12,045                  | 3,002   | 2,777           | 1,868              | 73,887                 | 11,382 | 160,628 |
| 1988                     | 52,583                           | 13,486                  | 2,609   | 1,472           | 1,626              | 57,677                 | 9,198  | 138,651 |
| No                       |                                  |                         |         |                 |                    |                        |        |         |
| 1985                     | 60,215                           | 14,179                  | 1,913   | 410             | 925                | 0                      | 5,882  | 83,524  |
| 1986                     | 76,690                           | 14,706                  | 1,532   | 1,336           | 7,300              | 0                      | 5,192  | 106,756 |
| 1987                     | 83,470                           | 14,451                  | 2,066   | 781             | 2,084              | 0                      | 4,887  | 107,739 |
| 1988                     | 69,413                           | 17,601                  | 1,693   | 1,673           | 3,211              | 0                      | 1,386  | 94,977  |
| All                      |                                  |                         |         |                 |                    |                        |        |         |
| 1985                     | 38,280                           | 11,701                  | 1,956   | 1,946           | 1,818              | 31,859                 | 4,966  | 92,526  |
| 1986                     | 56,665                           | 11,960                  | 1,923   | 2,197           | 4,718              | 26,026                 | 6,389  | 109,878 |
| 1987                     | 71,151                           | 13,385                  | 2,480   | 1,665           | 1,989              | 32,738                 | 7,765  | 131,174 |
| 1988                     | 59,933                           | 15,281                  | 2,187   | 1,556           | 2,332              | 31,524                 | 5,650  | 118,463 |
| Part time                |                                  |                         |         |                 |                    |                        |        |         |
| Yes                      |                                  |                         |         |                 |                    |                        |        |         |
| 1985                     | 1,374                            | 420                     | 72      | 0               | 20                 | 4,303                  | 33     | 6,222   |
| 1986                     | 2,604                            | 480                     | 103     | 0               | 130                | 4,454                  | 105    | 7,877   |
| 1987                     | 4,549                            | 619                     | 111     | 2               | 40                 | 6,409                  | 190    | 11,921  |
| 1988                     | 5,131                            | 499                     | 98      | 0               | 32                 | 4,260                  | 206    | 10,226  |

Average gross receipts from beekeeping products, services, and programs, by firm type (continued)

| Type firm<br>and<br>year | Products, services, and programs |                         |         |                 |                    |                        |       | Total |
|--------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|-------|-------|
|                          | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other |       |
|                          | Dollars                          |                         |         |                 |                    |                        |       |       |
| <b>No</b>                |                                  |                         |         |                 |                    |                        |       |       |
| 1985                     | 4,006                            | 1,450                   | 53      | 2               | 4                  | 0                      | 205   | 5,721 |
| 1986                     | 4,569                            | 551                     | 61      | 17              | 3                  | 0                      | 218   | 5,419 |
| 1987                     | 4,725                            | 470                     | 59      | 23              | 205                | 0                      | 208   | 5,689 |
| 1988                     | 6,065                            | 786                     | 88      | 22              | 109                | 0                      | 447   | 7,517 |
| <b>All</b>               |                                  |                         |         |                 |                    |                        |       |       |
| 1985                     | 2,899                            | 1,017                   | 61      | 1               | 11                 | 1,810                  | 133   | 5,932 |
| 1986                     | 3,644                            | 518                     | 81      | 9               | 63                 | 2,096                  | 165   | 6,576 |
| 1987                     | 4,620                            | 560                     | 90      | 10              | 106                | 3,845                  | 197   | 9,428 |
| 1988                     | 5,508                            | 615                     | 94      | 9               | 63                 | 2,541                  | 303   | 9,132 |
| <b>Hobby</b>             |                                  |                         |         |                 |                    |                        |       |       |
| <b>Yes</b>               |                                  |                         |         |                 |                    |                        |       |       |
| 1985                     | 173                              | 0                       | 13      | 0               | 0                  | 770                    | 0     | 955   |
| 1986                     | 104                              | 0                       | 8       | 0               | 0                  | 401                    | 0     | 512   |
| 1987                     | 266                              | 3                       | 2       | 0               | 6                  | 566                    | 5     | 847   |
| 1988                     | 265                              | 0                       | 11      | 0               | 0                  | 517                    | 3     | 796   |
| <b>No</b>                |                                  |                         |         |                 |                    |                        |       |       |
| 1985                     | 427                              | 0                       | 3       | 0               | 0                  | 0                      | 0     | 429   |
| 1986                     | 403                              | 1                       | 3       | 0               | 0                  | 0                      | 0     | 407   |
| 1987                     | 421                              | 2                       | 4       | 0               | 0                  | 0                      | 0     | 427   |
| 1988                     | 485                              | 0                       | 3       | 0               | 0                  | 0                      | 0     | 488   |

Average gross receipts from beekeeping products, services, and programs, by firm type (continued)

| Type firm<br>and<br>year | Products, services, and programs |                         |         |                 |                    |                        |       | Total  |
|--------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|-------|--------|
|                          | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other |        |
| All                      | Dollars                          |                         |         |                 |                    |                        |       |        |
| 1985                     | 400                              | 0                       | 4       | 0               | 0                  | 81                     | 0     | 484    |
| 1986                     | 324                              | 1                       | 4       | 0               | 0                  | 106                    | 0     | 435    |
| 1987                     | 341                              | 2                       | 3       | 0               | 3                  | 293                    | 3     | 644    |
| 1988                     | 350                              | 0                       | 8       | 0               | 0                  | 318                    | 2     | 678    |
| All response<br>Yes      |                                  |                         |         |                 |                    |                        |       |        |
| 1985                     | 5,069                            | 4,707                   | 1,129   | 2,208           | 1,668              | 43,045                 | 2,037 | 59,862 |
| 1986                     | 15,582                           | 4,217                   | 1,231   | 1,621           | 663                | 31,531                 | 3,914 | 58,759 |
| 1987                     | 24,636                           | 5,147                   | 1,262   | 1,118           | 772                | 32,903                 | 4,671 | 70,507 |
| 1988                     | 25,216                           | 6,107                   | 1,183   | 643             | 724                | 27,099                 | 4,108 | 65,080 |
| No                       |                                  |                         |         |                 |                    |                        |       |        |
| 1985                     | 30,944                           | 7,470                   | 953     | 201             | 452                | 0                      | 2,945 | 42,966 |
| 1986                     | 39,197                           | 7,382                   | 771     | 658             | 3,560              | 0                      | 2,615 | 54,184 |
| 1987                     | 46,889                           | 7,989                   | 1,140   | 431             | 1,200              | 0                      | 2,718 | 60,367 |
| 1988                     | 36,561                           | 8,958                   | 867     | 831             | 1,620              | 0                      | 859   | 49,696 |
| All                      |                                  |                         |         |                 |                    |                        |       |        |
| 1985                     | 20,732                           | 6,380                   | 1,022   | 993             | 932                | 16,989                 | 2,587 | 49,634 |
| 1986                     | 29,070                           | 6,024                   | 968     | 1,071           | 2,318              | 13,522                 | 3,172 | 56,146 |
| 1987                     | 35,380                           | 6,519                   | 1,203   | 786             | 978                | 17,016                 | 3,728 | 65,611 |
| 1988                     | 30,008                           | 7,311                   | 1,050   | 722             | 1,103              | 15,652                 | 2,735 | 58,581 |

1985 Sample Size=451 237 Did not Respond 1986 Sample Size=492 196 Did not Respond

1987 Sample Size=524 164 Did not Respond 1988 Sample Size=535 153 Did not Respond

**PRODUCERS - LABOR**

Beekeeping labor utilization, by type firm and region, 1988

| Region<br>and<br>source | Type firm              |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
|-------------------------|------------------------|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|-------|
|                         | Full-time              |           |           |           |       | Part-time |           |           |           |       | Hobby     |           |           |           |       |
|                         | (Jan-Mar)              | (Apr-Jun) | (Jul-Sep) | (Oct-Dec) | Total | (Jan-Mar) | (Apr-Jun) | (Jul-Sep) | (Oct-Dec) | Total | (Jan-Mar) | (Apr-Jun) | (Jul-Sep) | (Oct-Dec) | Total |
|                         | Average hours per week |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| <b>Northeast</b>        |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Operator                | 36.2                   | 54.0      | 55.2      | 36.9      | 45.8  | 9.3       | 20.4      | 18.8      | 14.1      | 16.2  | 0.2       | 1.0       | 1.5       | 1.1       | 1.1   |
| Other family            | 19.4                   | 18.5      | 18.5      | 13.0      | 17.3  | 4.8       | 3.4       | 3.6       | 3.4       | 3.7   | 0.0       | 0.0       | 0.3       | 0.0       | 0.1   |
| Hired labor             |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Full-time               | 19.4                   | 26.6      | 27.0      | 23.9      | 24.3  | 0.2       | 0.6       | 0.6       | 0.2       | 0.4   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Part-time               | 0.0                    | 8.0       | 30.9      | 4.0       | 11.0  | 0.2       | 0.6       | 0.7       | 0.4       | 0.5   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Sub-total               | 75.1                   | 107.0     | 131.6     | 77.8      | 98.5  | 12.9      | 25.0      | 23.8      | 18.2      | 20.9  | 0.2       | 1.0       | 1.8       | 1.1       | 1.1   |
| <b>Southeast</b>        |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Operator                | 36.2                   | 49.2      | 47.4      | 35.8      | 42.1  | 19.9      | 24.7      | 22.4      | 16.2      | 21.0  | 5.6       | 11.1      | 8.9       | 5.4       | 8.1   |
| Other family            | 13.6                   | 25.2      | 22.8      | 10.6      | 18.1  | 4.7       | 6.0       | 5.6       | 4.5       | 5.2   | 0.0       | 2.0       | 0.7       | 0.5       | 0.9   |
| Hired labor             |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Full-time               | 18.2                   | 23.3      | 28.3      | 16.7      | 21.6  | 0.1       | 0.4       | 0.4       | 0.1       | 0.3   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Part-time               | 17.4                   | 53.2      | 30.0      | 19.1      | 30.0  | 0.2       | 2.2       | 3.0       | 2.6       | 2.0   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Sub-total               | 85.4                   | 150.7     | 128.6     | 82.2      | 111.8 | 24.9      | 33.3      | 31.3      | 23.3      | 28.5  | 5.6       | 13.1      | 9.6       | 5.9       | 9.0   |
| <b>Midwest</b>          |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Operator                | 30.6                   | 49.5      | 52.1      | 38.3      | 42.8  | 9.0       | 20.4      | 26.2      | 15.3      | 18.2  | 2.8       | 5.6       | 10.2      | 4.2       | 5.9   |
| Other family            | 11.9                   | 21.4      | 28.6      | 17.8      | 20.1  | 1.5       | 5.3       | 6.7       | 3.1       | 4.3   | 4.7       | 0.9       | 2.5       | 1.2       | 2.2   |
| Hired labor             |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Full-time               | 68.9                   | 82.5      | 77.4      | 66.5      | 74.0  | 0.0       | 1.2       | 0.8       | 0.0       | 0.5   | 0.0       | 0.6       | 0.7       | 0.4       | 0.5   |
| Part-time               | 37.4                   | 50.3      | 26.4      | 8.7       | 30.9  | 0.3       | 0.8       | 2.7       | 0.7       | 1.2   | 0.0       | 0.6       | 0.7       | 0.4       | 0.5   |
| Sub-total               | 148.8                  | 203.7     | 184.6     | 131.2     | 167.8 | 10.9      | 27.7      | 36.4      | 19.1      | 24.2  | 7.6       | 7.8       | 14.1      | 6.2       | 9.0   |
| <b>West</b>             |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Operator                | 36.0                   | 50.7      | 51.7      | 33.4      | 43.0  | 16.2      | 25.4      | 27.7      | 16.3      | 21.5  | 2.5       | 4.0       | 4.4       | 2.8       | 3.4   |
| Other family            | 14.8                   | 22.6      | 23.2      | 11.6      | 18.1  | 4.1       | 7.8       | 14.3      | 4.3       | 7.7   | 0.0       | 1.5       | 0.8       | 0.0       | 0.6   |
| Hired labor             |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Full-time               | 13.8                   | 19.7      | 24.6      | 13.7      | 18.0  | 0.0       | 0.0       | 1.8       | 0.0       | 0.5   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Part-time               | 4.2                    | 14.8      | 21.5      | 2.8       | 10.9  | 0.1       | 0.1       | 0.5       | 0.9       | 0.4   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Sub-total               | 68.7                   | 107.7     | 121.0     | 61.5      | 90.0  | 20.4      | 33.3      | 44.4      | 21.5      | 30.1  | 2.5       | 5.5       | 5.2       | 2.8       | 4.0   |

Beekeeping labor utilization, by type firm and region, 1988 (continued)

| Region and source | Type firm              |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
|-------------------|------------------------|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|-------|
|                   | Full-time              |           |           |           |       | Part-time |           |           |           |       | Hobby     |           |           |           |       |
|                   | (Jan-Mar)              | (Apr-Jun) | (Jul-Sep) | (Oct-Dec) | Total | (Jan-Mar) | (Apr-Jun) | (Jul-Sep) | (Oct-Dec) | Total | (Jan-Mar) | (Apr-Jun) | (Jul-Sep) | (Oct-Dec) | Total |
|                   | Average hours per week |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Northwest         |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Operator          | 40.8                   | 51.8      | 52.4      | 40.5      | 46.6  | 16.3      | 25.3      | 27.2      | 16.7      | 21.7  | 2.3       | 5.4       | 6.1       | 3.0       | 4.6   |
| Other family      | 18.4                   | 26.6      | 30.4      | 19.5      | 23.9  | 4.0       | 5.8       | 9.2       | 4.6       | 6.0   | 0.0       | 0.1       | 0.0       | 0.0       | 0.0   |
| Hired labor       |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Full-time         | 51.7                   | 70.7      | 71.3      | 59.0      | 63.5  | 0.0       | 0.3       | 0.3       | 0.0       | 0.1   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Part-time         | 5.5                    | 59.6      | 78.3      | 6.3       | 38.4  | 18.9      | 2.1       | 2.4       | 0.9       | 5.7   | 0.0       | 0.0       | 0.0       | 0.0       | 0.0   |
| Sub-total         | 116.3                  | 208.7     | 232.4     | 125.4     | 172.3 | 39.1      | 33.5      | 39.1      | 22.1      | 33.6  | 2.3       | 5.6       | 6.1       | 3.0       | 4.6   |
| All regions       |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Operator          | 35.8                   | 50.6      | 51.6      | 37.7      | 44.1  | 13.4      | 22.6      | 24.8      | 15.6      | 19.4  | 2.8       | 5.6       | 10.2      | 4.2       | 5.9   |
| Other family      | 15.0                   | 23.7      | 27.0      | 16.0      | 20.5  | 3.3       | 5.6       | 7.4       | 3.7       | 5.1   | 4.7       | 0.9       | 2.5       | 1.2       | 2.2   |
| Hired labor       |                        |           |           |           |       |           |           |           |           |       |           |           |           |           |       |
| Full-time         | 43.7                   | 56.9      | 57.0      | 45.7      | 51.0  | 0.0       | 0.7       | 0.8       | 0.0       | 0.4   | 0.0       | 0.6       | 0.7       | 0.4       | 0.5   |
| Part-time         | 16.9                   | 45.7      | 42.8      | 8.3       | 28.8  | 3.0       | 1.2       | 2.2       | 1.1       | 1.8   | 0.0       | 0.6       | 0.7       | 0.4       | 0.5   |
| Sub-total         | 111.4                  | 176.9     | 178.4     | 107.6     | 144.3 | 19.7      | 30.0      | 35.2      | 20.5      | 26.7  | 7.6       | 7.8       | 14.1      | 6.2       | 9.0   |

Sample Size = 687

Labor utilization of producers, by type firm and honey production, 1988

| Type firm | Honey production (pounds) |                 |                  |                  |                   |                    |                 |
|-----------|---------------------------|-----------------|------------------|------------------|-------------------|--------------------|-----------------|
|           | Less than 1,250           | 1,250 to 14,999 | 15,000 to 24,999 | 25,000 to 49,999 | 50,000 to 249,999 | 250,000 to 499,999 | 500,000 or more |
|           | Average hours per week    |                 |                  |                  |                   |                    |                 |
| Full-time | 36.0                      | 54.2            | 61.6             | 73.6             | 100.1             | 374.1              | 502.7           |
| Part-time | 10.2                      | 20.5            | 36.2             | 41.0             | 160.0             |                    |                 |
| Hobby     | 6.9                       | 7.7             |                  |                  |                   |                    |                 |
| All       | 8.8                       | 22.7            | 46.2             | 62.1             | 101.2             | 374.1              | 502.7           |

Sample Size = 550

Labor utilization of producers receiving pollination income, by type firm and region, 1988

| Receive<br>pollination<br>fees | Region                 |           |         |      |           | All<br>Regions |
|--------------------------------|------------------------|-----------|---------|------|-----------|----------------|
|                                | Northeast              | Southeast | Midwest | West | Northwest |                |
|                                | Average hours per week |           |         |      |           |                |
| Full-time                      |                        |           |         |      |           |                |
| Yes                            | 104.3                  | 153.5     | 90.2    | 92.5 | 145.2     | 117.0          |
| No                             | 89.1                   | 95.1      | 194.7   | 86.9 | 189.4     | 160.3          |
| Part-time                      |                        |           |         |      |           |                |
| Yes                            | 24.5                   | 39.7      | 32.9    | 27.4 | 16.7      | 27.3           |
| No                             | 19.6                   | 27.4      | 22.6    | 31.9 | 40.6      | 26.6           |

Sample Size = 590

Labor utilization of producers, by type firm and net income, 1988

| Type firm | Net income             |                   |                    |                      |                      |                    |
|-----------|------------------------|-------------------|--------------------|----------------------|----------------------|--------------------|
|           | Negative Income        | Less than \$2,500 | \$2,500 to \$9,999 | \$10,000 to \$49,999 | \$50,000 to \$99,999 | More than \$99,999 |
|           | Average hours per week |                   |                    |                      |                      |                    |
| Full-time | 286.5                  | 80.4              | 74.2               | 108.3                | 116.1                | 691.8              |
| Part-time | 27.8                   | 20.3              | 31.1               | 48.0                 | 9.3                  |                    |
| Hobby     | 10.7                   | 6.6               | 5.8                |                      |                      |                    |
| All       | 124.8                  | 24.1              | 49.6               | 101.7                | 109.1                | 691.8              |

Sample Size = 601

Average wage rate paid for hired labor, by type firm and region, 1988

| Type<br>firm | Region             |                    |                    |                    |                    |                    |                    |                    |                    |                    | All regions        |                    |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|              | Northeast          |                    | Southeast          |                    | Midwest            |                    | West               |                    | Northwest          |                    |                    |                    |
|              | Full-time<br>hired | Part-time<br>hired |
|              | Dollars            |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |
| Full-time    | 8.19               | 5.06               | 4.79               | 4.04               | 5.71               | 4.64               | 5.45               | 4.81               | 6.19               | 4.61               | 5.83               | 4.59               |
| Part-time    | 1.92               | 3.14               | 1.38               | 2.71               | 1.00               | 3.24               | 3.00               | 9.28               | 1.67               | 4.49               | 1.53               | 3.93               |
| Hobby        |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |                    |

Sample Size = 687

The 97 Hobbyists did not report any wage rates

**PRODUCERS - AVERAGE GROSS EXPENSES**

Average gross expenses of producer operations, by type firm, 1988

| Cost item        | Type Firm    |              |              |              |              |              | Total        |              |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  | Full time    |              | Part time    |              | Hobby        |              |              |              |
|                  | Per colony   | Per pound    |
|                  | Dollars      |              |              |              |              |              |              |              |
| <b>Labor</b>     |              |              |              |              |              |              |              |              |
| Hired labor      | 11.74        | 0.140        | 2.69         | 0.036        | 0.396        | 0.005        | 11.06        | 0.133        |
| Benefits         | 1.01         | 0.012        | 0.17         | 0.002        | 0.000        | 0.000        | 0.95         | 0.011        |
| Other            | 3.85         | 0.046        | 0.83         | 0.011        | 0.165        | 0.002        | 3.62         | 0.044        |
| <b>Bees</b>      |              |              |              |              |              |              |              |              |
| Bee food         | 4.23         | 0.050        | 2.15         | 0.028        | 1.209        | 0.016        | 4.07         | 0.049        |
| Queens and nucs  | 1.29         | 0.015        | 1.64         | 0.022        | 3.008        | 0.040        | 1.32         | 0.016        |
| Package bees     | 0.59         | 0.007        | 1.07         | 0.014        | 1.168        | 0.015        | 0.63         | 0.008        |
| <b>Supplies</b>  |              |              |              |              |              |              |              |              |
| General          | 4.35         | 0.052        | 5.34         | 0.071        | 8.621        | 0.114        | 4.43         | 0.053        |
| Containers etc.  | 3.10         | 0.037        | 4.82         | 0.064        | 4.773        | 0.063        | 3.23         | 0.039        |
| <b>Equipment</b> |              |              |              |              |              |              |              |              |
| Repair and Maint | 3.71         | 0.044        | 3.48         | 0.046        | 2.707        | 0.036        | 3.69         | 0.044        |
| Gas and oil      | 3.72         | 0.044        | 3.92         | 0.052        | 5.042        | 0.067        | 3.74         | 0.045        |
| <b>Buildings</b> |              |              |              |              |              |              |              |              |
| Repair and Maint | 1.20         | 0.014        | 2.36         | 0.031        | 0.863        | 0.011        | 1.29         | 0.015        |
| Mortgage         | 2.39         | 0.029        | 5.13         | 0.068        | 0.867        | 0.011        | 2.59         | 0.031        |
| <b>Overhead</b>  |              |              |              |              |              |              |              |              |
| Utilities        | 1.37         | 0.016        | 1.91         | 0.025        | 1.122        | 0.015        | 1.41         | 0.017        |
| Insurance        | 2.15         | 0.026        | 1.29         | 0.017        | 0.052        | 0.001        | 2.09         | 0.025        |
| Taxes            | 1.75         | 0.021        | 1.57         | 0.021        | 0.721        | 0.010        | 1.73         | 0.021        |
| Rent             | 1.47         | 0.017        | 1.31         | 0.017        | 0.745        | 0.010        | 1.45         | 0.017        |
| Interest on OC   | 1.70         | 0.020        | 0.60         | 0.008        | 0.000        | 0.000        | 1.62         | 0.019        |
| Office expenses  | 0.46         | 0.005        | 0.35         | 0.005        | 0.017        | 0.000        | 0.45         | 0.005        |
| <b>Marketing</b> |              |              |              |              |              |              |              |              |
| Advertising      | 0.30         | 0.004        | 0.17         | 0.002        | 0.057        | 0.001        | 0.29         | 0.003        |
| Subscriptions    | 0.06         | 0.001        | 0.16         | 0.002        | 0.416        | 0.005        | 0.06         | 0.001        |
| Promotion        | 0.13         | 0.002        | 0.10         | 0.001        | 0.000        | 0.000        | 0.13         | 0.002        |
| Fees             | 0.06         | 0.001        | 0.10         | 0.001        | 0.011        | 0.000        | 0.06         | 0.001        |
| Other            | 2.57         | 0.031        | 1.60         | 0.021        | 1.417        | 0.019        | 2.50         | 0.030        |
| <b>Total</b>     | <b>53.20</b> | <b>0.634</b> | <b>42.76</b> | <b>0.566</b> | <b>33.38</b> | <b>0.441</b> | <b>52.41</b> | <b>0.630</b> |

Sample Size=492

196 did not respond

Full time = 224

Part time = 210

Hobby = 58

Average gross expenses of producer operations who received pollination fees, by type firm, 1988

| Cost item        | Type Firm    |              |              |              |            |           | Total        |              |
|------------------|--------------|--------------|--------------|--------------|------------|-----------|--------------|--------------|
|                  | Full time    |              | Part time    |              | Hobby      |           |              |              |
|                  | Per colony   | Per pound    | Per colony   | Per pound    | Per colony | Per pound | Per colony   | Per pound    |
|                  | Dollars      |              |              |              |            |           |              |              |
| <b>Labor</b>     |              |              |              |              |            |           |              |              |
| Hired labor      | 10.81        | 0.144        | 3.39         | 0.053        |            |           | 10.45        | 0.140        |
| Benefits         | 0.82         | 0.011        | 0.08         | 0.001        |            |           | 0.79         | 0.011        |
| Other            | 4.31         | 0.057        | 1.89         | 0.030        |            |           | 4.19         | 0.056        |
| <b>Bees</b>      |              |              |              |              |            |           |              |              |
| Bee food         | 3.98         | 0.053        | 1.62         | 0.025        |            |           | 3.87         | 0.052        |
| Queens and nucs  | 1.27         | 0.017        | 1.62         | 0.025        |            |           | 1.29         | 0.017        |
| Package bees     | 1.08         | 0.014        | 0.28         | 0.004        |            |           | 1.04         | 0.014        |
| <b>Supplies</b>  |              |              |              |              |            |           |              |              |
| General          | 4.29         | 0.057        | 6.94         | 0.109        |            |           | 4.42         | 0.059        |
| Containers etc.  | 2.46         | 0.033        | 6.62         | 0.104        |            |           | 2.66         | 0.036        |
| <b>Equipment</b> |              |              |              |              |            |           |              |              |
| Repair and Maint | 3.67         | 0.049        | 4.51         | 0.071        |            |           | 3.71         | 0.050        |
| Gas and oil      | 4.10         | 0.055        | 4.46         | 0.070        |            |           | 4.12         | 0.055        |
| <b>Buildings</b> |              |              |              |              |            |           |              |              |
| Repair and Maint | 1.44         | 0.019        | 1.42         | 0.022        |            |           | 1.44         | 0.019        |
| Mortgage         | 3.15         | 0.042        | 11.85        | 0.186        |            |           | 3.56         | 0.048        |
| <b>Overhead</b>  |              |              |              |              |            |           |              |              |
| Utilities        | 1.34         | 0.018        | 1.55         | 0.024        |            |           | 1.35         | 0.018        |
| Insurance        | 2.70         | 0.036        | 1.63         | 0.026        |            |           | 2.65         | 0.036        |
| Taxes            | 2.49         | 0.033        | 0.94         | 0.015        |            |           | 2.42         | 0.033        |
| Rent             | 1.52         | 0.020        | 0.58         | 0.009        |            |           | 1.47         | 0.020        |
| Interest on OC   | 1.60         | 0.021        | 0.75         | 0.012        |            |           | 1.56         | 0.021        |
| Office expenses  | 0.52         | 0.007        | 0.50         | 0.008        |            |           | 0.52         | 0.007        |
| <b>Marketing</b> |              |              |              |              |            |           |              |              |
| Advertising      | 0.20         | 0.003        | 0.20         | 0.003        |            |           | 0.20         | 0.003        |
| Subscriptions    | 0.05         | 0.001        | 0.22         | 0.003        |            |           | 0.06         | 0.001        |
| Promotion        | 0.13         | 0.002        | 0.25         | 0.004        |            |           | 0.13         | 0.002        |
| Fees             | 0.05         | 0.001        | 0.07         | 0.001        |            |           | 0.05         | 0.001        |
| Other            | 3.11         | 0.041        | 2.61         | 0.041        |            |           | 3.08         | 0.041        |
| <b>Total</b>     | <b>55.08</b> | <b>0.735</b> | <b>54.00</b> | <b>0.845</b> |            |           | <b>55.03</b> | <b>0.740</b> |

Sample Size=123

Full time = 81

Part time = 42

Hobby = 0

Average gross expenses of producer operations who did not receive pollination fees, by type firm, 1988

| Cost item        | Type Firm  |           |            |           |            |           | Total      |           |
|------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
|                  | Full time  |           | Part time  |           | Hobby      |           |            |           |
|                  | Per colony | Per pound |
|                  | Dollars    |           |            |           |            |           |            |           |
| Labor            |            |           |            |           |            |           |            |           |
| Hired labor      | 2.25       | 0.138     | 2.47       | 0.031     | 0.40       | 0.005     | 11.41      | 0.129     |
| Benefits         | 1.13       | 0.013     | 0.20       | 0.002     | 0.00       | 0.000     | 1.04       | 0.012     |
| Other            | 3.58       | 0.040     | 0.49       | 0.006     | 0.17       | 0.002     | 3.30       | 0.037     |
| Bees             |            |           |            |           |            |           |            |           |
| Bee food         | 4.37       | 0.049     | 2.32       | 0.029     | 1.21       | 0.016     | 4.18       | 0.047     |
| Queens and nucs  | 1.30       | 0.015     | 1.65       | 0.021     | 3.01       | 0.040     | 1.33       | 0.015     |
| Package bees     | 0.31       | 0.003     | 1.31       | 0.017     | 1.17       | 0.015     | 0.40       | 0.004     |
| Supplies         |            |           |            |           |            |           |            |           |
| General          | 4.39       | 0.049     | 4.83       | 0.061     | 8.62       | 0.114     | 4.44       | 0.050     |
| Containers etc.  | 3.49       | 0.039     | 4.25       | 0.054     | 4.77       | 0.063     | 3.56       | 0.040     |
| Equipment        |            |           |            |           |            |           |            |           |
| Repair and Maint | 3.73       | 0.042     | 3.16       | 0.040     | 2.71       | 0.036     | 3.67       | 0.042     |
| Gas and oil      | 3.49       | 0.039     | 3.75       | 0.047     | 5.04       | 0.067     | 3.52       | 0.040     |
| Buildings        |            |           |            |           |            |           |            |           |
| Repair and Maint | 1.06       | 0.012     | 2.66       | 0.034     | 0.86       | 0.011     | 1.20       | 0.014     |
| Mortgage         | 1.94       | 0.022     | 3.00       | 0.038     | 0.87       | 0.011     | 2.03       | 0.023     |
| Overhead         |            |           |            |           |            |           |            |           |
| Utilities        | 1.39       | 0.016     | 2.03       | 0.026     | 1.12       | 0.015     | 1.44       | 0.016     |
| Insurance        | 1.83       | 0.021     | 1.18       | 0.015     | 0.05       | 0.001     | 1.77       | 0.020     |
| Taxes            | 1.30       | 0.015     | 1.78       | 0.022     | 0.72       | 0.010     | 1.34       | 0.015     |
| Rent             | 1.44       | 0.016     | 1.54       | 0.019     | 0.75       | 0.010     | 1.44       | 0.016     |
| Interest on OC   | 1.76       | 0.020     | 0.55       | 0.007     | 0.00       | 0.000     | 1.65       | 0.019     |
| Office expenses  | 0.42       | 0.005     | 0.30       | 0.004     | 0.02       | 0.000     | 0.41       | 0.005     |
| Marketing        |            |           |            |           |            |           |            |           |
| Advertising      | 0.36       | 0.004     | 0.16       | 0.002     | 0.06       | 0.001     | 0.34       | 0.004     |
| Subscriptions    | 0.06       | 0.001     | 0.15       | 0.002     | 0.42       | 0.005     | 0.07       | 0.001     |
| Promotion        | 0.13       | 0.002     | 0.05       | 0.001     | 0.00       | 0.000     | 0.13       | 0.001     |
| Fees             | 0.06       | 0.001     | 0.11       | 0.001     | 0.01       | 0.000     | 0.07       | 0.001     |
| Other            | 2.25       | 0.025     | 1.28       | 0.016     | 1.42       | 0.019     | 2.17       | 0.025     |
| Total            | 42.04      | 0.584     | 39.20      | 0.495     | 33.38      | 0.441     | 50.91      | 0.577     |

Sample Size=369

Full time = 143

Part time = 168

Hobby = 58

Average gross expenses of producer operations who received government payments, by type firm, 1988

| Cost item        | Type Firm  |           |            |           |            |           | Total      |           |
|------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
|                  | Full time  |           | Part time  |           | Hobby      |           |            |           |
|                  | Per colony | Per pound |
|                  | Dollars    |           |            |           |            |           |            |           |
| Labor            |            |           |            |           |            |           |            |           |
| Hired labor      | 12.95      | 0.153     | 3.36       | 0.045     | 0.22       | 0.00      | 12.24      | 0.146     |
| Benefits         | 1.46       | 0.017     | 0.23       | 0.003     | 0.00       | 0.00      | 1.37       | 0.016     |
| Other            | 4.84       | 0.057     | 1.26       | 0.017     | 0.32       | 0.00      | 4.58       | 0.054     |
| Bees             |            |           |            |           |            |           |            |           |
| Bee food         | 5.07       | 0.060     | 1.80       | 0.024     | 1.44       | 0.02      | 4.83       | 0.057     |
| Queens and nucs  | 1.46       | 0.017     | 1.62       | 0.021     | 3.87       | 0.05      | 1.48       | 0.018     |
| Package bees     | 0.65       | 0.008     | 1.62       | 0.021     | 2.18       | 0.03      | 0.72       | 0.009     |
| Supplies         |            |           |            |           |            |           |            |           |
| General          | 4.03       | 0.048     | 5.56       | 0.074     | 8.18       | 0.10      | 4.15       | 0.049     |
| Containers etc.  | 3.99       | 0.047     | 5.70       | 0.075     | 5.10       | 0.06      | 4.11       | 0.049     |
| Equipment        |            |           |            |           |            |           |            |           |
| Repair and Maint | 3.70       | 0.044     | 2.88       | 0.038     | 3.91       | 0.05      | 3.64       | 0.043     |
| Gas and oil      | 3.69       | 0.044     | 3.96       | 0.052     | 4.75       | 0.06      | 3.71       | 0.044     |
| Buildings        |            |           |            |           |            |           |            |           |
| Repair and Maint | 1.04       | 0.012     | 2.55       | 0.034     | 1.67       | 0.02      | 1.15       | 0.014     |
| Mortgage         | 2.38       | 0.028     | 7.91       | 0.105     | 1.70       | 0.02      | 2.78       | 0.033     |
| Overhead         |            |           |            |           |            |           |            |           |
| Utilities        | 1.32       | 0.016     | 1.89       | 0.025     | 0.62       | 0.01      | 1.36       | 0.016     |
| Insurance        | 2.33       | 0.028     | 1.46       | 0.019     | 0.10       | 0.00      | 2.27       | 0.027     |
| Taxes            | 1.72       | 0.020     | 1.08       | 0.014     | 0.24       | 0.00      | 1.67       | 0.020     |
| Rent             | 1.73       | 0.020     | 1.10       | 0.015     | 0.60       | 0.01      | 1.68       | 0.020     |
| Interest on OC   | 1.90       | 0.022     | 0.90       | 0.012     | 0.00       | 0.00      | 1.83       | 0.022     |
| Office expenses  | 0.54       | 0.006     | 0.51       | 0.007     | 0.00       | 0.00      | 0.53       | 0.006     |
| Marketing        |            |           |            |           |            |           |            |           |
| Advertising      | 0.43       | 0.005     | 0.19       | 0.003     | 0.11       | 0.00      | 0.41       | 0.005     |
| Subscriptions    | 0.08       | 0.001     | 0.20       | 0.003     | 0.63       | 0.01      | 0.09       | 0.001     |
| Promotion        | 0.18       | 0.002     | 0.08       | 0.001     | 0.00       | 0.00      | 0.17       | 0.002     |
| Fees             | 0.07       | 0.001     | 0.05       | 0.001     | 0.02       | 0.00      | 0.07       | 0.001     |
| Other            | 2.70       | 0.032     | 2.05       | 0.027     | 2.78       | 0.03      | 2.65       | 0.032     |
| Total            | 58.24      | 0.687     | 47.99      | 0.635     | 38.44      | 0.480     | 57.47      | 0.683     |

Sample Size = 266

Full time = 118

Part time = 118

Hobby = 30

Average gross expenses of producer operations who did not receive government payments, by type firm, 1988

| Cost item        | Type Firm    |              |              |              |              |              | Total        |              |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  | Full time    |              | Part time    |              | Hobby        |              |              |              |
|                  | Per colony   | Per pound    |
|                  | Dollars      |              |              |              |              |              |              |              |
| <b>Labor</b>     |              |              |              |              |              |              |              |              |
| Hired labor      | 9.99         | 0.121        | 1.74         | 0.023        | 0.58         | 0.008        | 9.36         | 0.114        |
| Benefits         | 0.37         | 0.004        | 0.09         | 0.001        | 0.00         | 0.000        | 0.35         | 0.004        |
| Other            | 2.41         | 0.029        | 0.21         | 0.003        | 0.00         | 0.000        | 2.24         | 0.027        |
| <b>Bees</b>      |              |              |              |              |              |              |              |              |
| Bee food         | 3.00         | 0.036        | 2.64         | 0.035        | 0.97         | 0.014        | 2.97         | 0.036        |
| Queens and nucs  | 1.04         | 0.013        | 1.68         | 0.022        | 2.12         | 0.030        | 1.08         | 0.013        |
| Package bees     | 0.52         | 0.006        | 0.28         | 0.004        | 0.12         | 0.002        | 0.50         | 0.006        |
| <b>Supplies</b>  |              |              |              |              |              |              |              |              |
| General          | 4.82         | 0.058        | 5.02         | 0.066        | 9.08         | 0.128        | 4.85         | 0.059        |
| Containers etc.  | 1.80         | 0.022        | 3.58         | 0.047        | 4.44         | 0.062        | 1.94         | 0.024        |
| <b>Equipment</b> |              |              |              |              |              |              |              |              |
| Repair and Maint | 3.72         | 0.045        | 4.33         | 0.057        | 1.46         | 0.021        | 3.76         | 0.046        |
| Gas and oil      | 3.76         | 0.046        | 3.86         | 0.051        | 5.34         | 0.075        | 3.77         | 0.046        |
| <b>Buildings</b> |              |              |              |              |              |              |              |              |
| Repair and Maint | 1.45         | 0.018        | 2.08         | 0.028        | 0.02         | 0.000        | 1.49         | 0.018        |
| Mortgage         | 2.41         | 0.029        | 1.20         | 0.016        | 0.00         | 0.000        | 2.32         | 0.028        |
| <b>Overhead</b>  |              |              |              |              |              |              |              |              |
| Utilities        | 1.45         | 0.018        | 1.94         | 0.026        | 1.64         | 0.023        | 1.48         | 0.018        |
| Insurance        | 1.89         | 0.023        | 1.04         | 0.014        | 0.00         | 0.000        | 1.83         | 0.022        |
| Taxes            | 1.79         | 0.022        | 2.27         | 0.030        | 1.22         | 0.017        | 1.82         | 0.022        |
| Rent             | 1.09         | 0.013        | 1.60         | 0.021        | 0.90         | 0.013        | 1.12         | 0.014        |
| Interest on OC   | 1.41         | 0.017        | 0.17         | 0.002        | 0.00         | 0.000        | 1.31         | 0.016        |
| Office expenses  | 0.35         | 0.004        | 0.12         | 0.002        | 0.03         | 0.000        | 0.33         | 0.004        |
| <b>Marketing</b> |              |              |              |              |              |              |              |              |
| Advertising      | 0.11         | 0.001        | 0.13         | 0.002        | 0.00         | 0.000        | 0.11         | 0.001        |
| Subscriptions    | 0.03         | 0.000        | 0.11         | 0.001        | 0.19         | 0.003        | 0.03         | 0.000        |
| Promotion        | 0.06         | 0.001        | 0.12         | 0.002        | 0.00         | 0.000        | 0.06         | 0.001        |
| Fees             | 0.03         | 0.000        | 0.17         | 0.002        | 0.00         | 0.000        | 0.04         | 0.001        |
| Other            | 2.40         | 0.029        | 0.97         | 0.013        | 0.00         | 0.000        | 2.28         | 0.028        |
| <b>Total</b>     | <b>45.86</b> | <b>0.556</b> | <b>35.34</b> | <b>0.467</b> | <b>28.12</b> | <b>0.396</b> | <b>45.04</b> | <b>0.549</b> |

Sample Size = 226

Full time = 106

Part time = 92

Hobby = 28

Average gross expenses of producer operations, by colony size, 1988

| Cost item        | Colony size  |              |              |              |              |              |              |              |                |              |                |              |                |              |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
|                  | Less than 25 |              | 25 to 299    |              | 300 to 499   |              | 500 to 999   |              | 1,000 to 4,999 |              | 5,000 to 9,999 |              | 10,000 or more |              |
|                  | Per colony   | Per pound    | Per colony     | Per pound    | Per colony     | Per pound    | Per colony     | Per pound    |
|                  | Dollars      |              |              |              |              |              |              |              |                |              |                |              |                |              |
| <b>Labor</b>     |              |              |              |              |              |              |              |              |                |              |                |              |                |              |
| Hired labor      | 0.30         | 0.004        | 2.95         | 0.041        | 2.76         | 0.036        | 7.29         | 0.089        | 10.87          | 0.115        | 17.10          | 0.250        | 15.22          | 0.236        |
| Benefits         | 0.00         | 0.000        | 0.25         | 0.003        | 0.02         | 0.000        | 0.65         | 0.008        | 0.79           | 0.008        | 2.59           | 0.038        | 0.68           | 0.011        |
| Other            | 0.22         | 0.003        | 2.00         | 0.028        | 0.02         | 0.000        | 3.14         | 0.038        | 3.66           | 0.039        | 7.71           | 0.113        | 1.50           | 0.023        |
| <b>Bees</b>      |              |              |              |              |              |              |              |              |                |              |                |              |                |              |
| Bee food         | 1.23         | 0.015        | 1.95         | 0.027        | 1.89         | 0.025        | 2.84         | 0.035        | 4.08           | 0.043        | 7.16           | 0.105        | 3.39           | 0.052        |
| Queens and nucs  | 3.96         | 0.047        | 1.83         | 0.025        | 1.19         | 0.016        | 1.60         | 0.020        | 1.36           | 0.014        | 1.57           | 0.023        | 0.39           | 0.006        |
| Package bees     | 1.56         | 0.019        | 1.53         | 0.021        | 0.28         | 0.004        | 0.58         | 0.007        | 0.84           | 0.009        | 0.23           | 0.003        | 0.00           | 0.000        |
| <b>Supplies</b>  |              |              |              |              |              |              |              |              |                |              |                |              |                |              |
| General          | 6.48         | 0.077        | 5.62         | 0.078        | 3.94         | 0.052        | 2.57         | 0.031        | 4.52           | 0.048        | 6.66           | 0.097        | 2.64           | 0.041        |
| Containers etc.  | 6.19         | 0.074        | 6.64         | 0.092        | 3.15         | 0.042        | 15.50        | 0.189        | 1.88           | 0.020        | 0.76           | 0.011        | 0.19           | 0.003        |
| <b>Equipment</b> |              |              |              |              |              |              |              |              |                |              |                |              |                |              |
| Repair and Maint | 3.08         | 0.037        | 3.93         | 0.054        | 1.93         | 0.025        | 4.18         | 0.051        | 3.65           | 0.039        | 4.31           | 0.063        | 3.34           | 0.052        |
| Gas and oil      | 4.29         | 0.051        | 4.17         | 0.058        | 3.67         | 0.048        | 3.69         | 0.045        | 4.12           | 0.044        | 3.62           | 0.053        | 2.20           | 0.034        |
| <b>Buildings</b> |              |              |              |              |              |              |              |              |                |              |                |              |                |              |
| Repair and Maint | 1.37         | 0.016        | 1.94         | 0.027        | 1.43         | 0.019        | 2.73         | 0.033        | 1.15           | 0.012        | 1.21           | 0.018        | 0.41           | 0.006        |
| Mortgage         | 1.15         | 0.014        | 5.18         | 0.072        | 2.91         | 0.038        | 2.56         | 0.031        | 3.07           | 0.033        | 1.92           | 0.028        | 0.10           | 0.002        |
| <b>Overhead</b>  |              |              |              |              |              |              |              |              |                |              |                |              |                |              |
| Utilities        | 1.52         | 0.018        | 2.02         | 0.028        | 1.62         | 0.021        | 1.58         | 0.019        | 1.43           | 0.015        | 1.25           | 0.018        | 0.99           | 0.015        |
| Insurance        | 0.07         | 0.001        | 1.58         | 0.022        | 1.04         | 0.014        | 1.61         | 0.020        | 2.16           | 0.023        | 3.90           | 0.057        | 0.82           | 0.013        |
| Taxes            | 0.94         | 0.011        | 2.05         | 0.028        | 1.25         | 0.017        | 2.58         | 0.031        | 1.70           | 0.018        | 2.41           | 0.035        | 0.47           | 0.007        |
| Rent             | 0.96         | 0.011        | 1.40         | 0.019        | 1.12         | 0.015        | 1.31         | 0.016        | 1.29           | 0.014        | 2.78           | 0.041        | 0.90           | 0.014        |
| Interest on OC   | 0.00         | 0.000        | 0.78         | 0.011        | 0.45         | 0.006        | 2.00         | 0.024        | 1.49           | 0.016        | 1.95           | 0.028        | 2.31           | 0.036        |
| Office expenses  | 0.00         | 0.000        | 0.43         | 0.006        | 0.22         | 0.003        | 0.30         | 0.004        | 0.43           | 0.005        | 0.32           | 0.005        | 0.88           | 0.014        |
| <b>Marketing</b> |              |              |              |              |              |              |              |              |                |              |                |              |                |              |
| Advertising      | 0.06         | 0.001        | 0.19         | 0.003        | 0.07         | 0.001        | 0.94         | 0.012        | 0.22           | 0.002        | 0.19           | 0.003        | 0.31           | 0.005        |
| Subscriptions    | 0.54         | 0.006        | 0.17         | 0.002        | 0.11         | 0.002        | 0.25         | 0.003        | 0.03           | 0.000        | 0.05           | 0.001        | 0.00           | 0.000        |
| Promotion        | 0.00         | 0.000        | 0.10         | 0.001        | 0.10         | 0.001        | 0.45         | 0.005        | 0.12           | 0.001        | 0.08           | 0.001        | 0.01           | 0.000        |
| Fees             | 0.04         | 0.000        | 0.16         | 0.002        | 0.05         | 0.001        | 0.25         | 0.003        | 0.03           | 0.000        | 0.01           | 0.000        | 0.03           | 0.000        |
| Other            | 2.11         | 0.025        | 1.59         | 0.022        | 1.68         | 0.022        | 1.98         | 0.024        | 2.92           | 0.031        | 3.42           | 0.050        | 0.95           | 0.015        |
| <b>Total</b>     | <b>36.08</b> | <b>0.429</b> | <b>48.45</b> | <b>0.669</b> | <b>30.93</b> | <b>0.408</b> | <b>60.59</b> | <b>0.737</b> | <b>51.84</b>   | <b>0.550</b> | <b>71.21</b>   | <b>1.041</b> | <b>37.71</b>   | <b>0.584</b> |

Sample Size=492

196 did not respond

Less than 25 = 52

300 to 499 = 57

1000 to 4999 = 106

10,000 or more = 3

25 to 299 = 202

500 to 999 = 63

5000 to 9999 = 9

Average gross expenses of producer operations, by honey production, 1988

| Cost item        | Honey production (pounds) |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
|------------------|---------------------------|--------------|-----------------|--------------|------------------|--------------|------------------|--------------|-------------------|--------------|--------------------|--------------|-----------------|--------------|
|                  | Less than 1,250           |              | 1,250 to 14,999 |              | 15,000 to 24,999 |              | 25,000 to 49,999 |              | 50,000 to 249,999 |              | 250,000 to 499,999 |              | 500,000 or more |              |
|                  | Per colony                | Per pound    | Per colony      | Per pound    | Per colony       | Per pound    | Per colony       | Per pound    | Per colony        | Per pound    | Per colony         | Per pound    | Per colony      | Per pound    |
|                  | Dollars                   |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| <b>Labor</b>     |                           |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| Hired labor      | 1.07                      | 0.068        | 2.94            | 0.069        | 2.15             | 0.037        | 4.17             | 0.057        | 7.74              | 0.107        | 13.79              | 0.153        | 21.20           | 0.180        |
| Benefits         | 0.00                      | 0.000        | 0.22            | 0.005        | 0.02             | 0.000        | 0.29             | 0.004        | 0.63              | 0.009        | 1.10               | 0.012        | 2.03            | 0.017        |
| Other            | 0.08                      | 0.005        | 1.92            | 0.045        | 0.00             | 0.000        | 0.62             | 0.008        | 2.23              | 0.031        | 6.32               | 0.070        | 5.78            | 0.049        |
| <b>Bees</b>      |                           |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| Bee food         | 2.38                      | 0.152        | 1.98            | 0.046        | 1.41             | 0.025        | 2.68             | 0.037        | 2.92              | 0.040        | 4.83               | 0.053        | 7.09            | 0.060        |
| Queens and nucs  | 2.77                      | 0.177        | 1.46            | 0.034        | 0.98             | 0.017        | 1.44             | 0.020        | 1.40              | 0.019        | 1.55               | 0.017        | 0.89            | 0.008        |
| Package bees     | 0.38                      | 0.024        | 1.04            | 0.024        | 1.07             | 0.019        | 0.49             | 0.007        | 0.73              | 0.010        | 0.75               | 0.008        | 0.16            | 0.001        |
| <b>Supplies</b>  |                           |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| General          | 5.30                      | 0.339        | 3.34            | 0.078        | 3.58             | 0.062        | 4.17             | 0.057        | 3.39              | 0.047        | 2.49               | 0.028        | 8.98            | 0.076        |
| Containers etc.  | 2.89                      | 0.185        | 4.94            | 0.116        | 5.12             | 0.089        | 2.31             | 0.032        | 4.94              | 0.068        | 2.16               | 0.024        | 0.57            | 0.005        |
| <b>Equipment</b> |                           |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| Repair and Maint | 2.79                      | 0.178        | 3.64            | 0.085        | 3.06             | 0.053        | 2.52             | 0.035        | 3.26              | 0.045        | 4.11               | 0.046        | 4.63            | 0.039        |
| Gas and oil      | 3.10                      | 0.199        | 3.19            | 0.075        | 5.23             | 0.091        | 3.65             | 0.050        | 3.28              | 0.045        | 3.51               | 0.039        | 4.74            | 0.040        |
| <b>Buildings</b> |                           |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| Repair and Maint | 0.30                      | 0.019        | 1.35            | 0.032        | 1.14             | 0.020        | 2.00             | 0.027        | 1.07              | 0.015        | 1.47               | 0.016        | 1.29            | 0.011        |
| Mortgage         | 2.09                      | 0.134        | 1.98            | 0.047        | 3.59             | 0.062        | 4.27             | 0.059        | 2.33              | 0.032        | 4.16               | 0.046        | 0.91            | 0.008        |
| <b>Overhead</b>  |                           |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| Utilities        | 1.36                      | 0.087        | 1.44            | 0.034        | 2.08             | 0.036        | 1.63             | 0.022        | 1.10              | 0.015        | 1.42               | 0.016        | 1.77            | 0.015        |
| Insurance        | 1.02                      | 0.065        | 1.32            | 0.031        | 1.37             | 0.024        | 1.24             | 0.017        | 1.62              | 0.022        | 2.62               | 0.029        | 3.09            | 0.026        |
| Taxes            | 2.26                      | 0.145        | 1.66            | 0.039        | 1.76             | 0.031        | 1.40             | 0.019        | 1.80              | 0.025        | 1.82               | 0.020        | 1.62            | 0.014        |
| Rent             | 1.56                      | 0.100        | 1.23            | 0.029        | 0.85             | 0.015        | 0.83             | 0.011        | 1.08              | 0.015        | 1.71               | 0.019        | 2.28            | 0.019        |
| Interest on OC   | 0.00                      | 0.000        | 0.59            | 0.014        | 1.06             | 0.019        | 1.36             | 0.019        | 1.28              | 0.018        | 1.49               | 0.017        | 2.92            | 0.025        |
| Office expenses  | 0.07                      | 0.004        | 0.26            | 0.006        | 0.58             | 0.010        | 0.31             | 0.004        | 0.28              | 0.004        | 0.49               | 0.005        | 0.83            | 0.007        |
| <b>Marketing</b> |                           |              |                 |              |                  |              |                  |              |                   |              |                    |              |                 |              |
| Advertising      | 0.03                      | 0.002        | 0.19            | 0.004        | 0.09             | 0.002        | 0.11             | 0.002        | 0.37              | 0.005        | 0.23               | 0.003        | 0.32            | 0.003        |
| Subscriptions    | 0.17                      | 0.011        | 0.16            | 0.004        | 0.13             | 0.002        | 0.08             | 0.001        | 0.08              | 0.001        | 0.03               | 0.000        | 0.03            | 0.000        |
| Promotion        | 0.00                      | 0.000        | 0.07            | 0.002        | 0.04             | 0.001        | 0.11             | 0.002        | 0.17              | 0.002        | 0.17               | 0.002        | 0.06            | 0.000        |
| Fees             | 0.07                      | 0.004        | 0.14            | 0.003        | 0.05             | 0.001        | 0.03             | 0.000        | 0.07              | 0.001        | 0.06               | 0.001        | 0.02            | 0.000        |
| Other            | 1.34                      | 0.086        | 1.84            | 0.043        | 3.10             | 0.054        | 0.75             | 0.010        | 1.69              | 0.023        | 3.48               | 0.039        | 3.73            | 0.032        |
| <b>Total</b>     | <b>31.01</b>              | <b>1.984</b> | <b>36.91</b>    | <b>0.866</b> | <b>38.46</b>     | <b>0.670</b> | <b>36.46</b>     | <b>0.500</b> | <b>43.44</b>      | <b>0.599</b> | <b>59.77</b>       | <b>0.662</b> | <b>74.93</b>    | <b>0.636</b> |

Sample Size=492  
 Less than 1250 = 51  
 1250 to 14999 = 183

196 did not respond  
 15000 to 24999 = 49  
 25000 to 49999 = 64

50,000 to 249999 = 106  
 250000 to 499999 = 26

500000 or more = 13

Average gross expenses of full-time producer operations, by region, 1988

| Cost item        | Region       |              |              |              |              |              |              |              |              |              | Total        |              |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  | Northwest    |              | Northeast    |              | Southeast    |              | Midwest      |              | West         |              |              |              |
|                  | Per colony   | Per pound    |
|                  | Dollars      |              |              |              |              |              |              |              |              |              |              |              |
| <b>Labor</b>     |              |              |              |              |              |              |              |              |              |              |              |              |
| Hired labor      | 14.83        | 0.173        | 17.49        | 0.230        | 7.27         | 0.106        | 10.47        | 0.101        | 8.07         | 0.114        | 11.74        | 0.140        |
| Benefits         | 1.44         | 0.017        | 3.75         | 0.049        | 0.11         | 0.002        | 0.95         | 0.009        | 0.35         | 0.005        | 1.01         | 0.012        |
| Other            | 4.90         | 0.057        | 3.14         | 0.041        | 1.73         | 0.025        | 3.52         | 0.034        | 3.44         | 0.049        | 3.85         | 0.046        |
| <b>Bees</b>      |              |              |              |              |              |              |              |              |              |              |              |              |
| Bee food         | 5.78         | 0.068        | 2.60         | 0.034        | 2.25         | 0.033        | 3.96         | 0.038        | 2.27         | 0.032        | 4.23         | 0.050        |
| Queens and nucs  | 1.28         | 0.015        | 0.88         | 0.012        | 0.76         | 0.011        | 1.96         | 0.019        | 1.03         | 0.015        | 1.29         | 0.015        |
| Package bees     | 0.84         | 0.010        | 0.69         | 0.009        | 0.24         | 0.004        | 0.48         | 0.005        | 0.37         | 0.005        | 0.59         | 0.007        |
| <b>Supplies</b>  |              |              |              |              |              |              |              |              |              |              |              |              |
| General          | 5.45         | 0.064        | 1.40         | 0.018        | 3.64         | 0.053        | 4.57         | 0.044        | 2.08         | 0.030        | 4.35         | 0.052        |
| Containers etc.  | 1.25         | 0.015        | 5.13         | 0.067        | 1.94         | 0.028        | 9.68         | 0.093        | 0.96         | 0.014        | 3.10         | 0.037        |
| <b>Equipment</b> |              |              |              |              |              |              |              |              |              |              |              |              |
| Repair and Maint | 4.04         | 0.047        | 2.94         | 0.039        | 2.60         | 0.038        | 4.61         | 0.044        | 2.81         | 0.040        | 3.71         | 0.044        |
| Gas and oil      | 4.62         | 0.054        | 3.15         | 0.041        | 2.16         | 0.032        | 3.32         | 0.032        | 3.25         | 0.046        | 3.72         | 0.044        |
| <b>Buildings</b> |              |              |              |              |              |              |              |              |              |              |              |              |
| Repair and Maint | 1.28         | 0.015        | 1.04         | 0.014        | 0.98         | 0.014        | 1.45         | 0.014        | 0.92         | 0.013        | 1.20         | 0.014        |
| Mortgage         | 2.30         | 0.027        | 1.80         | 0.024        | 0.72         | 0.011        | 2.77         | 0.027        | 3.90         | 0.055        | 2.39         | 0.029        |
| <b>Overhead</b>  |              |              |              |              |              |              |              |              |              |              |              |              |
| Utilities        | 1.51         | 0.018        | 1.20         | 0.016        | 0.94         | 0.014        | 1.66         | 0.016        | 1.05         | 0.015        | 1.37         | 0.016        |
| Insurance        | 2.55         | 0.030        | 2.09         | 0.027        | 1.38         | 0.020        | 1.92         | 0.019        | 2.08         | 0.029        | 2.15         | 0.026        |
| Taxes            | 1.88         | 0.022        | 1.56         | 0.020        | 1.34         | 0.020        | 2.08         | 0.020        | 1.38         | 0.020        | 1.75         | 0.021        |
| Rent             | 2.05         | 0.024        | 0.75         | 0.010        | 0.95         | 0.014        | 0.90         | 0.009        | 1.11         | 0.016        | 1.47         | 0.017        |
| Interest on OC   | 1.94         | 0.023        | 1.74         | 0.023        | 1.16         | 0.017        | 2.11         | 0.020        | 1.03         | 0.015        | 1.70         | 0.020        |
| Office expenses  | 0.57         | 0.007        | 0.60         | 0.008        | 0.10         | 0.001        | 0.52         | 0.005        | 0.39         | 0.006        | 0.46         | 0.005        |
| <b>Marketing</b> |              |              |              |              |              |              |              |              |              |              |              |              |
| Advertising      | 0.23         | 0.003        | 0.32         | 0.004        | 0.11         | 0.002        | 0.80         | 0.008        | 0.06         | 0.001        | 0.30         | 0.004        |
| Subscriptions    | 0.04         | 0.000        | 0.05         | 0.001        | 0.02         | 0.000        | 0.14         | 0.001        | 0.05         | 0.001        | 0.06         | 0.001        |
| Promotion        | 0.09         | 0.001        | 0.00         | 0.000        | 0.04         | 0.001        | 0.36         | 0.004        | 0.07         | 0.001        | 0.13         | 0.002        |
| Fees             | 0.02         | 0.000        | 0.33         | 0.004        | 0.01         | 0.000        | 0.19         | 0.002        | 0.01         | 0.000        | 0.06         | 0.001        |
| Other            | 3.12         | 0.037        | 2.02         | 0.027        | 0.40         | 0.006        | 3.93         | 0.038        | 1.49         | 0.021        | 2.57         | 0.031        |
| <b>Total</b>     | <b>62.01</b> | <b>0.725</b> | <b>54.68</b> | <b>0.718</b> | <b>30.86</b> | <b>0.452</b> | <b>62.36</b> | <b>0.602</b> | <b>38.17</b> | <b>0.541</b> | <b>53.20</b> | <b>0.634</b> |

Average gross expenses of part-time producer operations, by region, 1988

| Cost item        | Region       |              |              |              |              |              |              |              |              |              | Total        |              |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  | Northwest    |              | Northeast    |              | Southeast    |              | Midwest      |              | West         |              |              |              |
|                  | Per colony   | Per pound    |
|                  | Dollars      |              |              |              |              |              |              |              |              |              |              |              |
| <b>Labor</b>     |              |              |              |              |              |              |              |              |              |              |              |              |
| Hired labor      | 2.88         | 0.041        | 1.78         | 0.029        | 3.34         | 0.053        | 2.96         | 0.034        | 1.20         | 0.016        | 2.69         | 0.036        |
| Benefits         | 0.36         | 0.005        | 0.14         | 0.002        | 0.08         | 0.001        | 0.18         | 0.002        | 0.00         | 0.000        | 0.17         | 0.002        |
| Other            | 0.07         | 0.001        | 0.62         | 0.010        | 0.00         | 0.000        | 1.85         | 0.021        | 0.00         | 0.000        | 0.83         | 0.011        |
| <b>Bees</b>      |              |              |              |              |              |              |              |              |              |              |              |              |
| Bee food         | 2.66         | 0.038        | 1.79         | 0.029        | 2.17         | 0.034        | 2.35         | 0.027        | 0.81         | 0.011        | 2.15         | 0.028        |
| Queens and nucs  | 2.98         | 0.042        | 0.79         | 0.013        | 1.25         | 0.020        | 1.65         | 0.019        | 1.16         | 0.015        | 1.64         | 0.022        |
| Package bees     | 1.03         | 0.015        | 0.41         | 0.007        | 0.00         | 0.000        | 2.07         | 0.023        | 0.08         | 0.001        | 1.07         | 0.014        |
| <b>Supplies</b>  |              |              |              |              |              |              |              |              |              |              |              |              |
| General          | 7.91         | 0.112        | 3.68         | 0.059        | 4.24         | 0.067        | 5.94         | 0.067        | 2.64         | 0.035        | 5.34         | 0.071        |
| Containers etc.  | 3.04         | 0.043        | 6.89         | 0.111        | 3.26         | 0.051        | 5.25         | 0.059        | 6.60         | 0.087        | 4.82         | 0.064        |
| <b>Equipment</b> |              |              |              |              |              |              |              |              |              |              |              |              |
| Repair and Maint | 3.08         | 0.043        | 4.49         | 0.073        | 2.14         | 0.034        | 4.24         | 0.048        | 2.38         | 0.031        | 3.48         | 0.046        |
| Gas and oil      | 4.08         | 0.058        | 2.40         | 0.039        | 2.36         | 0.037        | 4.14         | 0.047        | 8.07         | 0.106        | 3.92         | 0.052        |
| <b>Buildings</b> |              |              |              |              |              |              |              |              |              |              |              |              |
| Repair and Maint | 4.06         | 0.057        | 2.88         | 0.047        | 1.94         | 0.031        | 1.92         | 0.022        | 1.09         | 0.014        | 2.36         | 0.031        |
| Mortgage         | 2.59         | 0.037        | 4.01         | 0.065        | 1.58         | 0.025        | 7.46         | 0.084        | 9.07         | 0.119        | 5.13         | 0.068        |
| <b>Overhead</b>  |              |              |              |              |              |              |              |              |              |              |              |              |
| Utilities        | 1.72         | 0.024        | 2.28         | 0.037        | 1.12         | 0.018        | 2.26         | 0.026        | 1.92         | 0.025        | 1.91         | 0.025        |
| Insurance        | 1.28         | 0.018        | 1.26         | 0.020        | 0.85         | 0.013        | 1.45         | 0.016        | 1.55         | 0.020        | 1.29         | 0.017        |
| Taxes            | 1.29         | 0.018        | 2.99         | 0.048        | 0.76         | 0.012        | 1.80         | 0.020        | 0.82         | 0.011        | 1.57         | 0.021        |
| Rent             | 1.70         | 0.024        | 1.36         | 0.022        | 2.10         | 0.033        | 0.69         | 0.008        | 1.46         | 0.019        | 1.31         | 0.017        |
| Interest on OC   | 0.79         | 0.011        | 0.31         | 0.005        | 0.75         | 0.012        | 0.43         | 0.005        | 1.03         | 0.014        | 0.60         | 0.008        |
| Office expenses  | 0.38         | 0.005        | 0.31         | 0.005        | 0.29         | 0.005        | 0.43         | 0.005        | 0.12         | 0.002        | 0.35         | 0.005        |
| <b>Marketing</b> |              |              |              |              |              |              |              |              |              |              |              |              |
| Advertising      | 0.11         | 0.002        | 0.18         | 0.003        | 0.22         | 0.003        | 0.16         | 0.002        | 0.15         | 0.002        | 0.17         | 0.002        |
| Subscriptions    | 0.18         | 0.003        | 0.21         | 0.003        | 0.14         | 0.002        | 0.15         | 0.002        | 0.16         | 0.002        | 0.16         | 0.002        |
| Promotion        | 0.04         | 0.001        | 0.27         | 0.004        | 0.00         | 0.000        | 0.14         | 0.002        | 0.00         | 0.000        | 0.10         | 0.001        |
| Fees             | 0.06         | 0.001        | 0.00         | 0.000        | 0.33         | 0.005        | 0.03         | 0.000        | 0.14         | 0.002        | 0.10         | 0.001        |
| Other            | 1.26         | 0.018        | 0.57         | 0.009        | 2.46         | 0.039        | 0.80         | 0.009        | 5.29         | 0.070        | 1.60         | 0.021        |
| <b>Total</b>     | <b>43.56</b> | <b>0.614</b> | <b>39.62</b> | <b>0.641</b> | <b>31.40</b> | <b>0.496</b> | <b>48.34</b> | <b>0.547</b> | <b>45.73</b> | <b>0.603</b> | <b>42.76</b> | <b>0.566</b> |

Sample Size=210

Northwest = 34

Southeast = 41

West = 17

Northeast = 32

Midwest = 86

Average gross expenses of hobby producer operations, by region, 1988

| Cost item        | Region       |              |             |              |              |              |              |              |              |              | Total        |              |
|------------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                  | Northwest    |              | Northeast   |              | Southeast    |              | Midwest      |              | West         |              |              |              |
|                  | Per colony   | Per pound    | Per colony  | Per pound    | Per colony   | Per pound    | Per colony   | Per pound    | Per colony   | Per pound    | Per colony   | Per pound    |
|                  | Dollars      |              |             |              |              |              |              |              |              |              |              |              |
| <b>Labor</b>     |              |              |             |              |              |              |              |              |              |              |              |              |
| Hired labor      | 1.16         | 0.020        | 0.00        | 0.000        | 0.27         | 0.005        | 0.33         | 0.003        | 0.00         | 0.000        | 0.396        | 0.005        |
| Benefits         | 0.00         | 0.000        | 0.00        | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.000        | 0.000        |
| Other            | 0.00         | 0.000        | 0.00        | 0.000        | 0.39         | 0.006        | 0.00         | 0.000        | 0.00         | 0.000        | 0.165        | 0.002        |
| <b>Bees</b>      |              |              |             |              |              |              |              |              |              |              |              |              |
| Bee food         | 1.15         | 0.020        | 0.00        | 0.000        | 0.94         | 0.016        | 1.90         | 0.020        | 0.00         | 0.000        | 1.209        | 0.016        |
| Queens and nucs  | 0.38         | 0.007        | 0.70        | 0.012        | 1.23         | 0.020        | 4.64         | 0.050        | 17.44        | 0.113        | 3.008        | 0.040        |
| Package bees     | 1.35         | 0.024        | 0.00        | 0.000        | 0.49         | 0.008        | 2.25         | 0.024        | 0.00         | 0.000        | 1.168        | 0.015        |
| <b>Supplies</b>  |              |              |             |              |              |              |              |              |              |              |              |              |
| General          | 11.89        | 0.207        | 2.30        | 0.040        | 9.63         | 0.159        | 7.73         | 0.082        | 1.74         | 0.011        | 8.621        | 0.114        |
| Containers etc.  | 1.20         | 0.021        | 0.63        | 0.011        | 4.44         | 0.073        | 4.53         | 0.048        | 24.42        | 0.158        | 4.773        | 0.063        |
| <b>Equipment</b> |              |              |             |              |              |              |              |              |              |              |              |              |
| Repair and Maint | 0.23         | 0.004        | 1.00        | 0.017        | 2.42         | 0.040        | 4.53         | 0.048        | 1.43         | 0.009        | 2.707        | 0.036        |
| Gas and oil      | 9.38         | 0.164        | 0.38        | 0.007        | 5.66         | 0.093        | 2.65         | 0.028        | 7.44         | 0.048        | 5.042        | 0.067        |
| <b>Buildings</b> |              |              |             |              |              |              |              |              |              |              |              |              |
| Repair and Maint | 0.00         | 0.000        | 0.25        | 0.004        | 1.69         | 0.028        | 0.40         | 0.004        | 0.00         | 0.000        | 0.863        | 0.011        |
| Mortgage         | 0.00         | 0.000        | 0.00        | 0.000        | 2.05         | 0.034        | 0.00         | 0.000        | 0.00         | 0.000        | 0.867        | 0.011        |
| <b>Overhead</b>  |              |              |             |              |              |              |              |              |              |              |              |              |
| Utilities        | 0.26         | 0.005        | 0.38        | 0.007        | 0.82         | 0.014        | 0.50         | 0.005        | 11.63        | 0.075        | 1.122        | 0.015        |
| Insurance        | 0.00         | 0.000        | 0.00        | 0.000        | 0.00         | 0.000        | 0.15         | 0.002        | 0.00         | 0.000        | 0.052        | 0.001        |
| Taxes            | 0.28         | 0.005        | 0.00        | 0.000        | 0.92         | 0.015        | 0.65         | 0.007        | 1.51         | 0.010        | 0.721        | 0.010        |
| Rent             | 1.12         | 0.020        | 0.00        | 0.000        | 0.57         | 0.009        | 0.81         | 0.009        | 1.40         | 0.009        | 0.745        | 0.010        |
| Interest on OC   | 0.00         | 0.000        | 0.00        | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.000        | 0.000        |
| Office expenses  | 0.11         | 0.002        | 0.00        | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.017        | 0.000        |
| <b>Marketing</b> |              |              |             |              |              |              |              |              |              |              |              |              |
| Advertising      | 0.00         | 0.000        | 0.00        | 0.000        | 0.14         | 0.002        | 0.00         | 0.000        | 0.00         | 0.000        | 0.057        | 0.001        |
| Subscriptions    | 0.30         | 0.005        | 0.30        | 0.005        | 0.26         | 0.004        | 0.56         | 0.006        | 1.28         | 0.008        | 0.416        | 0.005        |
| Promotion        | 0.00         | 0.000        | 0.00        | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.000        | 0.000        |
| Fees             | 0.00         | 0.000        | 0.00        | 0.000        | 0.03         | 0.000        | 0.00         | 0.000        | 0.00         | 0.000        | 0.011        | 0.000        |
| Other            | 0.00         | 0.000        | 0.00        | 0.000        | 3.32         | 0.055        | 0.04         | 0.000        | 0.00         | 0.000        | 1.417        | 0.019        |
| <b>Total</b>     | <b>28.82</b> | <b>0.502</b> | <b>5.93</b> | <b>0.103</b> | <b>35.26</b> | <b>0.582</b> | <b>31.68</b> | <b>0.338</b> | <b>68.29</b> | <b>0.443</b> | <b>33.38</b> | <b>0.441</b> |

NE: CT; MA; MD; ME; NH; NJ; NY; PA; VT; DE; RI  
 SE: AL; AR; GA; FL; LA; MO; MS; NC; SC; TN; VA; WV  
 MW: IA; IL; IN; KS; KY; MI; MN; OH; WI; OK; TX

W: AZ; CO; CA; NM; NV; UT; WY; HI  
 NW: AK; ID; MT; ND; NE; OR; SD; WA

Sample Size=58

Northwest = 7

Southeast = 21

West = 4

Northeast = 4

Midwest = 22

**PRODUCERS - AVERAGE GROSS RECEIPTS**

Average gross receipts from beekeeping products, services, and programs, by firm type, 1988

| Type firm<br>and<br>unit | Products, services, and programs |                         |         |                 |                    |                        |       | Total |
|--------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|-------|-------|
|                          | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other |       |
|                          | Dollars                          |                         |         |                 |                    |                        |       |       |
| Full-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 33.49                            | 7.20                    | 1.20    | 0.95            | 1.40               | 17.82                  | 2.25  | 64.31 |
| Per pound                | 0.399                            | 0.086                   | 0.014   | 0.011           | 0.017              | 0.212                  | 0.027 | 0.767 |
| Part-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 36.58                            | 3.57                    | 0.64    | 0.06            | 0.43               | 15.96                  | 1.48  | 58.71 |
| Per pound                | 0.484                            | 0.047                   | 0.008   | 0.001           | 0.006              | 0.211                  | 0.020 | 0.777 |
| Hobby                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 21.34                            | 0.00                    | 0.53    | 0.00            | 0.00               | 15.91                  | 0.11  | 37.89 |
| Per pound                | 0.282                            | 0.000                   | 0.007   | 0.000           | 0.000              | 0.210                  | 0.001 | 0.501 |
| Total                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 33.68                            | 6.93                    | 1.16    | 0.88            | 1.33               | 17.68                  | 2.19  | 63.85 |
| Per pound                | 0.405                            | 0.083                   | 0.014   | 0.011           | 0.016              | 0.212                  | 0.026 | 0.767 |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Average gross receipts from beekeeping products, services, and programs of operations who received pollination fees, by firm type, 1988

| Type firm<br>and<br>unit | Products, services, and programs |                         |         |                 |                    |                        |       | Total |
|--------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|-------|-------|
|                          | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other |       |
|                          | Dollars                          |                         |         |                 |                    |                        |       |       |
| Full-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 33.86                            | 19.28                   | 1.45    | 0.72            | 0.59               | 10.46                  | 4.50  | 70.86 |
| Per pound                | 0.452                            | 0.257                   | 0.019   | 0.010           | 0.008              | 0.140                  | 0.060 | 0.946 |
| Part-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 39.20                            | 14.83                   | 0.54    | 0.00            | 0.15               | 12.08                  | 2.40  | 69.21 |
| Per pound                | 0.614                            | 0.232                   | 0.008   | 0.000           | 0.002              | 0.189                  | 0.038 | 1.083 |
| Hobby                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               |                                  |                         |         |                 |                    |                        |       |       |
| Per pound                |                                  |                         |         |                 |                    |                        |       |       |
| Total                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 34.12                            | 19.07                   | 1.40    | 0.68            | 0.57               | 10.54                  | 4.40  | 70.78 |
| Per pound                | 0.459                            | 0.256                   | 0.019   | 0.009           | 0.008              | 0.142                  | 0.059 | 0.951 |

Sample Size = 123 (Full-time = 81, Part-time = 42, Hobby = 0)

Average gross receipts from beekeeping products, services, and programs of operations who did not receive pollination fees, by firm type, 1988

| Type firm<br>and<br>unit | Products, services, and programs |                         |         |                 |                    |                        |       | Total |
|--------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|-------|-------|
|                          | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other |       |
|                          | Dollars                          |                         |         |                 |                    |                        |       |       |
| Full-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 33.26                            | 0.00                    | 1.06    | 1.09            | 1.89               | 22.21                  | 0.91  | 60.41 |
| Per pound                | 0.373                            | 0.000                   | 0.012   | 0.012           | 0.021              | 0.249                  | 0.010 | 0.677 |
| Part-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 35.74                            | 0.00                    | 0.67    | 0.08            | 0.52               | 17.18                  | 1.19  | 55.38 |
| Per pound                | 0.451                            | 0.000                   | 0.009   | 0.001           | 0.007              | 0.217                  | 0.015 | 0.699 |
| Hobby                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 21.34                            | 0.00                    | 0.53    | 0.00            | 0.00               | 15.91                  | 0.11  | 37.89 |
| Per pound                | 0.282                            | 0.000                   | 0.007   | 0.000           | 0.000              | 0.210                  | 0.001 | 0.501 |
| Total                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 33.43                            | 0.00                    | 1.02    | 1.00            | 1.76               | 21.75                  | 0.93  | 59.90 |
| Per pound                | 0.379                            | 0.000                   | 0.012   | 0.011           | 0.020              | 0.246                  | 0.011 | 0.678 |

Sample Size = 369 (Full-time = 143, Part-time = 168, Hobby = 58)

Average gross receipts from beekeeping products, services, and programs of operations who received government payments, by firm type, 1988

| Type firm<br>and<br>unit | Products, services, and programs |                         |         |                 |                    |                        |       | Total |
|--------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|-------|-------|
|                          | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other |       |
|                          | Dollars                          |                         |         |                 |                    |                        |       |       |
| Full-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 27.67                            | 6.89                    | 1.44    | 0.81            | 0.88               | 30.04                  | 3.14  | 70.87 |
| Per pound                | 0.326                            | 0.081                   | 0.017   | 0.010           | 0.010              | 0.354                  | 0.037 | 0.836 |
| Part-time                |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 35.32                            | 3.67                    | 0.70    | 0.00            | 0.23               | 27.21                  | 1.52  | 68.65 |
| Per pound                | 0.468                            | 0.049                   | 0.009   | 0.000           | 0.003              | 0.360                  | 0.020 | 0.909 |
| Hobby                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 19.51                            | 0.00                    | 0.87    | 0.00            | 0.00               | 31.24                  | 0.22  | 51.83 |
| Per pound                | 0.243                            | 0.000                   | 0.011   | 0.000           | 0.000              | 0.390                  | 0.003 | 0.647 |
| Total                    |                                  |                         |         |                 |                    |                        |       |       |
| Per colony               | 28.20                            | 6.65                    | 1.39    | 0.75            | 0.83               | 29.84                  | 3.02  | 70.67 |
| Per pound                | 0.335                            | 0.079                   | 0.017   | 0.009           | 0.010              | 0.355                  | 0.036 | 0.840 |

Sample Size = 266 (Full-time = 118, Part-time = 118, Hobby = 30)

Average gross receipts from beekeeping products, services, and programs of operations who did not receive government payments, by firm type, 198

| Type firm and unit | Products, services, and programs |                      |         |              |                 |                     |       | Total |
|--------------------|----------------------------------|----------------------|---------|--------------|-----------------|---------------------|-------|-------|
|                    | Honey                            | Pollination Services | Beeswax | Package Bees | Queens and nucs | Government payments | Other |       |
|                    | Dollars                          |                      |         |              |                 |                     |       |       |
| <b>Full-time</b>   |                                  |                      |         |              |                 |                     |       |       |
| Per colony         | 41.97                            | 7.67                 | 0.85    | 1.15         | 2.16            | 0.00                | 0.95  | 54.76 |
| Per pound          | 0.509                            | 0.093                | 0.010   | 0.014        | 0.026           | 0.000               | 0.012 | 0.663 |
| <b>Part-time</b>   |                                  |                      |         |              |                 |                     |       |       |
| Per colony         | 38.36                            | 3.42                 | 0.56    | 0.14         | 0.70            | 0.00                | 1.42  | 44.61 |
| Per pound          | 0.507                            | 0.045                | 0.007   | 0.002        | 0.009           | 0.000               | 0.019 | 0.590 |
| <b>Hobby</b>       |                                  |                      |         |              |                 |                     |       |       |
| Per colony         | 23.25                            | 0.00                 | 0.17    | 0.00         | 0.00            | 0.00                | 0.00  | 23.41 |
| Per pound          | 0.327                            | 0.000                | 0.002   | 0.000        | 0.000           | 0.000               | 0.000 | 0.330 |
| <b>Total</b>       |                                  |                      |         |              |                 |                     |       |       |
| Per colony         | 41.65                            | 7.33                 | 0.83    | 1.08         | 2.05            | 0.00                | 0.99  | 53.93 |
| Per pound          | 0.508                            | 0.089                | 0.010   | 0.013        | 0.025           | 0.000               | 0.012 | 0.658 |

Sample Size = 226 (Full-time = 106, Part-time = 92, Hobby = 28)

Average gross receipts from beekeeping products, services, and programs of operations, by colony size, 1988

| Colony size<br>and<br>unit | Products, services, and programs |                         |         |                 |                    |                        |       | Total |
|----------------------------|----------------------------------|-------------------------|---------|-----------------|--------------------|------------------------|-------|-------|
|                            | Honey                            | Pollination<br>Services | Beeswax | Package<br>Bees | Queens<br>and nucs | Government<br>payments | Other |       |
|                            | Dollars                          |                         |         |                 |                    |                        |       |       |
| Less than 25               |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 27.80                            | 0.00                    | 0.72    | 0.00            | 0.00               | 22.05                  | 0.15  | 50.72 |
| Per pound                  | 0.331                            | 0.000                   | 0.009   | 0.000           | 0.000              | 0.262                  | 0.002 | 0.604 |
| 25 to 299                  |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 35.85                            | 3.75                    | 0.67    | 0.07            | 0.35               | 16.70                  | 1.68  | 59.07 |
| Per pound                  | 0.495                            | 0.052                   | 0.009   | 0.001           | 0.005              | 0.231                  | 0.023 | 0.816 |
| 300 to 499                 |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 29.85                            | 3.80                    | 0.45    | 0.00            | 0.69               | 13.31                  | 1.69  | 49.79 |
| Per pound                  | 0.394                            | 0.050                   | 0.006   | 0.000           | 0.009              | 0.175                  | 0.022 | 0.656 |
| 500 to 999                 |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 38.55                            | 6.81                    | 0.92    | 0.18            | 0.12               | 16.22                  | 0.56  | 63.35 |
| Per pound                  | 0.469                            | 0.083                   | 0.011   | 0.002           | 0.001              | 0.197                  | 0.007 | 0.771 |
| 1,000 to 4,999             |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 37.83                            | 8.27                    | 1.41    | 0.90            | 2.07               | 17.60                  | 3.40  | 71.48 |
| Per pound                  | 0.401                            | 0.088                   | 0.015   | 0.010           | 0.022              | 0.187                  | 0.036 | 0.758 |
| 5,000 to 9,999             |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 29.96                            | 7.55                    | 1.33    | 2.76            | 1.13               | 15.60                  | 0.07  | 58.40 |
| Per pound                  | 0.438                            | 0.110                   | 0.019   | 0.040           | 0.017              | 0.228                  | 0.001 | 0.854 |
| 10,000 or more             |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 18.09                            | 3.78                    | 0.68    | 0.00            | 0.24               | 23.62                  | 1.46  | 47.86 |
| Per pound                  | 0.280                            | 0.059                   | 0.011   | 0.000           | 0.004              | 0.366                  | 0.023 | 0.741 |
| Total                      |                                  |                         |         |                 |                    |                        |       |       |
| Per colony                 | 33.68                            | 6.93                    | 1.16    | 0.88            | 1.33               | 17.68                  | 2.19  | 63.85 |
| Per pound                  | 0.405                            | 0.083                   | 0.014   | 0.011           | 0.016              | 0.212                  | 0.026 | 0.767 |

Sample Size = 492

Less than 25 = 52

25 to 299 = 202

300 to 499 = 57

500 to 999 = 63

1,000 to 4,999 = 106

5,000 to 9,999 = 9

10,000 or more = 3

Average gross receipts from beekeeping products, services, and programs of operations, by honey production, 1988

| Honey production and unit | Products, services, and programs |                      |         |              |                 |                     |       | Total |
|---------------------------|----------------------------------|----------------------|---------|--------------|-----------------|---------------------|-------|-------|
|                           | Honey                            | Pollination Services | Beeswax | Package Bees | Queens and nucs | Government payments | Other |       |
|                           | Dollars                          |                      |         |              |                 |                     |       |       |
| Less than 1,250           |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 7.51                             | 5.40                 | 0.15    | 0.00         | 0.05            | 3.51                | 5.19  | 21.81 |
| Per pound                 | 0.480                            | 0.345                | 0.010   | 0.000        | 0.003           | 0.225               | 0.332 | 1.395 |
| 1,250 to 14,999           |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 18.25                            | 4.13                 | 0.45    | 0.07         | 0.43            | 10.55               | 1.07  | 34.95 |
| Per pound                 | 0.428                            | 0.097                | 0.010   | 0.002        | 0.010           | 0.248               | 0.025 | 0.820 |
| 15,000 to 24,999          |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 30.97                            | 10.17                | 0.58    | 0.00         | 0.16            | 11.31               | 3.59  | 56.78 |
| Per pound                 | 0.540                            | 0.177                | 0.010   | 0.000        | 0.003           | 0.197               | 0.062 | 0.989 |
| 25,000 to 49,999          |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 32.91                            | 4.31                 | 0.55    | 0.24         | 0.48            | 16.60               | 0.06  | 55.15 |
| Per pound                 | 0.449                            | 0.059                | 0.008   | 0.003        | 0.007           | 0.226               | 0.001 | 0.752 |
| 50,000 to 249,999         |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 32.97                            | 7.57                 | 1.03    | 1.72         | 0.64            | 10.98               | 1.08  | 55.98 |
| Per pound                 | 0.455                            | 0.104                | 0.014   | 0.024        | 0.009           | 0.151               | 0.015 | 0.772 |
| 250,000 to 499,999        |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 38.84                            | 9.71                 | 1.85    | 0.84         | 3.30            | 15.30               | 6.20  | 76.05 |
| Per pound                 | 0.430                            | 0.107                | 0.021   | 0.009        | 0.037           | 0.169               | 0.069 | 0.842 |
| 500,000 or more           |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 35.54                            | 4.00                 | 1.26    | 0.00         | 1.40            | 36.68               | 0.89  | 79.76 |
| Per pound                 | 0.302                            | 0.034                | 0.011   | 0.000        | 0.012           | 0.311               | 0.008 | 0.677 |
| Total                     |                                  |                      |         |              |                 |                     |       |       |
| Per colony                | 33.68                            | 6.93                 | 1.16    | 0.88         | 1.33            | 17.68               | 2.19  | 63.85 |
| Per pound                 | 0.405                            | 0.083                | 0.014   | 0.011        | 0.016           | 0.212               | 0.026 | 0.767 |

Sample Size = 492

Less than 1250 = 51

1250 to 14999 = 183

15000 to 24999 = 49

25000 to 49999 = 64

50000 to 249999 = 106

250,000 to 499,999 = 26

500,000 or more = 13

Average gross receipts from beekeeping products, services, and programs of full-time operations, by region, 1988

| Region and unit | Products, services, and programs |                      |         |              |                 |                     |       | Total |
|-----------------|----------------------------------|----------------------|---------|--------------|-----------------|---------------------|-------|-------|
|                 | Honey                            | Pollination Services | Beeswax | Package Bees | Queens and nucs | Government payments | Other |       |
|                 | Dollars                          |                      |         |              |                 |                     |       |       |
| Northwest       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 29.13                            | 10.45                | 1.37    | 0.08         | 0.81            | 21.56               | 4.37  | 67.78 |
| Per pound       | 0.340                            | 0.122                | 0.016   | 0.001        | 0.010           | 0.252               | 0.051 | 0.792 |
| Northeast       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 31.84                            | 2.38                 | 1.19    | 0.00         | 0.60            | 13.12               | 0.00  | 49.13 |
| Per pound       | 0.418                            | 0.031                | 0.016   | 0.000        | 0.008           | 0.172               | 0.000 | 0.645 |
| Southeast       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 21.63                            | 1.29                 | 0.66    | 3.33         | 0.50            | 8.84                | 0.02  | 36.27 |
| Per pound       | 0.317                            | 0.019                | 0.010   | 0.049        | 0.007           | 0.129               | 0.000 | 0.531 |
| Midwest         |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 47.56                            | 1.48                 | 1.24    | 0.86         | 3.99            | 25.19               | 0.47  | 80.79 |
| Per pound       | 0.459                            | 0.014                | 0.012   | 0.008        | 0.038           | 0.243               | 0.005 | 0.779 |
| West            |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 40.02                            | 11.57                | 1.22    | 1.37         | 0.82            | 7.32                | 0.91  | 63.21 |
| Per pound       | 0.567                            | 0.164                | 0.017   | 0.019        | 0.012           | 0.104               | 0.013 | 0.896 |
| Total           |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 33.49                            | 7.20                 | 1.20    | 0.95         | 1.40            | 17.82               | 2.25  | 64.31 |
| Per pound       | 0.399                            | 0.086                | 0.014   | 0.011        | 0.017           | 0.212               | 0.027 | 0.767 |

Sample Size=224

Northwest = 66

Southeast = 33

West = 47

Northeast = 9

Midwest = 69

NE: CT; MA; MD; ME; NH; NJ; NY; PA; VT; DE; RI

W: AZ; CO; CA; NM; NV; UT; WY; HI

SE: AL; AR; GA; FL; LA; MO; MS; NC; SC; TN; VA; WV

NW: AK; ID; MT; ND; NE; OR; SD; WA

MW: IA; IL; IN; KS; KY; MI; MN; OH; WI; OK; TX

Average gross receipts from beekeeping products, services, and programs of part-time operations, by region, 1988

| Region and unit | Products, services, and programs |                      |         |              |                 |                     |       | Total |
|-----------------|----------------------------------|----------------------|---------|--------------|-----------------|---------------------|-------|-------|
|                 | Honey                            | Pollination Services | Beeswax | Package Bees | Queens and nucs | Government payments | Other |       |
|                 | Dollars                          |                      |         |              |                 |                     |       |       |
| Northwest       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 24.61                            | 5.32                 | 0.51    | 0.00         | 1.72            | 17.89               | 3.33  | 53.37 |
| Per pound       | 0.347                            | 0.075                | 0.007   | 0.000        | 0.024           | 0.252               | 0.047 | 0.753 |
| Northeast       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 32.23                            | 4.65                 | 0.98    | 0.00         | 0.64            | 6.35                | 2.29  | 47.14 |
| Per pound       | 0.521                            | 0.075                | 0.016   | 0.000        | 0.010           | 0.103               | 0.037 | 0.762 |
| Southeast       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 35.19                            | 1.61                 | 0.76    | 0.00         | 0.00            | 9.99                | 0.81  | 48.37 |
| Per pound       | 0.556                            | 0.025                | 0.012   | 0.000        | 0.000           | 0.158               | 0.013 | 0.764 |
| Midwest         |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 41.51                            | 2.36                 | 0.62    | 0.00         | 0.08            | 22.41               | 0.65  | 67.63 |
| Per pound       | 0.470                            | 0.027                | 0.007   | 0.000        | 0.001           | 0.254               | 0.007 | 0.766 |
| West            |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 47.69                            | 7.72                 | 0.24    | 0.61         | 0.00            | 11.45               | 1.64  | 69.35 |
| Per pound       | 0.629                            | 0.102                | 0.003   | 0.008        | 0.000           | 0.151               | 0.022 | 0.914 |
| Total           |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 36.58                            | 3.57                 | 0.64    | 0.06         | 0.43            | 15.96               | 1.48  | 58.71 |
| Per pound       | 0.484                            | 0.047                | 0.008   | 0.001        | 0.006           | 0.211               | 0.020 | 0.777 |

Sample Size=210

Northwest = 34

Southeast = 41

West = 17

Northeast = 32

Midwest = 86

NE: CT; MA; MD; ME; NH; NJ; NY; PA; VT; DE; RI

W: AZ; CO; CA; NM; NV; UT; WY; HI

SE: AL; AR; GA; FL; LA; MO; MS; NC; SC; TN; VA; WV

NW: AK; ID; MT; ND; NE; OR; SD; WA

MW: IA; IL; IN; KS; KY; MI; MN; OH; WI; OK; TX

Average gross receipts from beekeeping products, services, and programs of hobby operations, by region, 1988

| Region and unit | Products, services, and programs |                      |         |              |                 |                     |       | Total |
|-----------------|----------------------------------|----------------------|---------|--------------|-----------------|---------------------|-------|-------|
|                 | Honey                            | Pollination Services | Beeswax | Package Bees | Queens and nucs | Government payments | Other |       |
|                 | Dollars                          |                      |         |              |                 |                     |       |       |
| Northwest       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 24.52                            | 0.00                 | 0.00    | 0.00         | 0.00            | 5.90                | 0.00  | 30.42 |
| Per pound       | 0.427                            | 0.000                | 0.000   | 0.000        | 0.000           | 0.103               | 0.000 | 0.530 |
| Northeast       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 26.57                            | 0.00                 | 1.88    | 0.00         | 0.00            | 1.47                | 0.00  | 29.92 |
| Per pound       | 0.463                            | 0.000                | 0.033   | 0.000        | 0.000           | 0.026               | 0.000 | 0.521 |
| Southeast       |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 22.26                            | 0.00                 | 0.70    | 0.00         | 0.00            | 6.25                | 0.00  | 29.20 |
| Per pound       | 0.367                            | 0.000                | 0.011   | 0.000        | 0.000           | 0.103               | 0.000 | 0.482 |
| Midwest         |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 18.55                            | 0.00                 | 0.34    | 0.00         | 0.00            | 35.96               | 0.33  | 55.18 |
| Per pound       | 0.198                            | 0.000                | 0.004   | 0.000        | 0.000           | 0.383               | 0.003 | 0.588 |
| West            |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 18.37                            | 0.00                 | 0.70    | 0.00         | 0.00            | 3.49                | 0.00  | 22.56 |
| Per pound       | 0.119                            | 0.000                | 0.005   | 0.000        | 0.000           | 0.023               | 0.000 | 0.146 |
| Total           |                                  |                      |         |              |                 |                     |       |       |
| Per colony      | 21.34                            | 0.00                 | 0.53    | 0.00         | 0.00            | 15.91               | 0.11  | 37.89 |
| Per pound       | 0.282                            | 0.000                | 0.007   | 0.000        | 0.000           | 0.210               | 0.001 | 0.501 |

Sample Size=58

Northwest = 7

Southeast = 21

West = 4

Northeast = 4

Midwest = 22

NE: CT; MA; MD; ME; NH; NJ; NY; PA; VT; DE; RI

W: AZ; CO; CA; NM; NV; UT; WY; HI

SE: AL; AR; GA; FL; LA; MO; MS; NC; SC; TN; VA; WV

NW: AK; ID; MT; ND; NE; OR; SD; WA

MW: IA; IL; IN; KS; KY; MI; MN; OH; WI; OK; TX

**PRODUCERS - NET INCOME**

Net income of beekeeping operations, by firm type, 1988

| Unit       | Type firm |           |       | Total |
|------------|-----------|-----------|-------|-------|
|            | Full-time | Part-time | Hobby |       |
|            | Dollars   |           |       |       |
| Per colony | 11.11     | 15.95     | 4.51  | 11.44 |
| Per pound  | 0.133     | 0.211     | 0.060 | 0.137 |

Compiled from previous tables.

Net income less government payments of beekeeping operations, by firm type, 1988

| Unit       | Type firm |           |        | Total  |
|------------|-----------|-----------|--------|--------|
|            | Full-time | Part-time | Hobby  |        |
|            | Dollars   |           |        |        |
| Per colony | -6.71     | -0.01     | -11.40 | -6.24  |
| Per pound  | -0.079    | 0.000     | -0.150 | -0.075 |

Compiled from previous tables.

Net income of beekeeping operations who received pollination fees, by firm type, 1988

| Unit       | Type firm |           |       | Total |
|------------|-----------|-----------|-------|-------|
|            | Full-time | Part-time | Hobby |       |
|            | Dollars   |           |       |       |
| Per colony | 15.78     | 15.21     |       | 15.75 |
| Per pound  | 0.211     | 0.238     |       | 0.211 |

Compiled from previous tables.

Net income of beekeeping operations who did not receive pollination fees, by firm type, 1988

| Unit       | Type firm |           |       | Total |
|------------|-----------|-----------|-------|-------|
|            | Full-time | Part-time | Hobby |       |
|            | Dollars   |           |       |       |
| Per colony | 18.37     | 16.18     | 4.51  | 8.99  |
| Per pound  | 0.093     | 0.204     | 0.060 | 0.101 |

Compiled from previous tables

Net income of beekeeping operations who received government payments, by firm type, 1988

| Unit       | Type firm |           |       | Total |
|------------|-----------|-----------|-------|-------|
|            | Full-time | Part-time | Hobby |       |
|            | Dollars   |           |       |       |
| Per colony | 12.63     | 20.66     | 13.39 | 13.20 |
| Per pound  | 0.149     | 0.274     | 0.167 | 0.157 |

Compiled from previous tables.

Net income of beekeeping operations who did not receive government payments, by firm type, 1988

| Unit       | Type firm |           |        | Total |
|------------|-----------|-----------|--------|-------|
|            | Full-time | Part-time | Hobby  |       |
|            | Dollars   |           |        |       |
| Per colony | 8.90      | 9.27      | -4.71  | 8.89  |
| Per pound  | 0.107     | 0.123     | -0.066 | 0.109 |

Compiled from previous tables.

Net income of beekeeping operations, by colony size, 1988

| Unit       | Colony Size     |              |               |               |                   |                   |                     | Total |
|------------|-----------------|--------------|---------------|---------------|-------------------|-------------------|---------------------|-------|
|            | Less than<br>25 | 25 to<br>299 | 300 to<br>499 | 500 to<br>999 | 1,000 to<br>4,999 | 5,000 to<br>9,999 | More than<br>10,000 |       |
|            | Dollars         |              |               |               |                   |                   |                     |       |
| Per colony | 14.64           | 10.62        | 18.86         | 2.76          | 19.64             | -12.81            | 10.15               | 11.44 |
| Per pound  | 0.175           | 0.147        | 0.248         | 0.034         | 0.208             | -0.187            | 0.157               | 0.137 |

Compiled from previous tables.

Net income of beekeeping operations, by honey production, 1988

| Unit       | Honey production   |                   |                     |                     |                      |                       |                      | Total |
|------------|--------------------|-------------------|---------------------|---------------------|----------------------|-----------------------|----------------------|-------|
|            | Less than<br>1,250 | 1,250 to<br>4,999 | 15,000 to<br>24,999 | 25,000 to<br>49,999 | 50,000 to<br>249,999 | 250,000 to<br>499,999 | More than<br>500,000 |       |
|            | Dollars            |                   |                     |                     |                      |                       |                      |       |
| Per colony | -9.20              | -1.96             | 18.32               | 18.69               | 12.54                | 16.28                 | 4.83                 | 11.44 |
| Per pound  | -0.589             | -0.046            | 0.319               | 0.252               | 0.173                | 0.180                 | 0.041                | 0.137 |

Compiled from previous tables.

Net income of beekeeping operations, by firm type and region, 1988

| Region and unit  | Region    |           |           |         |        | Total |
|------------------|-----------|-----------|-----------|---------|--------|-------|
|                  | Northwest | Northeast | Southeast | Midwest | West   |       |
|                  | Dollars   |           |           |         |        |       |
| <b>Full-time</b> |           |           |           |         |        |       |
| Per colony       | 5.77      | -5.55     | 5.41      | 18.43   | 25.04  | 11.11 |
| Per pound        | 0.067     | -0.073    | 0.079     | 0.177   | 0.355  | 0.133 |
| <b>Part-time</b> |           |           |           |         |        |       |
| Per colony       | 9.81      | 7.52      | 16.97     | 19.29   | 23.62  | 15.95 |
| Per pound        | 0.139     | 0.121     | 0.268     | 0.213   | 0.311  | 0.211 |
| <b>Hobby</b>     |           |           |           |         |        |       |
| Per colony       | 1.60      | 23.99     | -6.06     | 23.50   | -45.73 | 4.51  |
| Per pound        | 0.028     | 0.418     | -0.100    | 0.250   | -0.297 | 0.060 |

Compiled from previous tables.

Net income per colony, by firm type, 1988

| Firm type | Net income per colony |              |                |                |                |                |                  |                | Total |
|-----------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|           | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more |       |
|           | Number                |              |                |                |                |                |                  |                |       |
| Full-time | 61                    | 27           | 50             | 53             | 16             | 9              | 6                | 2              | 224   |
| Part-time | 62                    | 24           | 45             | 46             | 15             | 9              | 7                | 2              | 210   |
| Hobby     | 24                    | 8            | 6              | 13             | 2              | 2              | 1                | 2              | 58    |
| All       | 147                   | 59           | 101            | 112            | 33             | 20             | 14               | 6              | 492   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

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Net income per colony, by firm type, 1988

| Firm type | Net income per colony |              |                |                |                |                |                  |                | Total |
|-----------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|           | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more |       |
|           | Percent               |              |                |                |                |                |                  |                |       |
| Full-time | 27                    | 12           | 22             | 24             | 7              | 4              | 3                | 1              | 100   |
| Part-time | 30                    | 11           | 21             | 22             | 7              | 4              | 3                | 1              | 100   |
| Hobby     | 41                    | 14           | 10             | 22             | 3              | 3              | 2                | 3              | 100   |
| All       | 30                    | 12           | 21             | 23             | 7              | 4              | 3                | 1              | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Net income per pound, by firm type, 1988

| Firm type | Net income per pound  |              |              |              |              |              |              |              | Total |
|-----------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|           | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|           | Number                |              |              |              |              |              |              |              |       |
| Full-time | 61                    | 19           | 39           | 55           | 25           | 10           | 9            | 6            | 224   |
| Part-time | 62                    | 14           | 22           | 65           | 18           | 15           | 2            | 12           | 210   |
| Hobby     | 24                    | 5            | 4            | 12           | 5            | 4            | 2            | 2            | 58    |
| All       | 147                   | 38           | 65           | 132          | 48           | 29           | 13           | 20           | 492   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Net income per pound, by firm type, 1988

| Firm type | Net income per pound  |              |              |              |              |              |              |              | Total |
|-----------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|           | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|           | Percent               |              |              |              |              |              |              |              |       |
| Full-time | 27                    | 8            | 17           | 25           | 11           | 4            | 4            | 3            | 100   |
| Part-time | 30                    | 7            | 10           | 31           | 9            | 7            | 1            | 6            | 100   |
| Hobby     | 41                    | 9            | 7            | 21           | 9            | 7            | 3            | 3            | 100   |
| All       | 30                    | 8            | 13           | 27           | 10           | 6            | 3            | 4            | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Net income less government payments per colony, by firm type, 1988

| Firm type | Net income per colony |              |                |                |                |                |                  |                |       |
|-----------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|           | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more | Total |
|           | Number                |              |                |                |                |                |                  |                |       |
| Full-time | 97                    | 29           | 39             | 43             | 9              | 6              | 1                | 0              | 224   |
| Part-time | 106                   | 23           | 33             | 29             | 11             | 6              | 1                | 1              | 210   |
| Hobby     | 33                    | 7            | 6              | 9              | 1              | 0              | 0                | 2              | 58    |
| All       | 236                   | 59           | 78             | 81             | 21             | 12             | 2                | 3              | 492   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

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Net income less government payments per colony, by firm type, 1988

| Firm type | Net income per colony |              |                |                |                |                |                  |                |       |
|-----------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|           | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more | Total |
|           | Percent               |              |                |                |                |                |                  |                |       |
| Full-time | 43                    | 13           | 17             | 19             | 4              | 3              | 0                | 0              | 100   |
| Part-time | 50                    | 11           | 16             | 14             | 5              | 3              | 0                | 0              | 100   |
| Hobby     | 57                    | 12           | 10             | 16             | 2              | 0              | 0                | 3              | 100   |
| All       | 48                    | 12           | 16             | 16             | 4              | 2              | 0                | 1              | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Net income less government payments per pound, by firm type, 1988

| Firm type | Net income per pound  |              |              |              |              |              |              |              | Total |
|-----------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|           | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|           | Number                |              |              |              |              |              |              |              |       |
| Full-time | 97                    | 24           | 25           | 49           | 15           | 6            | 6            | 2            | 224   |
| Part-time | 106                   | 11           | 26           | 42           | 11           | 5            | 2            | 7            | 210   |
| Hobby     | 33                    | 5            | 4            | 7            | 6            | 0            | 1            | 2            | 58    |
| All       | 236                   | 40           | 55           | 98           | 32           | 11           | 9            | 11           | 492   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Net income less government payments per pound, by firm type, 1988

| Firm type | Net income per pound  |              |              |              |              |              |              |              | Total |
|-----------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|           | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|           | Percent               |              |              |              |              |              |              |              |       |
| Full-time | 43                    | 11           | 11           | 22           | 7            | 3            | 3            | 1            | 100   |
| Part-time | 50                    | 5            | 12           | 20           | 5            | 2            | 1            | 3            | 100   |
| Hobby     | 57                    | 9            | 7            | 12           | 10           | 0            | 2            | 3            | 100   |
| All       | 48                    | 8            | 11           | 20           | 7            | 2            | 2            | 2            | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Net income per colony by receipt of pollination fees, by firm type, 1988

| Firm type       | Net income per colony |              |                |                |                |                |                  |                | Total |
|-----------------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|                 | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more |       |
|                 | Number                |              |                |                |                |                |                  |                |       |
| Received        |                       |              |                |                |                |                |                  |                |       |
| Full-time       | 16                    | 10           | 23             | 17             | 8              | 4              | 3                | 0              | 81    |
| Part-time       | 10                    | 5            | 10             | 13             | 2              | 2              | 0                | 0              | 42    |
| Hobby           |                       |              |                |                |                |                |                  |                |       |
| All             | 26                    | 15           | 33             | 30             | 10             | 6              | 3                | 0              | 123   |
| Did not receive |                       |              |                |                |                |                |                  |                |       |
| Full-time       | 45                    | 17           | 27             | 36             | 8              | 5              | 3                | 2              | 143   |
| Part-time       | 52                    | 19           | 35             | 33             | 13             | 7              | 7                | 2              | 168   |
| Hobby           | 24                    | 8            | 6              | 13             | 2              | 2              | 1                | 2              | 58    |
| All             | 121                   | 44           | 68             | 82             | 23             | 14             | 11               | 6              | 369   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 123 (Full-time = 81, Part-time = 42, Hobby = 0)

Did not receive = 369 (Full-time = 143, Part-time = 168, Hobby = 58)

Net income per colony by receipt of pollination fees, by firm type, 1988

| Firm type       | Net income per colony |              |                |                |                |                |                  |                | Total |
|-----------------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|                 | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more |       |
|                 | Percent               |              |                |                |                |                |                  |                |       |
| Received        |                       |              |                |                |                |                |                  |                |       |
| Full-time       | 20                    | 12           | 28             | 21             | 10             | 5              | 4                | 0              | 100   |
| Part-time       | 24                    | 12           | 24             | 31             | 5              | 5              | 0                | 0              | 100   |
| Hobby           |                       |              |                |                |                |                |                  |                |       |
| All             | 21                    | 12           | 27             | 24             | 8              | 5              | 2                | 0              | 100   |
| Did not receive |                       |              |                |                |                |                |                  |                |       |
| Full-time       | 31                    | 12           | 19             | 25             | 6              | 3              | 2                | 1              | 100   |
| Part-time       | 31                    | 11           | 21             | 20             | 8              | 4              | 4                | 1              | 100   |
| Hobby           | 41                    | 14           | 10             | 22             | 3              | 3              | 2                | 3              | 100   |
| All             | 33                    | 12           | 18             | 22             | 6              | 4              | 3                | 2              | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 123 (Full-time = 81, Part-time = 42, Hobby = 0)

Did not receive = 369 (Full-time = 143, Part-time = 168, Hobby = 58)

Net income per pound by receipt of pollination fees, by firm type, 1988

| Firm type              | Net income per pound  |              |              |              |              |              |              |              | Total |
|------------------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|                        | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|                        | Number                |              |              |              |              |              |              |              |       |
| <b>Received</b>        |                       |              |              |              |              |              |              |              |       |
| Full-time              | 16                    | 6            | 10           | 24           | 10           | 6            | 6            | 3            | 81    |
| Part-time              | 10                    | 2            | 6            | 11           | 1            | 5            | 0            | 7            | 42    |
| Hobby                  |                       |              |              |              |              |              |              |              |       |
| All                    | 26                    | 8            | 16           | 35           | 11           | 11           | 6            | 10           | 123   |
| <b>Did not receive</b> |                       |              |              |              |              |              |              |              |       |
| Full-time              | 45                    | 13           | 28           | 32           | 15           | 4            | 3            | 3            | 143   |
| Part-time              | 52                    | 12           | 17           | 53           | 17           | 10           | 2            | 5            | 168   |
| Hobby                  | 24                    | 5            | 4            | 12           | 5            | 4            | 2            | 2            | 58    |
| All                    | 121                   | 30           | 49           | 97           | 37           | 18           | 7            | 10           | 369   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 123 (Full-time = 81, Part-time = 42, Hobby = 0)

Did not receive = 369 (Full-time = 143, Part-time = 168, Hobby = 58)

Net income per pound by receipt of pollination fees, by firm type, 1988

| Firm type       | Net income per pound  |              |              |              |              |              |              |              | Total |
|-----------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|                 | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|                 | Percent               |              |              |              |              |              |              |              |       |
| Received        |                       |              |              |              |              |              |              |              |       |
| Full-time       | 20                    | 7            | 12           | 30           | 12           | 7            | 7            | 4            | 100   |
| Part-time       | 24                    | 5            | 14           | 26           | 2            | 12           | 0            | 17           | 100   |
| Hobby           |                       |              |              |              |              |              |              |              |       |
| All             | 21                    | 7            | 13           | 28           | 9            | 9            | 5            | 8            | 100   |
| Did not receive |                       |              |              |              |              |              |              |              |       |
| Full-time       | 31                    | 9            | 20           | 22           | 10           | 3            | 2            | 2            | 100   |
| Part-time       | 31                    | 7            | 10           | 32           | 10           | 6            | 1            | 3            | 100   |
| Hobby           | 41                    | 9            | 7            | 21           | 9            | 7            | 3            | 3            | 100   |
| All             | 33                    | 8            | 13           | 26           | 10           | 5            | 2            | 3            | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 123 (Full-time = 81, Part-time = 42, Hobby = 0)

Did not receive = 369 (Full-time = 143, Part-time = 168, Hobby = 58)

Net income per colony by receipt of government payments, by firm type, 1988

| Firm type              | Net income per colony |              |                |                |                |                |                  |                | Total |
|------------------------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|                        | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more |       |
|                        | Number                |              |                |                |                |                |                  |                |       |
| <b>Received</b>        |                       |              |                |                |                |                |                  |                |       |
| Full-time              | 23                    | 13           | 27             | 28             | 13             | 7              | 5                | 2              | 118   |
| Part-time              | 23                    | 15           | 25             | 33             | 10             | 5              | 6                | 1              | 118   |
| Hobby                  | 10                    | 4            | 6              | 5              | 1              | 2              | 1                | 1              | 30    |
| All                    | 56                    | 32           | 58             | 66             | 24             | 14             | 12               | 4              | 266   |
| <b>Did not receive</b> |                       |              |                |                |                |                |                  |                |       |
| Full-time              | 38                    | 14           | 23             | 25             | 3              | 2              | 1                | 0              | 106   |
| Part-time              | 39                    | 9            | 20             | 13             | 5              | 4              | 1                | 1              | 92    |
| Hobby                  | 14                    | 4            | 0              | 8              | 1              | 0              | 0                | 1              | 28    |
| All                    | 91                    | 27           | 43             | 46             | 9              | 6              | 2                | 2              | 226   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 266 (Full-time = 118, Part-time = 118, Hobby = 30)

Did not receive = 226 (Full-time = 106, Part-time = 92, Hobby = 28)

Net income per colony by receipt of government payments, by firm type, 1988

| Firm type              | Net income per colony |              |                |                |                |                |                  |                | Total |
|------------------------|-----------------------|--------------|----------------|----------------|----------------|----------------|------------------|----------------|-------|
|                        | Costs exceeded income | 0.00 to 9.99 | 10.00 to 24.99 | 25.00 to 49.99 | 50.00 to 74.99 | 75.00 to 99.99 | 100.00 to 149.99 | 150.00 or more |       |
|                        | Percent               |              |                |                |                |                |                  |                |       |
| <b>Received</b>        |                       |              |                |                |                |                |                  |                |       |
| Full-time              | 19                    | 11           | 23             | 24             | 11             | 6              | 4                | 2              | 100   |
| Part-time              | 19                    | 13           | 21             | 28             | 8              | 4              | 5                | 1              | 100   |
| Hobby                  | 33                    | 13           | 20             | 17             | 3              | 7              | 3                | 3              | 100   |
| All                    | 21                    | 12           | 22             | 25             | 9              | 5              | 5                | 2              | 100   |
| <b>Did not receive</b> |                       |              |                |                |                |                |                  |                |       |
| Full-time              | 36                    | 13           | 22             | 24             | 3              | 2              | 1                | 0              | 100   |
| Part-time              | 42                    | 10           | 22             | 14             | 5              | 4              | 1                | 1              | 100   |
| Hobby                  | 50                    | 14           | 0              | 29             | 4              | 0              | 0                | 4              | 100   |
| All                    | 40                    | 12           | 19             | 20             | 4              | 3              | 1                | 1              | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 266 (Full-time = 118, Part-time = 118, Hobby = 30)

Did not receive = 226 (Full-time = 106, Part-time = 92, Hobby = 28)

Net income per pound by receipt of government payments, by firm type, 1988

| Firm type       | Net income per pound  |              |              |              |              |              |              |              | Total |
|-----------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|                 | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|                 | Number                |              |              |              |              |              |              |              |       |
| Received        |                       |              |              |              |              |              |              |              |       |
| Full-time       | 23                    | 8            | 23           | 29           | 17           | 8            | 4            | 6            | 118   |
| Part-time       | 23                    | 9            | 12           | 41           | 12           | 12           | 2            | 7            | 118   |
| Hobby           | 10                    | 3            | 2            | 7            | 2            | 4            | 1            | 1            | 30    |
| All             | 56                    | 20           | 37           | 77           | 31           | 24           | 7            | 14           | 266   |
| Did not receive |                       |              |              |              |              |              |              |              |       |
| Full-time       | 38                    | 11           | 16           | 26           | 8            | 2            | 5            | 0            | 106   |
| Part-time       | 39                    | 5            | 11           | 23           | 6            | 3            | 0            | 5            | 92    |
| Hobby           | 14                    | 2            | 2            | 5            | 3            | 0            | 1            | 1            | 28    |
| All             | 91                    | 18           | 29           | 54           | 17           | 5            | 6            | 6            | 226   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 266 (Full-time = 118, Part-time = 118, Hobby = 30)

Did not receive = 226 (Full-time = 106, Part-time = 92, Hobby = 28)

Net income per pound by receipt of government payments, by firm type, 1988

| Firm type       | Net income per pound  |              |              |              |              |              |              |              | Total |
|-----------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
|                 | Costs exceeded income | 0.00 to 0.09 | 0.10 to 0.24 | 0.25 to 0.49 | 0.50 to 0.74 | 0.75 to 0.99 | 1.00 to 1.24 | 1.25 or more |       |
|                 | Percent               |              |              |              |              |              |              |              |       |
| Received        |                       |              |              |              |              |              |              |              |       |
| Full-time       | 19                    | 7            | 19           | 25           | 14           | 7            | 3            | 5            | 100   |
| Part-time       | 19                    | 8            | 10           | 35           | 10           | 10           | 2            | 6            | 100   |
| Hobby           | 33                    | 10           | 7            | 23           | 7            | 13           | 3            | 3            | 100   |
| All             | 21                    | 8            | 14           | 29           | 12           | 9            | 3            | 5            | 100   |
| Did not receive |                       |              |              |              |              |              |              |              |       |
| Full-time       | 36                    | 10           | 15           | 25           | 8            | 2            | 5            | 0            | 100   |
| Part-time       | 42                    | 5            | 12           | 25           | 7            | 3            | 0            | 5            | 100   |
| Hobby           | 50                    | 7            | 7            | 18           | 11           | 0            | 4            | 4            | 100   |
| All             | 40                    | 8            | 13           | 24           | 8            | 2            | 3            | 3            | 100   |

Sample Size = 492 (Full-time = 224, Part-time = 210, Hobby = 58)

Received = 266 (Full-time = 118, Part-time = 118, Hobby = 30)

Did not receive = 226 (Full-time = 106, Part-time = 92, Hobby = 28)

**PRODUCERS - CORRELATION STATISTICS**

Correlation matrix for selected structural characteristics, all firms, 1985-88 average

| Characteristic           | Colonies                | Honey production per colony | Miles transported per colony | Operator age | Operator education | Gross expenses | Labor expenses | Gross receipts | Pollination receipts | Government payments |
|--------------------------|-------------------------|-----------------------------|------------------------------|--------------|--------------------|----------------|----------------|----------------|----------------------|---------------------|
|                          | Correlation coefficient |                             |                              |              |                    |                |                |                |                      |                     |
| Colonies                 | 1.0000                  |                             |                              |              |                    |                |                |                |                      |                     |
| Honey production/colony  | 0.0831                  | 1.0000                      |                              |              |                    |                |                |                |                      |                     |
| Miles transported/colony | 0.0164                  | 0.1790                      | 1.0000                       |              |                    |                |                |                |                      |                     |
| Operator age             | 0.0409                  | -0.0862                     | -0.0005                      | 1.0000       |                    |                |                |                |                      |                     |
| Operator education       | 0.0317                  | 0.0767                      | -0.0582                      | -0.3093      | 1.0000             |                |                |                |                      |                     |
| Gross expenses           | 0.7786                  | 0.2594                      | 0.0675                       | -0.0129      | 0.0361             | 1.0000         |                |                |                      |                     |
| Labor expenses           | 0.7956                  | 0.2016                      | 0.0194                       | 0.0284       | 0.0337             | 0.9571         | 1.0000         |                |                      |                     |
| Gross receipts           | 0.7800                  | 0.3250                      | 0.0855                       | -0.0004      | 0.0209             | 0.8789         | 0.8519         | 1.0000         |                      |                     |
| Pollination receipts     | 0.3148                  | -0.0547                     | 0.0636                       | 0.0094       | 0.0424             | 0.2653         | 0.2110         | 0.3493         | 1.0000               |                     |
| Government payments      | 0.7176                  | 0.1915                      | 0.0231                       | -0.0169      | 0.0400             | 0.7670         | 0.8435         | 0.7762         | 0.1899               | 1.0000              |

Sample Size = 503

Correlation matrix for selected structural characteristics, full-time firms, 1985-88 average

| Characteristic           | Colonies                | Honey production per colony | Miles transported per colony | Operator age | Operator education | Gross expenses | Labor expenses | Gross receipts | Pollination receipts | Government payments |
|--------------------------|-------------------------|-----------------------------|------------------------------|--------------|--------------------|----------------|----------------|----------------|----------------------|---------------------|
|                          | Correlation coefficient |                             |                              |              |                    |                |                |                |                      |                     |
| Colonies                 | 1.0000                  |                             |                              |              |                    |                |                |                |                      |                     |
| Honey production/colony  | 0.0478                  | 1.0000                      |                              |              |                    |                |                |                |                      |                     |
| Miles transported/colony | -0.0577                 | 0.2067                      | 1.0000                       |              |                    |                |                |                |                      |                     |
| Operator age             | 0.1031                  | -0.0319                     | 0.0621                       | 1.0000       |                    |                |                |                |                      |                     |
| Operator education       | 0.0489                  | 0.0344                      | -0.0557                      | -0.2708      | 1.0000             |                |                |                |                      |                     |
| Gross expenses           | 0.7490                  | 0.2827                      | 0.0353                       | 0.0127       | 0.0523             | 1.0000         |                |                |                      |                     |
| Labor expenses           | 0.7830                  | 0.2185                      | -0.0180                      | 0.0648       | 0.0476             | 0.9565         | 1.0000         |                |                      |                     |
| Gross receipts           | 0.7475                  | 0.3652                      | 0.0551                       | 0.0299       | 0.0253             | 0.8647         | 0.8412         | 1.0000         |                      |                     |
| Pollination receipts     | 0.2393                  | -0.1019                     | 0.0390                       | 0.0380       | 0.0513             | 0.1999         | 0.1547         | 0.2894         | 1.0000               |                     |
| Government payments      | 0.7110                  | 0.2087                      | -0.0044                      | -0.0047      | 0.0569             | 0.7583         | 0.8369         | 0.7687         | 0.1464               | 1.0000              |

Sample Size = 262

Correlation matrix for selected structural characteristics, part-time, 1985-88 average

| Characteristic           | Colonies                | Honey production per colony | Miles transported per colony | Operator age | Operator education | Gross expenses | Labor expenses | Gross receipts | Pollination receipts | Government payments |
|--------------------------|-------------------------|-----------------------------|------------------------------|--------------|--------------------|----------------|----------------|----------------|----------------------|---------------------|
|                          | Correlation coefficient |                             |                              |              |                    |                |                |                |                      |                     |
| Colonies                 | 1.0000                  |                             |                              |              |                    |                |                |                |                      |                     |
| Honey production/colony  | 0.0969                  | 1.0000                      |                              |              |                    |                |                |                |                      |                     |
| Miles transported/colony | 0.0264                  | 0.0957                      | 1.0000                       |              |                    |                |                |                |                      |                     |
| Operator age             | -0.0273                 | -0.1401                     | -0.0232                      | 1.0000       |                    |                |                |                |                      |                     |
| Operator education       | 0.0390                  | 0.0768                      | -0.0650                      | -0.3153      | 1.0000             |                |                |                |                      |                     |
| Gross expenses           | 0.4085                  | 0.2516                      | 0.0266                       | -0.0996      | 0.0509             | 1.0000         |                |                |                      |                     |
| Labor expenses           | 0.1579                  | 0.1219                      | -0.0768                      | -0.0366      | 0.1193             | 0.5587         | 1.0000         |                |                      |                     |
| Gross receipts           | 0.4936                  | 0.4021                      | 0.1307                       | -0.0365      | 0.1488             | 0.6396         | 0.5075         | 1.0000         |                      |                     |
| Pollination receipts     | 0.1853                  | -0.1111                     | 0.0889                       | -0.0513      | 0.1990             | 0.3125         | 0.6498         | 0.4436         | 1.0000               |                     |
| Government payments      | 0.3195                  | 0.2657                      | -0.0081                      | -0.1767      | 0.0778             | 0.1017         | 0.0979         | 0.2777         | 0.1675               | 1.0000              |

Sample Size = 196

Correlation matrix for selected structural characteristics, hobby firms, 1985-88 average

| Characteristic           | Colonies                | Honey production per colony | Miles transported per colony | Operator age | Operator education | Gross expenses | Labor expenses | Gross receipts | Pollination receipts | Government payments |
|--------------------------|-------------------------|-----------------------------|------------------------------|--------------|--------------------|----------------|----------------|----------------|----------------------|---------------------|
|                          | Correlation coefficient |                             |                              |              |                    |                |                |                |                      |                     |
| Colonies                 | 1.0000                  |                             |                              |              |                    |                |                |                |                      |                     |
| Honey production/colony  | 0.0465                  | 1.0000                      |                              |              |                    |                |                |                |                      |                     |
| Miles transported/colony | 0.2089                  | 0.2453                      | 1.0000                       |              |                    |                |                |                |                      |                     |
| Operator age             | 0.0118                  | -0.1959                     | -0.0991                      | 1.0000       |                    |                |                |                |                      |                     |
| Operator education       | -0.0235                 | 0.3943                      | -0.1114                      | -0.4444      | 1.0000             |                |                |                |                      |                     |
| Gross expenses           | 0.2852                  | 0.0725                      | 0.0821                       | 0.0327       | -0.0246            | 1.0000         |                |                |                      |                     |
| Labor expenses           | -0.0149                 | 0.0403                      | 0.0650                       | -0.1463      | 0.0621             | 0.1197         | 1.0000         |                |                      |                     |
| Gross receipts           | 0.4025                  | 0.5731                      | 0.2201                       | -0.0535      | 0.2372             | 0.3707         | 0.0091         | 1.0000         |                      |                     |
| Pollination receipts     | -0.2209                 | -0.1669                     | -0.0436                      | -0.2270      | -0.0771            | -0.0904        | -0.0301        | -0.1323        | 1.0000               |                     |
| Government payments      | 0.2694                  | 0.1293                      | -0.0337                      | -0.0047      | 0.1708             | -0.0069        | -0.0301        | 0.1445         | -0.0227              | 1.0000              |

Sample Size = 45

**PACKERS**

**PACKERS - GENERAL CHARACTERISTICS**

**Packers, by type firm**

|       | Type firm |  |  | Total |
|-------|-----------|--|--|-------|
|       | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
| Total | 23        | 59                                       | 30   | 112   |

Sample Size = 112

Packers, by sex and type firm

| Sex    | Type firm |  |  | Total |
|--------|-----------|--|--|-------|
|        | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
| Female | 1         | 5  | 4  | 10    |
| Male   | 20        | 51                                       | 25   | 96    |
| Total  | 21        | 56                                       | 29   | 106   |

Sample Size = 106

**Packers, by age and type firm**

| Age              | Type firm |  |  | Total |
|------------------|-----------|--|--|-------|
|                  | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                  | Number    |  |  |       |
| Less than 35     | 2         | 3  | 1  | 6     |
| 35-44            | 7         | 19                                       | 5  | 31    |
| 45-54            | 8         | 12                                       | 12   | 32    |
| 55-64            | 3         | 13                                       | 8  | 24    |
| 65 years or more | 1         | 6  | 3  | 10    |
| Total            | 21        | 53                                       | 29   | 103   |

Sample Size = 103

Packers, by occupation and type firm

| Profession   | Type firm |  |  | Total      |
|--------------|-----------|--|--|------------|
|              | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |            |
|              | Number    |  |  |            |
| Clerical     | 0         | 0  | 1  | 1          |
| Professional | 1         | 8  | 3  | 12         |
| Managerial   | 5         | 2  | 0  | 7          |
| Technician   | 0         | 3  | 4  | 7          |
| Labor        | 0         | 1  | 6  | 7          |
| Own Business | 12        | 6  | 5  | 23         |
| Sales        | 0         | 1  | 1  | 2          |
| Beekeeping   | 1         | 32                                       | 1  | 34         |
| Farmer       | 0         | 0  | 1  | 1          |
| Retired      | 0         | 2  | 4  | 6          |
| Other        | 2         | 2  | 3  | 7          |
| <b>Total</b> | <b>21</b> | <b>57</b>                                | <b>29</b>                                    | <b>107</b> |

Sample Size = 107

**Packers, by education and type firm**

| Education        | Type firm |  |  | Total      |
|------------------|-----------|--|--|------------|
|                  | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |            |
|                  | Number    |  |  |            |
| 1 to 8 years     | 0         | 3  | 1  | 4          |
| 9 to 11 years    | 0         | 2  | 2  | 4          |
| 12 years         | 7         | 17                                       | 9  | 33         |
| 13 to 15 years   | 6         | 14                                       | 6  | 26         |
| 16 years or more | 8         | 21                                       | 11   | 40         |
| <b>Total</b>     | <b>21</b> | <b>57</b>                                | <b>29</b>                                    | <b>107</b> |

Sample Size = 107

Packers, by residence and type firm

| Residence       | Type firm |  |  | Total |
|-----------------|-----------|--|--|-------|
|                 | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                 | Number    |  |  |       |
| Farm            | 1         | 20                                       | 13   | 34    |
| Rural           | 4         | 14                                       | 6  | 24    |
| Community       |           |  |  |       |
| Less than 2,500 | 2         | 9  | 4  | 15    |
| 2,500-24,999    | 5         | 7  | 4  | 16    |
| 25,000-49,999   | 0         | 4  | 0  | 4     |
| 50,000-99,000   | 5         | 0  | 1  | 6     |
| 100,000 or more | 4         | 2  | 1  | 7     |
| Total           | 21        | 56                                       | 29   | 106   |

Sample Size = 106

Packers, by average size of household and type firm

| Age of household members | Type firm        |                 |  |                 |  |                 | Total            |                 |
|--------------------------|------------------|-----------------|--|-----------------|--|-----------------|------------------|-----------------|
|                          | Full time        |                 | Part time<br>Other time on<br>beekeeping |                 | Part time<br>Other time on<br>non-beekeeping |                 |                  |                 |
|                          | Number reporting | Number reported | Number reporting                         | Number reported | Number reporting                             | Number reported | Number reporting | Number reported |
|                          | Number           |                 |  |                 |  |                 |                  |                 |
| Under 6 years old        | 4                | 8               | 10                                       | 14              | 3  | 4               | 17               | 26              |
| 6 to 12 years old        | 4                | 7               | 11                                       | 18              | 4  | 9               | 19               | 34              |
| 13 to 18 years old       | 5                | 6               | 11                                       | 17              | 5  | 6               | 21               | 29              |
| 19 or older              | 19               | 42              | 51                                       | 108             | 27   | 59              | 97               | 209             |
| Total                    | 19               | 63              | 51                                       | 157             | 28   | 78              | 98               | 298             |

Sample Size = 98

Packers, by region and type firm

| Residence | Type firm |  |  | Total |
|-----------|-----------|--|--|-------|
|           | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|           | Number    |  |  |       |
| Northeast | 3         | 4  | 4  | 11    |
| Southeast | 5         | 11                                       | 5  | 21    |
| Midwest   | 7         | 26                                       | 15   | 48    |
| West      | 6         | 12                                       | 0  | 18    |
| Northwest | 1         | 6  | 6  | 13    |
| Total     | 22        | 59                                       | 30   | 111   |

Sample Size = 111

NE: CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT  
 SE: AL, AR, GA, FL, LA, MO, MS, NC, SC, TN, VA, WV  
 MW: IA, IL, IN, KS, KY, MI, MN, OH, WI, OK, TX  
 W: AZ, HI, CO, CA, NM, NV, UT, WY  
 NW: AK, ID, MT, ND, NE, OR, SD, WA

Packers, by state and type firm

| Residence | Type firm |  |  | Total |
|-----------|-----------|--|--|-------|
|           | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|           | Number    |  |  |       |
| AK        |           |  |  | 0     |
| AL        | 1         | 2  |  | 3     |
| AR        | 1         |  |  | 1     |
| AZ        | 1         | 3  |  | 4     |
| CA        | 3         | 3  |  | 6     |
| CO        | 2         | 2  |  | 4     |
| CT        |           |  |  | 0     |
| DE        |           |  |  | 0     |
| FL        | 1         | 1  |  | 2     |
| GA        | 1         | 1  | 1  | 3     |
| HI        |           |  |  | 0     |
| IA        |           | 5  | 3  | 8     |
| ID        |           | 2  | 1  | 3     |
| IL        | 1         | 1  | 1  | 3     |
| IN        |           | 1  | 1  | 2     |
| KS        | 1         |  |  | 1     |
| KY        |           | 1  |  | 1     |
| LA        |           |  |  | 0     |
| MA        |           |  |  | 0     |
| MD        |           |  |  | 0     |
| ME        |           | 1  |  | 1     |
| MI        |           | 2  | 3  | 5     |
| MN        | 1         | 7  | 2  | 10    |
| MO        | 1         | 1  | 2  | 4     |
| MS        |           | 1  |  | 1     |
| MT        |           | 1  |  | 1     |
| NC        |           | 1  |  | 1     |

Packers, by state and type firm (continued)

| Residence    | Type firm |  |  | Total      |
|--------------|-----------|--|--|------------|
|              | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |            |
|              | Number    |  |  |            |
| ND           |           |  |  | 0          |
| NE           |           |  | 1  | 1          |
| NH           | 1         |  |  | 1          |
| NJ           |           |  | 1  | 1          |
| NM           |           | 2  |  | 2          |
| NV           |           |  |  | 0          |
| NY           |           | 2  |  | 2          |
| OH           | 1         | 2  | 1  | 4          |
| OK           |           |  |  | 0          |
| OR           |           | 2  | 2  | 4          |
| PA           | 1         |  | 2  | 3          |
| RI           |           |  |  | 0          |
| SC           |           |  |  | 0          |
| SD           |           |  |  | 0          |
| TN           |           | 1  | 1  | 2          |
| TX           | 1         | 4  | 1  | 6          |
| UT           |           |  |  | 0          |
| VA           |           | 2  |  | 2          |
| VT           | 1         | 1  | 1  | 3          |
| WA           | 1         | 1  | 2  | 4          |
| WI           | 2         | 3  | 3  | 8          |
| WV           |           | 1  | 1  | 2          |
| WY           |           | 2  |  | 2          |
| <b>Total</b> | <b>22</b> | <b>59</b>                                | <b>30</b>                                    | <b>111</b> |

Packer's subcontracted honey, by firm type, 1985-88

|                                       | Type firm |  |  | Total      |
|---------------------------------------|-----------|--|--|------------|
|                                       | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |            |
| <b>Volume Packed<br/>(pounds)</b>     |           |  |  |            |
| Domestic                              | 1985      | 29,614,230                               |  | 29,614,230 |
|                                       | 1986      | 33,959,974                               |  | 33,959,974 |
|                                       | 1987      | 36,485,368                               |  | 36,485,368 |
|                                       | 1988      | 19,510,566                               |  | 19,510,566 |
| Foreign                               | 1985      | 7,715,000                                |  | 7,715,000  |
|                                       | 1986      | 6,483,000                                |  | 6,483,000  |
|                                       | 1987      | 450,000                                  |  | 450,000    |
|                                       | 1988      | 450,000                                  |  | 450,000    |
| <b>Average Cost<br/>(\$/pound)</b>    |           |  |  |            |
| Domestic                              | 1985      | 0.40                                     |  | 0.40       |
|                                       | 1986      | 0.40                                     |  | 0.40       |
|                                       | 1987      | 0.38                                     |  | 0.38       |
|                                       | 1988      | 0.39                                     |  | 0.39       |
| Foreign                               | 1985      | 0.44                                     |  | 0.44       |
|                                       | 1986      | 0.44                                     |  | 0.44       |
|                                       | 1987      | 0.40                                     |  | 0.40       |
|                                       | 1988      | 0.40                                     |  | 0.40       |
| <b>Average Revenue<br/>(\$/pound)</b> |           |  |  |            |
| Domestic                              | 1985      | 0.12                                     |  | 0.12       |
|                                       | 1986      | 0.11                                     |  | 0.11       |
|                                       | 1987      | 0.11                                     |  | 0.11       |
|                                       | 1988      | 0.12                                     |  | 0.12       |
| Foreign                               | 1985      | 0.67                                     |  | 0.67       |
|                                       | 1986      | 0.67                                     |  | 0.67       |
|                                       | 1987      | 0.67                                     |  | 0.67       |
|                                       | 1988      | 0.67                                     |  | 0.67       |

1985 Sample Size = 5

1986 Sample Size = 6

1987 Sample Size = 6

1988 Sample Size = 6

Packer's honey excluding subcontracted, by firm type, 1985-88

|                                   |      | Type firm  |           | Total      |
|-----------------------------------|------|------------|-----------|------------|
|                                   |      | Full time  | Part time |            |
| <b>Volume Packed (pounds)</b>     |      |            |           |            |
| Own                               | 1985 | 94,488     | 804,936   | 899,424    |
|                                   | 1986 | 127,430    | 829,774   | 957,204    |
|                                   | 1987 | 1,122,965  | 1,115,206 | 2,238,171  |
|                                   | 1988 | 133,030    | 1,372,027 | 1,505,057  |
| Domestic                          | 1985 | 18,492,607 | 164,075   | 18,656,682 |
|                                   | 1986 | 20,680,625 | 247,013   | 20,927,638 |
|                                   | 1987 | 23,426,008 | 756,463   | 24,182,471 |
| Foreign                           | 1985 | 26,190,444 | 1,055,998 | 27,246,442 |
|                                   | 1986 | 5,380,281  | 41,580    | 5,421,861  |
|                                   | 1987 | 6,712,684  | 46,319    | 6,759,003  |
|                                   | 1988 | 4,710,982  |           | 4,710,982  |
|                                   | 1988 | 3,978,465  |           | 3,978,465  |
| <b>Average Cost (\$/pound)</b>    |      |            |           |            |
| Domestic                          | 1985 | 0.40       | 0.51      | 0.40       |
|                                   | 1986 | 0.44       | 0.99      | 0.44       |
|                                   | 1987 | 0.42       | 0.42      | 0.42       |
|                                   | 1988 | 0.41       | 0.41      | 0.41       |
| Foreign                           | 1985 | 0.42       | 0.47      | 0.42       |
|                                   | 1986 | 0.43       | 0.50      | 0.43       |
|                                   | 1987 | 0.44       |           | 0.44       |
|                                   | 1988 | 0.44       |           | 0.44       |
| <b>Average Revenue (\$/pound)</b> |      |            |           |            |
| Own                               | 1985 | 2.89       | 0.88      | 1.18       |
|                                   | 1986 | 1.14       | 0.88      | 0.93       |
|                                   | 1987 | 0.45       | 0.93      | 0.61       |
|                                   | 1988 | 1.28       | 0.89      | 0.95       |
| Domestic                          | 1985 | 0.61       | 1.52      | 0.62       |
|                                   | 1986 | 0.67       | 1.36      | 0.68       |
|                                   | 1987 | 0.69       | 1.22      | 0.69       |
|                                   | 1988 | 0.68       | 0.99      | 0.68       |
| Foreign                           | 1985 | 1.05       | 1.68      | 1.06       |
|                                   | 1986 | 0.95       | 1.39      | 0.96       |
|                                   | 1987 | 1.01       |           | 1.01       |
|                                   | 1988 | 1.21       |           | 1.21       |

1985 Sample Size = 61  
1986 Sample Size = 65

1987 Sample Size = 74  
1988 Sample Size = 77

Markets used to dispose of packed honey, 1985-88 average

| Market           | Type firm |  |  | Total |
|------------------|-----------|--|--|-------|
|                  | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                  | Percent   |  |  |       |
| Roadside         | 0.1       | 3.5                                      | 7.7  | 0.2   |
| Retail stores    | 36.7      | 44.8                                     | 63.4   | 37.0  |
| Institutions     | 8.4       | 2.7                                      | 0.7  | 8.1   |
| Broker or dealer | 0.2       | 6.5                                      | 15.1   | 0.5   |
| Direct export    | 0.0       | 0.4                                      | 0.0  | 0.0   |
| Industrial user  | 52.6      | 32.9                                     | 0.7  | 51.8  |
| Other            | 1.3       | 4.9                                      | 11.5   | 1.4   |
| Storage          | 0.8       | 4.3                                      | 1.0  | 0.9   |
| Total            | 100.0     | 100.0                                    | 100.0  | 100.0 |

Sample Size = 112

Packers' advertising and promotional activities of honey, 1988

| Advertisement       | Type firm |  |  | Total |
|---------------------|-----------|--|--|-------|
|                     | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                     | Number    |  |  |       |
| Newspapers          | 0         | 12                                       | 4  | 16    |
| Circulars           | 4         | 5  | 2  | 11    |
| Beekeeping journals | 0         | 0  | 0  | 0     |
| Magazines           | 3         | 3  | 0  | 6     |
| Bulletin boards     | 0         | 2  | 1  | 3     |
| Direct mail         | 3         | 7  | 0  | 10    |
| Road signs          | 1         | 13                                       | 7  | 21    |
| Word of mouth       | 8         | 43                                       | 17   | 68    |
| Other               | 9         | 15                                       | 4  | 28    |
| Didn't advertise    | 4         | 6  | 5  | 15    |

Sample Size = 112

Packers' advertising and promotional activities of honey, 1988

| Advertisement       | Type firm |  |  | Total |
|---------------------|-----------|--|--|-------|
|                     | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                     | Percent   |  |  |       |
| Newspapers          | 0.0       | 20.3                                     | 13.3   | 14.3  |
| Circulars           | 17.4      | 8.5                                      | 6.7  | 9.8   |
| Beekeeping journals | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Magazines           | 13.0      | 5.1                                      | 0.0  | 5.4   |
| Bulletin boards     | 0.0       | 3.4                                      | 3.3  | 2.7   |
| Direct mail         | 13.0      | 11.9                                     | 0.0  | 8.9   |
| Road signs          | 4.3       | 22.0                                     | 23.3   | 18.8  |
| Word of mouth       | 34.8      | 72.9                                     | 56.7   | 60.7  |
| Other               | 39.1      | 25.4                                     | 13.3   | 25.0  |
| Didn't advertise    | 17.4      | 10.2                                     | 16.7   | 13.4  |

Sample Size = 112

Packers' advertising and promotional activities of honey with other products, 1988

| Advertisement      | Type firm |  |  | Total |
|--------------------|-----------|--|--|-------|
|                    | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                    | Number    |  |  |       |
| Newspapers         | 4         | 3  | 0  | 7     |
| Circulars          | 1         | 2  | 1  | 4     |
| Beekeeping journal | 1         | 0  | 0  | 1     |
| Magazines          | 4         | 1  | 0  | 5     |
| Bulletin boards    | 0         | 0  | 0  | 0     |
| Direct mail        | 2         | 3  | 0  | 5     |
| Road signs         | 1         | 2  | 0  | 3     |
| Word of mouth      | 5         | 7  | 4  | 16    |
| Other              | 2         | 4  | 1  | 7     |
| Didn't advertise   | 13        | 43                                       | 20   | 76    |

Sample Size = 112

Packers' advertising and promotional activities of honey with other products, 1988

| Advertisement      | Type firm |  |  | Total |
|--------------------|-----------|--|--|-------|
|                    | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                    | Percent   |  |  |       |
| Newspapers         | 17.4      | 5.1                                      | 0.0  | 6.3   |
| Circulars          | 4.3       | 3.4                                      | 3.3  | 3.6   |
| Beekeeping journal | 4.3       | 0.0                                      | 0.0  | 0.9   |
| Magazines          | 17.4      | 1.7                                      | 0.0  | 4.5   |
| Bulletin boards    | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Direct mail        | 8.7       | 5.1                                      | 0.0  | 4.5   |
| Road signs         | 4.3       | 3.4                                      | 0.0  | 2.7   |
| Word of mouth      | 21.7      | 11.9                                     | 13.3   | 14.3  |
| Other              | 8.7       | 6.8                                      | 3.3  | 6.3   |
| Didn't advertise   | 56.5      | 72.9                                     | 66.7   | 67.9  |

Sample Size = 112

Packers' advertising and promotional activities of packing services, 1988

| Advertisement      | Type firm |  |  | Total |
|--------------------|-----------|--|--|-------|
|                    | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                    | Number    |  |  |       |
| Newspapers         | 0         | 0  | 0  | 0     |
| Circulars          | 0         | 0  | 0  | 0     |
| Beekeeping journal | 0         | 0  | 0  | 0     |
| Magazines          | 0         | 0  | 0  | 0     |
| Bulletin boards    | 0         | 0  | 0  | 0     |
| Direct mail        | 0         | 0  | 0  | 0     |
| Road signs         | 0         | 0  | 0  | 0     |
| Word of mouth      | 3         | 3  | 3  | 9     |
| Other              | 0         | 1  | 1  | 2     |
| Didn't advertise   | 18        | 49                                       | 21   | 88    |

Sample Size = 112

Packers' advertising and promotional activities of packing services, 1988

| Advertisement      | Type firm |  |  | Total |
|--------------------|-----------|--|--|-------|
|                    | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                    | Percent   |  |  |       |
| Newspapers         | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Circulars          | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Beekeeping journal | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Magazines          | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Bulletin boards    | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Direct mail        | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Road signs         | 0.0       | 0.0                                      | 0.0  | 0.0   |
| Word of mouth      | 13.0      | 5.1                                      | 10.0   | 8.0   |
| Other              | 0.0       | 1.7                                      | 3.3  | 1.8   |
| Didn't advertise   | 78.3      | 83.1                                     | 70.0   | 78.6  |

Sample Size = 112

Packers' advertising and promotional activities of other products and services, 1988

| Advertisement      | Type firm |  |  | Total |
|--------------------|-----------|--|--|-------|
|                    | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                    | Number    |  |  |       |
| Newspapers         | 1         | 2  | 0  | 3     |
| Circulars          | 1         | 1  | 1  | 3     |
| Beekeeping journal | 0         | 1  | 1  | 2     |
| Magazines          | 1         | 0  | 0  | 1     |
| Bulletin boards    | 0         | 1  | 0  | 1     |
| Direct mail        | 1         | 3  | 0  | 4     |
| Road signs         | 0         | 1  | 0  | 1     |
| Word of mouth      | 5         | 10                                       | 3  | 18    |
| Other              | 1         | 4  | 1  | 6     |
| Didn't advertise   | 16        | 42                                       | 21   | 79    |

Sample Size = 112

Packers' advertising and promotional activities of other products and services, 1988

| Advertisement      | Type firm |  |  | Total |
|--------------------|-----------|--|--|-------|
|                    | Full time | Part time<br>Other time on<br>beekeeping | Part time<br>Other time on<br>non-beekeeping |       |
|                    | Percent   |  |  |       |
| Newspapers         | 4.3       | 3.4                                      | 0.0  | 2.7   |
| Circulars          | 4.3       | 1.7                                      | 3.3  | 2.7   |
| Beekeeping journal | 0.0       | 1.7                                      | 3.3  | 1.8   |
| Magazines          | 4.3       | 0.0                                      | 0.0  | 0.9   |
| Bulletin boards    | 0.0       | 1.7                                      | 0.0  | 0.9   |
| Direct mail        | 4.3       | 5.1                                      | 0.0  | 3.6   |
| Road signs         | 0.0       | 1.7                                      | 0.0  | 0.9   |
| Word of mouth      | 21.7      | 16.9                                     | 10.0   | 16.1  |
| Other              | 4.3       | 6.8                                      | 3.3  | 5.4   |
| Didn't advertise   | 69.6      | 71.2                                     | 70.0   | 70.5  |

Sample Size = 112

**PACKERS - FINANCIAL**

Packers' household gross income, by firm type - 1988

| Firm type                       | Household gross income |                           |                            |                            |                            |                              |                              |                              |                                |                     | Total |
|---------------------------------|------------------------|---------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|---------------------|-------|
|                                 | \$9,999<br>or<br>less  | \$1,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$69,999 | \$70,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$1,000,000 | Over<br>\$1,000,000 |       |
|                                 | Number                 |                           |                            |                            |                            |                              |                              |                              |                                |                     |       |
| Full time                       | 1                      | 2                         | 4                          | 6                          | 3                          | 3                            | 0                            | 1                            | 0                              | 0                   | 20    |
| Part time                       | 9                      | 8                         | 21                         | 7                          | 4                          | 2                            | 7                            | 7                            | 0                              | 0                   | 65    |
| Other time on<br>beekeeping     |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     |       |
| Part time                       | 0                      | 5                         | 10                         | 5                          | 2                          | 1                            | 0                            | 1                            | 0                              | 0                   | 24    |
| Other time on<br>non-beekeeping |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     |       |
| Total                           | 10                     | 15                        | 35                         | 18                         | 9                          | 6                            | 7                            | 9                            | 0                              | 0                   | 109   |

Sample Size = 109

Packers' gross income, by firm type - 1988

| Firm type                                     | Gross income          |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              | Total |
|---|-----------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------|
|   | \$2,499<br>or<br>less | \$2,500<br>to<br>\$4,999 | \$5,000<br>to<br>\$9,999 | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$49,999 | \$50,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$999,999 |       |
| Full time                                     | 0                     | 0                        | 0                        | 1                          | 1                          | 0                          | 1                          | 1                            | 1                            | 2                            | 4                            | 8     |
| Part time                                     | 4                     | 5                        | 5                        | 9                          | 11                         | 3                          | 5                          | 2                            | 4                            | 4                            | 2                            | 0     |
| Other firms on<br>beekeeping                  | 10                    | 7                        | 4                        | 0                          | 3                          | 0                          | 2                          | 0                            | 0                            | 0                            | 0                            | 1     |
| Part time<br>Other firms on<br>non-beekeeping | 14                    | 12                       | 9                        | 10                         | 15                         | 3                          | 8                          | 3                            | 6                            | 6                            | 6                            | 9     |
| Total   |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       |

Sample Size = 100

Packers' net income, by firm type - 1988

| Firm type                    | Net income            |            |                 |                    |                    |                      |                      |                      |                   | Total |
|------------------------------|-----------------------|------------|-----------------|--------------------|--------------------|----------------------|----------------------|----------------------|-------------------|-------|
|                              | Costs exceeded income | Broke even | \$2,499 or less | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$49,999 | \$50,000 to \$99,999 | \$100,000 or more |       |
|                              | Number                |            |                 |                    |                    |                      |                      |                      |                   |       |
| Full time                    | 3                     | 0          | 0               | 0                  | 5                  | 3                    | 4                    | 1                    | 2                 | 18    |
| Part time                    | 10                    | 1          | 9               | 7                  | 11                 | 11                   | 3                    | 3                    | 0                 | 55    |
| Other time on beekeeping     |                       |            |                 |                    |                    |                      |                      |                      |                   |       |
| Part time                    | 5                     | 3          | 11              | 1                  | 2                  | 2                    | 0                    | 0                    | 1                 | 25    |
| Other time on non-beekeeping |                       |            |                 |                    |                    |                      |                      |                      |                   |       |
| Total                        | 18                    | 4          | 20              | 8                  | 18                 | 16                   | 7                    | 4                    | 3                 | 98    |

Sample Size = 98

Packers' total value of assets, by firm type - 1968

| Firm type                        | Total value of assets |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                                  |                                  |                           | Total |
|----------------------------------|-----------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------------|----------------------------------|---------------------------|-------|
|                                  | \$2,499<br>or<br>less | \$2,500<br>to<br>\$4,999 | \$5,000<br>to<br>\$9,999 | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$49,999 | \$50,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$999,999 | \$1,000,000<br>to<br>\$1,499,999 | \$1,500,000<br>to<br>\$1,999,999 | \$2,000,000<br>or<br>more |       |
|                                  | Number                |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                                  |                                  |                           |       |
| Full time                        | 0                     | 0                        | 0                        | 0                          | 2                          | 0                          | 2                          | 0                            | 0                            | 6                            | 4                            | 3                                | 0                                | 2                         | 19    |
| Part time                        | 1                     | 4                        | 2                        | 4                          | 6                          | 7                          | 15                         | 2                            | 5                            | 6                            | 1                            | 1                                | 0                                | 1                         | 55    |
| Other time on<br>bookkeeping     |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                                  |                                  |                           |       |
| Part time                        | 6                     | 2                        | 2                        | 6                          | 3                          | 0                          | 5                          | 0                            | 0                            | 1                            | 0                            | 0                                | 0                                | 1                         | 26    |
| Other time on<br>non-bookkeeping |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |                                  |                                  |                           |       |
| Total                            | 7                     | 6                        | 4                        | 10                         | 11                         | 7                          | 22                         | 2                            | 5                            | 13                           | 5                            | 4                                | 0                                | 4                         | 100   |

Sample Size = 100

Peaker/total debt, by firm type - 1988

| Firm type                      | No debt | Total debt      |                    |                    |                      |                      |                      |                      |                      |                        |                        | Total |                        |                            |                     |     |
|--------------------------------|---------|-----------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------------------|------------------------|-------|------------------------|----------------------------|---------------------|-----|
|                                |         | \$2,499 or less | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$29,999 | \$30,000 to \$49,999 | \$40,000 to \$69,999 | \$50,000 to \$99,999 | \$100,000 to \$199,999 | \$200,000 to \$499,999 |       | \$500,000 to \$999,999 | \$1,000,000 to \$1,999,999 | \$2,000,000 or more |     |
| Full time                      | 2       | 0               | 0                  | 2                  | 1                    | 2                    | 0                    | 2                    | 1                    | 3                      | 2                      | 1     | 1                      | 1                          | 0                   | 19  |
| Part time                      | 3       | 7               | 2                  | 2                  | 6                    | 5                    | 3                    | 3                    | 0                    | 0                      | 1                      | 0     | 0                      | 0                          | 0                   | 57  |
| Other firms on bookkeeping     | 18      | 4               | 1                  | 0                  | 1                    | 1                    | 0                    | 1                    | 1                    | 0                      | 0                      | 0     | 0                      | 0                          | 0                   | 27  |
| Other firms on non-bookkeeping | 45      | 7               | 6                  | 4                  | 8                    | 9                    | 3                    | 6                    | 2                    | 3                      | 3                      | 1     | 1                      | 1                          | 0                   | 103 |

Sample Size = 103

Average gross expenses of packers, by type firm, 1988

| Cost item        | Firm type     |  |  | Total        |
|------------------|---------------|--|--|--------------|
|                  | Full time     | Part time<br>other time on<br>beekeeping | Part time<br>other time on<br>non-beekeeping |              |
|                  | Dollars/pound |  |  |              |
| <b>Labor</b>     |               |  |  |              |
| Hired labor      | 0.024         | 0.169                                    | 0.163  | 0.032        |
| Benefits         | 0.007         | 0.021                                    | 0.000  | 0.008        |
| Other            | 0.022         | 0.070                                    | 0.001  | 0.024        |
| <b>Bees</b>      |               |  |  |              |
| Bee food         | 0.000         | 0.021                                    | 0.048  | 0.001        |
| Queens and nucs  | 0.000         | 0.014                                    | 0.033  | 0.001        |
| Package bees     | 0.000         | 0.037                                    | 0.076  | 0.002        |
| <b>Supplies</b>  |               |  |  |              |
| General          | 0.000         | 0.040                                    | 0.151  | 0.003        |
| Containers etc.  | 0.052         | 0.182                                    | 0.238  | 0.059        |
| <b>Equipment</b> |               |  |  |              |
| Repair and Maint | 0.003         | 0.029                                    | 0.037  | 0.004        |
| Gas and oil      | 0.004         | 0.042                                    | 0.083  | 0.006        |
| <b>Buildings</b> |               |  |  |              |
| Repair and Maint | 0.003         | 0.016                                    | 0.012  | 0.004        |
| Mortgage         | 0.003         | 0.077                                    | 0.089  | 0.007        |
| <b>Overhead</b>  |               |  |  |              |
| Utilities        | 0.005         | 0.029                                    | 0.050  | 0.006        |
| Insurance        | 0.006         | 0.030                                    | 0.028  | 0.007        |
| Taxes            | 0.002         | 0.031                                    | 0.037  | 0.004        |
| Rent             | 0.004         | 0.023                                    | 0.016  | 0.005        |
| Interest on OC   | 0.008         | 0.007                                    | 0.018  | 0.008        |
| Office expenses  | 0.003         | 0.008                                    | 0.002  | 0.003        |
| <b>Marketing</b> |               |  |  |              |
| Advertising      | 0.003         | 0.009                                    | 0.011  | 0.003        |
| Subscriptions    | 0.000         | 0.001                                    | 0.002  | 0.000        |
| Promotion        | 0.003         | 0.002                                    | 0.006  | 0.003        |
| Fees             | 0.009         | 0.003                                    | 0.000  | 0.009        |
| Other            | 0.029         | 0.023                                    | 0.013  | 0.028        |
| <b>Total</b>     | <b>0.190</b>  | <b>0.884</b>                             | <b>1.115</b>                                 | <b>0.227</b> |

Sample Size = 72

**IMPORTERS AND BROKERS**

## **IMPORTERS AND BROKERS - GENERAL CHARACTERISTICS**

Importers and brokers, by type firm

|       | Type firm             |                     |                                     |                       |                     |                                     | Total |
|-------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|       | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
| Total | 8                     | 4                   | 2                                   | 3                     | 0                   | 0                                   | 17    |

Sample Size = 17

**Importers and brokers, by sex and type firm**

| Sex    | Type firm             |                     |                                     |                       |                     |                                     | Total |  |
|--------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|--|
|        | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |  |
|        | Number                |                     |                                     |                       |                     |                                     |       |  |
| Female | 1                     | 1                   | 0                                   | 0                     | 0                   | 0                                   | 2     |  |
| Male   | 6                     | 3                   | 2                                   | 3                     | 0                   | 0                                   | 14    |  |
| Total  | 7                     | 4                   | 2                                   | 3                     | 0                   | 0                                   | 16    |  |

Sample Size = 17

Importers and brokers, by age and type firm

| Age              | Type firm          |                  |                               |                    |                  |                               | Total |
|------------------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-------|
|                  | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |       |
|                  | Number             |                  |                               |                    |                  |                               |       |
| Less than 35     | 2                  | 0                | 0                             | 0                  | 0                | 0                             | 2     |
| 35-44            | 2                  | 0                | 1                             | 1                  | 0                | 0                             | 4     |
| 45-54            | 2                  | 1                | 1                             | 1                  | 0                | 0                             | 5     |
| 55-64            | 1                  | 2                | 0                             | 1                  | 0                | 0                             | 4     |
| 65 years or more | 0                  | 1                | 0                             | 0                  | 0                | 0                             | 1     |
| Total            | 4                  | 0                | 1                             | 1                  | 0                | 0                             | 16    |

Sample Size = 16

Importers and brokers, by occupation and type firm

| Age          | Type firm          |                  |                               |                    |                  |                               | Total     |
|--------------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-----------|
|              | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |           |
|              | Number             |                  |                               |                    |                  |                               |           |
| Clerical     | 0                  | 0                | 0                             | 1                  | 0                | 0                             | 1         |
| Professional | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0         |
| Managerial   | 3                  | 0                | 1                             | 0                  | 0                | 0                             | 4         |
| Technician   | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0         |
| Labor        | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0         |
| Own Business | 2                  | 3                | 1                             | 0                  | 0                | 0                             | 6         |
| Sales        | 0                  | 1                | 0                             | 2                  | 0                | 0                             | 3         |
| Beekeeping   | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0         |
| Farmer       | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0         |
| Retired      | 1                  | 0                | 0                             | 0                  | 0                | 0                             | 1         |
| Other        | 1                  | 0                | 0                             | 0                  | 0                | 0                             | 1         |
| <b>Total</b> | <b>7</b>           | <b>4</b>         | <b>2</b>                      | <b>3</b>           | <b>0</b>         | <b>0</b>                      | <b>16</b> |

Sample Size = 16

Importers and brokers, by education and type firm

| Education        | Type firm          |                  |                               |                    |                  |                               | Total |
|------------------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-------|
|                  | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |       |
|                  | Number             |                  |                               |                    |                  |                               |       |
| 1 to 8 years     | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0     |
| 9 to 11 years    | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0     |
| 12 years         | 1                  | 1                | 0                             | 1                  | 0                | 0                             | 3     |
| 13 to 15 years   | 1                  | 0                | 1                             | 0                  | 0                | 0                             | 2     |
| 16 years or more | 5                  | 3                | 1                             | 2                  | 0                | 0                             | 11    |
| Total            | 7                  | 4                | 2                             | 3                  | 0                | 0                             | 16    |

Sample Size = 16

Importers and brokers, by residence and type firm

| Residence       | Type firm          |                  |                               |                    |                  |                               | Total |
|-----------------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-------|
|                 | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |       |
|                 | Number             |                  |                               |                    |                  |                               |       |
| Farm            | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0     |
| Rural           | 0                  | 1                | 0                             | 0                  | 0                | 0                             | 1     |
| Community       |                    |                  |                               |                    |                  |                               | 0     |
| Less than 2,500 | 0                  | 1                | 0                             | 0                  | 0                | 0                             | 1     |
| 2,500-24,999    | 2                  | 0                | 2                             | 0                  | 0                | 0                             | 4     |
| 25,000-49,999   | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0     |
| 50,000-99,000   | 3                  | 0                | 0                             | 0                  | 0                | 0                             | 3     |
| 100,000 or more | 2                  | 2                | 0                             | 2                  | 0                | 0                             | 6     |
| Total           | 7                  | 4                | 2                             | 2                  | 0                | 0                             | 15    |

Sample Size = 15

Importers and brokers, by average size of household and type firm

| Age of household members | Type firm          |                 |                  |                 |                               |                 |                    |                 | Total            |                 |
|--------------------------|--------------------|-----------------|------------------|-----------------|-------------------------------|-----------------|--------------------|-----------------|------------------|-----------------|
|                          | Full time Importer |                 | Full time Broker |                 | Full time Importer and Broker |                 | Part time Importer |                 |                  |                 |
|                          | Number reporting   | Number reported | Number reporting | Number reported | Number reporting              | Number reported | Number reporting   | Number reported | Number reporting | Number reported |
| Under 6 years old        | 0                  | 0               | 0                | 0               | 1                             | 2               | 1                  | 2               | 2                | 4               |
| 6 to 12 years old        | 0                  | 0               | 0                | 0               | 1                             | 2               | 1                  | 1               | 2                | 3               |
| 13 to 18 years old       | 2                  | 3               | 1                | 2               | 0                             | 0               | 1                  | 1               | 4                | 6               |
| 19 or older              | 6                  | 14              | 4                | 8               | 2                             | 4               | 2                  | 4               | 14               | 30              |
| Total                    | 6                  | 17              | 4                | 10              | 2                             | 8               | 2                  | 8               | 14               | 43              |

Sample Size = 14

Importers and brokers, by region and type firm

| Region       | Type firm             |                     |                                     |                       |                     |                                     | Total     |  |
|--------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-----------|--|
|              | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |           |  |
|              | Number                |                     |                                     |                       |                     |                                     |           |  |
| Northeast    | 5                     | 0                   | 1                                   | 0                     | 0                   | 0                                   | 6         |  |
| Southeast    | 0                     | 1                   | 0                                   | 1                     | 0                   | 0                                   | 2         |  |
| Midwest      | 0                     | 1                   | 0                                   | 1                     | 0                   | 0                                   | 2         |  |
| West         | 3                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 3         |  |
| Northwest    | 0                     | 2                   | 1                                   | 0                     | 0                   | 0                                   | 3         |  |
| <b>Total</b> | <b>8</b>              | <b>4</b>            | <b>2</b>                            | <b>2</b>              | <b>0</b>            | <b>0</b>                            | <b>16</b> |  |

Sample Size = 16

- NE: CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT
- SE: AL, AR, GA, FL, LA, MO, MS, NC, SC, TN, VA, WV
- MW: IA, IL, IN, KS, KY, MI, MN, OH, WI, OK, TX
- W: AZ, HI, CO, CA, NM, NV, UT, WY
- NW: AK, ID, MT, ND, NE, OR, SD, WA

Importers and brokers, by state and type firm

| State | Type firm          |                  |                               |                    |                  |                               | Total |
|-------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-------|
|       | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |       |
|       | Number             |                  |                               |                    |                  |                               |       |
| AK    |                    |                  |                               |                    |                  |                               | 0     |
| AL    |                    |                  |                               |                    |                  |                               | 0     |
| AR    |                    |                  |                               |                    |                  |                               | 0     |
| AZ    |                    |                  |                               |                    |                  |                               | 0     |
| CA    | 3                  |                  |                               |                    |                  |                               | 3     |
| CO    |                    |                  |                               |                    |                  |                               | 0     |
| CT    |                    |                  | 1                             |                    |                  |                               | 1     |
| DE    |                    |                  |                               |                    |                  |                               | 0     |
| FL    |                    |                  |                               | 1                  |                  |                               | 1     |
| GA    |                    |                  |                               |                    |                  |                               | 0     |
| HI    |                    |                  |                               |                    |                  |                               | 0     |
| IA    |                    |                  |                               |                    |                  |                               | 0     |
| ID    |                    | 1                |                               |                    |                  |                               | 1     |
| IL    |                    |                  |                               |                    |                  |                               | 0     |
| IN    |                    |                  |                               |                    |                  |                               | 0     |
| KS    |                    |                  |                               |                    |                  |                               | 0     |
| KY    |                    |                  |                               |                    |                  |                               | 0     |
| LA    |                    |                  |                               |                    |                  |                               | 0     |
| MA    |                    |                  |                               |                    |                  |                               | 0     |
| MD    |                    |                  |                               |                    |                  |                               | 0     |
| ME    |                    |                  |                               |                    |                  |                               | 0     |
| MI    |                    |                  |                               |                    |                  |                               | 0     |
| MN    |                    |                  |                               |                    |                  |                               | 0     |
| MO    |                    |                  |                               |                    |                  |                               | 0     |
| MS    |                    |                  |                               |                    |                  |                               | 0     |
| MT    |                    | 1                |                               |                    |                  |                               | 1     |
| NC    |                    |                  |                               |                    |                  |                               | 0     |

Importers and brokers, by state and type firm (continued)

| State | Type firm             |                     |                                     |                       |                     |                                     | Total |
|-------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|       | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|       | Number                |                     |                                     |                       |                     |                                     |       |
| ND    |                       |                     |                                     |                       |                     |                                     | 0     |
| NE    |                       |                     |                                     |                       |                     |                                     | 0     |
| NH    |                       |                     |                                     |                       |                     |                                     | 0     |
| NJ    | 4                     |                     |                                     |                       |                     |                                     | 4     |
| NM    |                       |                     |                                     |                       |                     |                                     | 0     |
| NV    |                       |                     |                                     |                       |                     |                                     | 0     |
| NY    | 1                     |                     |                                     |                       |                     |                                     | 1     |
| OH    |                       | 1                   |                                     |                       |                     |                                     | 1     |
| OK    |                       |                     |                                     |                       |                     |                                     | 0     |
| OR    |                       |                     |                                     |                       |                     |                                     | 0     |
| PA    |                       |                     |                                     |                       |                     |                                     | 0     |
| RI    |                       |                     |                                     |                       |                     |                                     | 0     |
| SC    |                       |                     |                                     |                       |                     |                                     | 0     |
| SD    |                       |                     |                                     |                       |                     |                                     | 0     |
| TN    |                       |                     |                                     |                       |                     |                                     | 0     |
| TX    |                       |                     |                                     | 1                     |                     |                                     | 1     |
| UT    |                       |                     |                                     |                       |                     |                                     | 0     |
| VA    |                       | 1                   |                                     |                       |                     |                                     | 1     |
| VT    |                       |                     |                                     |                       |                     |                                     | 0     |
| WA    |                       |                     | 1                                   |                       |                     |                                     | 1     |
| WI    |                       |                     |                                     |                       |                     |                                     | 0     |
| WV    |                       |                     |                                     |                       |                     |                                     | 0     |
| WY    |                       |                     |                                     |                       |                     |                                     | 0     |
| Total | 8                     | 4                   | 2                                   | 2                     | 0                   | 0                                   | 16    |

Sample Size = 16

Importers and brokers negotiated products, by firm type

| Products          | Type firm          |                  |                               |                    |                  |                               | Total |
|-------------------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-------|
|                   | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |       |
|                   | Number             |                  |                               |                    |                  |                               |       |
| Honey             | 7                  | 3                | 2                             | 3                  | 0                | 0                             | 15    |
| Other sweeteners  | 3                  | 0                | 1                             | 1                  | 0                | 0                             | 5     |
| Other Ag products | 6                  | 2                | 0                             | 1                  | 0                | 0                             | 9     |
| Non-ag products   | 4                  | 2                | 0                             | 1                  | 0                | 0                             | 7     |

Sample Size = 17

## Importers' and brokers' negotiated honey, by firm type, 1985-88\*\*

|                                       | Type firm             |                     |                                     |                       |                     |                                     | Total   |
|---------------------------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|---------|
|                                       | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |         |
| <b>Volume Negotiated<br/>(pounds)</b> |                       |                     |                                     |                       |                     |                                     |         |
| Domestic 1985                         |                       |                     |                                     |                       |                     |                                     |         |
| 1986                                  |                       |                     |                                     |                       |                     |                                     |         |
| 1987                                  |                       |                     |                                     |                       |                     |                                     |         |
| 1988                                  |                       |                     |                                     |                       |                     |                                     |         |
| Foreign 1985                          |                       |                     |                                     |                       |                     |                                     | 3,375   |
| 1986                                  |                       |                     |                                     |                       |                     |                                     | 253,056 |
| 1987                                  |                       |                     |                                     |                       |                     |                                     | 283,494 |
| 1988                                  |                       |                     |                                     |                       |                     |                                     | 234,520 |
| <b>Average Cost<br/>(\$/pound)</b>    |                       |                     |                                     |                       |                     |                                     |         |
| Domestic 1985                         |                       |                     |                                     |                       |                     |                                     |         |
| 1986                                  |                       |                     |                                     |                       |                     |                                     |         |
| 1987                                  |                       |                     |                                     |                       |                     |                                     |         |
| 1988                                  |                       |                     |                                     |                       |                     |                                     |         |
| Foreign 1985                          |                       |                     |                                     |                       |                     |                                     | 1.33    |
| 1986                                  |                       |                     |                                     |                       |                     |                                     | 0.39    |
| 1987                                  |                       |                     |                                     |                       |                     |                                     | 0.62    |
| 1988                                  |                       |                     |                                     |                       |                     |                                     | 0.52    |
| <b>Average Revenue<br/>(\$/pound)</b> |                       |                     |                                     |                       |                     |                                     |         |
| Domestic 1985                         |                       |                     |                                     |                       |                     |                                     |         |
| 1986                                  |                       |                     |                                     |                       |                     |                                     |         |
| 1987                                  |                       |                     |                                     |                       |                     |                                     |         |
| 1988                                  |                       |                     |                                     |                       |                     |                                     |         |
| Foreign 1985                          |                       |                     |                                     |                       |                     |                                     | 1.33    |
| 1986                                  |                       |                     |                                     |                       |                     |                                     | 0.45    |
| 1987                                  |                       |                     |                                     |                       |                     |                                     | 0.44    |
| 1988                                  |                       |                     |                                     |                       |                     |                                     | 0.62    |

\*\*Detailed Data not reported due to small sample size.

1985 Sample Size = 2

1986 Sample Size = 3

1987 Sample Size = 4

1988 Sample Size = 6

**IMPORTERS AND BROKERS - MARKETING**

Markets used to dispose of negotiated honey, 1985-88 average

| Market          | Type firm             |                     |                                     |                       |                     |                                     | Total |
|-----------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                 | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                 | Percent               |                     |                                     |                       |                     |                                     |       |
| Roadside        | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Retail stores   | 100.0                 | 0.0                 | 3.0                                 | 0.8                   | 0.0                 | 0.0                                 | 3.0   |
| Institutions    | 0.0                   | 0.0                 | 10.2                                | 0.0                   | 0.0                 | 0.0                                 | 10.0  |
| Packers         |                       |                     |                                     |                       |                     |                                     |       |
| Independent     | 0.0                   | 0.0                 | 83.4                                | 99.2                  | 0.0                 | 0.0                                 | 82.4  |
| Cooperative     | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Direct export   | 0.0                   | 0.0                 | 1.2                                 | 0.0                   | 0.0                 | 0.0                                 | 1.2   |
| Industrial user | 0.0                   | 100.0               | 2.2                                 | 0.0                   | 0.0                 | 0.0                                 | 3.4   |
| Other           | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Storage         | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Total           | 100.0                 | 100.0               | 100.0                               | 100.0                 | 0.0                 | 0.0                                 | 100.0 |

Sample Size = 17

Importers' and brokers' advertising and promotional activities of honey, 1988

| Advertisement       | Type firm             |                     |                                     |                       |                     |                                     | Total |
|---------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                     | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                     | Number                |                     |                                     |                       |                     |                                     |       |
| Newspapers          | 2                     | 0                   | 1                                   | 0                     | 0                   | 0                                   | 3     |
| Circulars           | 3                     | 0                   | 1                                   | 0                     | 0                   | 0                                   | 4     |
| Beekeeping journals | 0                     | 0                   | 0                                   | 1                     | 0                   | 0                                   | 1     |
| Magazines           | 1                     | 0                   | 1                                   | 0                     | 0                   | 0                                   | 2     |
| Bulletin boards     | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Direct mail         | 1                     | 1                   | 0                                   | 0                     | 0                   | 0                                   | 2     |
| Road signs          | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Word of mouth       | 3                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 3     |
| Other               | 1                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 1     |
| Didn't advertise    | 3                     | 0                   | 1                                   | 2                     | 0                   | 0                                   | 6     |

Sample Size = 17

Importers' and Brokers' advertising and promotional activities of honey, 1988

| Advertisement       | Type firm             |                     |                                     |                       |                     |                                     | Total |
|---------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                     | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                     | Percent               |                     |                                     |                       |                     |                                     |       |
| Newspapers          | 25.0                  | 0.0                 | 50.0                                | 0.0                   | 0.0                 | 0.0                                 | 17.6  |
| Circulars           | 37.5                  | 0.0                 | 50.0                                | 0.0                   | 0.0                 | 0.0                                 | 23.5  |
| Beekeeping journals | 0.0                   | 0.0                 | 0.0                                 | 33.3                  | 0.0                 | 0.0                                 | 5.9   |
| Magazines           | 12.5                  | 0.0                 | 50.0                                | 0.0                   | 0.0                 | 0.0                                 | 11.8  |
| Bulletin boards     | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Direct mail         | 12.5                  | 25.0                | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 11.8  |
| Road signs          | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Word of mouth       | 37.5                  | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 17.6  |
| Other               | 12.5                  | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 5.9   |
| Didn't advertise    | 37.5                  | 0.0                 | 50.0                                | 66.7                  | 0.0                 | 0.0                                 | 35.3  |

Sample Size = 17

Importers' and brokers' advertising and promotional activities of honey with other nutritive sweeteners, 1988

| Advertisement       | Type firm             |                     |                                     |                       |                     |                                     | Total |
|---------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                     | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                     | Number                |                     |                                     |                       |                     |                                     |       |
| Newspapers          | 1                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 1     |
| Circulars           | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Beekeeping journals | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Magazines           | 1                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 1     |
| Bulletin boards     | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Direct mail         | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Road signs          | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Word of mouth       | 1                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 1     |
| Other               | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Didn't advertise    | 7                     | 4                   | 2                                   | 3                     | 0                   | 0                                   | 16    |

Sample Size = 17

Importers' and brokers' advertising and promotional activities of honey with other nutritive sweeteners, 1988

| Advertisement       | Type firm             |                     |                                     |                       |                     |                                     | Total |
|---------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                     | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                     | Percent               |                     |                                     |                       |                     |                                     |       |
| Newspapers          | 12.5                  | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 5.9   |
| Circulars           | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Beekeeping journals | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Magazines           | 12.5                  | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 5.9   |
| Bulletin boards     | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Direct mail         | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Road signs          | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Word of mouth       | 12.5                  | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 5.9   |
| Other               | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Didn't advertise    | 87.5                  | 100.0               | 100.0                               | 100.0                 | 0.0                 | 0.0                                 | 94.1  |

Sample Size = 17

Importers' and brokers' advertising and promotional activities of brokerage and importer services, 1988

| Advertisement       | Type firm             |                     |                                     |                       |                     |                                     | Total |
|---------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                     | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                     | Number                |                     |                                     |                       |                     |                                     |       |
| Newspapers          | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Circulars           | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Beekeeping journals | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Magazines           | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Bulletin boards     | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Direct mail         | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Road signs          | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Word of mouth       | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Other               | 0                     | 0                   | 0                                   | 0                     | 0                   | 0                                   | 0     |
| Didn't advertise    | 8                     | 4                   | 2                                   | 3                     | 0                   | 0                                   | 17    |

Sample Size = 17

Importers' and brokers' advertising and promotional activities of brokerage and importer services, 1988

| Advertisement       | Type firm             |                     |                                     |                       |                     |                                     | Total |
|---------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                     | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                     | Percent               |                     |                                     |                       |                     |                                     |       |
| Newspapers          | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Circulars           | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Beekeeping journals | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Magazines           | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Bulletin boards     | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Direct mail         | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Road signs          | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Word of mouth       | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Other               | 0.0                   | 0.0                 | 0.0                                 | 0.0                   | 0.0                 | 0.0                                 | 0.0   |
| Didn't advertise    | 100.0                 | 100.0               | 100.0                               | 100.0                 | 0.0                 | 0.0                                 | 100.0 |

Sample Size = 17

Importers' and brokers' advertising and promotional activities of other products and services, 1988

| Advertisement       | Type firm          |                  |                               |                    |                  |                               | Total |
|---------------------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-------|
|                     | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |       |
|                     | Number             |                  |                               |                    |                  |                               |       |
| Newspapers          | 1                  | 0                | 0                             | 0                  | 0                | 0                             | 1     |
| Circulars           | 1                  | 0                | 0                             | 0                  | 0                | 0                             | 1     |
| Beekeeping journals | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0     |
| Magazines           | 2                  | 0                | 0                             | 1                  | 0                | 0                             | 3     |
| Bulletin boards     | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0     |
| Direct mail         | 1                  | 0                | 0                             | 0                  | 0                | 0                             | 1     |
| Road signs          | 0                  | 0                | 0                             | 0                  | 0                | 0                             | 0     |
| Word of mouth       | 2                  | 0                | 0                             | 0                  | 0                | 0                             | 2     |
| Other               | 1                  | 0                | 0                             | 0                  | 0                | 0                             | 1     |
| Didn't advertise    | 5                  | 4                | 2                             | 2                  | 0                | 0                             | 13    |

Sample Size = 17

Importers' and brokers' advertising and promotional activities of other products and services, 1988

| Advertisement       | Type firm          |                  |                               |                    |                  |                               | Total |
|---------------------|--------------------|------------------|-------------------------------|--------------------|------------------|-------------------------------|-------|
|                     | Full time Importer | Full time Broker | Full time Importer and Broker | Part time Importer | Part time Broker | Part time Importer and Broker |       |
|                     | Percent            |                  |                               |                    |                  |                               |       |
| Newspapers          | 12.5               | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 5.9   |
| Circulars           | 12.5               | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 5.9   |
| Beekeeping journals | 0.0                | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 0.0   |
| Magazines           | 25.0               | 0.0              | 0.0                           | 33.3               | 0.0              | 0.0                           | 17.6  |
| Bulletin boards     | 0.0                | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 0.0   |
| Direct mail         | 12.5               | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 5.9   |
| Road signs          | 0.0                | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 0.0   |
| Word of mouth       | 25.0               | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 11.8  |
| Other               | 12.5               | 0.0              | 0.0                           | 0.0                | 0.0              | 0.0                           | 5.9   |
| Didn't advertise    | 62.5               | 100.0            | 100.0                         | 66.7               | 0.0              | 0.0                           | 76.5  |

Sample Size = 17

**IMPORTERS AND BROKERS - FINANCIAL**

Importers' and brokers' household gross income, by firm type - 1988\*\*

| Firm type                        | Household gross income |                           |                            |                            |                            |                              |                              |                              |                                |                     | Total |
|----------------------------------|------------------------|---------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|---------------------|-------|
|                                  | \$9,999<br>or<br>less  | \$1,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$69,999 | \$70,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$1,000,000 | Over<br>\$1,000,000 |       |
|                                  | Number                 |                           |                            |                            |                            |                              |                              |                              |                                |                     |       |
| Full time importer               |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     | 7     |
| Full time broker                 |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     | 4     |
| Full time importer<br>and broker |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     | 2     |
| Part time importer               |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     | 2     |
| Part time broker                 |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     | 0     |
| Part time importer<br>and broker |                        |                           |                            |                            |                            |                              |                              |                              |                                |                     | 0     |
| Total                            | 0                      | 0                         | 2                          | 2                          | 4                          | 4                            | 1                            | 1                            | 0                              | 1                   | 15    |

\*\*Detailed Data not reported due to small sample size.

Sample Size = 15

Importers' and brokers' gross income, by firm type - 1988\*\*

| Firm type                        | Gross income          |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              | Total |                           |
|----------------------------------|-----------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------|---------------------------|
|                                  | \$2,999<br>or<br>less | \$2,500<br>to<br>\$4,999 | \$5,000<br>to<br>\$9,999 | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$49,999 | \$50,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 | \$500,000<br>to<br>\$999,999 |       | \$1,000,000<br>or<br>more |
|                                  | Number                |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       |                           |
| Full time importer               |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       | 7                         |
| Full time broker                 |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       | 1                         |
| Full time importer<br>and broker |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       | 2                         |
| Part time importer               |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       | 2                         |
| Part time broker                 |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       | 0                         |
| Part time importer<br>and broker |                       |                          |                          |                            |                            |                            |                            |                              |                              |                              |                              |       | 0                         |
| Total                            | 0                     | 0                        | 0                        | 1                          | 0                          | 0                          | 0                          | 0                            | 0                            | 0                            | 2                            | 8     | 12                        |

\*\*Detailed Data not reported due to small sample size.

Sample Size = 12

Importers' and brokers' net income, by firm type - 1988\*\*

| Firm type                     | Net income            |            |                 |                    |                    |                      |                      |                      |                   | Total |
|-------------------------------|-----------------------|------------|-----------------|--------------------|--------------------|----------------------|----------------------|----------------------|-------------------|-------|
|                               | Costs exceeded income | Broke even | \$2,499 or less | \$2,500 to \$4,999 | \$5,000 to \$9,999 | \$10,000 to \$19,999 | \$20,000 to \$49,999 | \$50,000 to \$99,999 | \$100,000 or more |       |
|                               | Number                |            |                 |                    |                    |                      |                      |                      |                   |       |
| Full time importer            |                       |            |                 |                    |                    |                      |                      |                      |                   | 6     |
| Full time broker              |                       |            |                 |                    |                    |                      |                      |                      |                   | 1     |
| Full time importer and broker |                       |            |                 |                    |                    |                      |                      |                      |                   | 2     |
| Part time importer            |                       |            |                 |                    |                    |                      |                      |                      |                   | 2     |
| Part time broker              |                       |            |                 |                    |                    |                      |                      |                      |                   | 0     |
| Part time importer and broker |                       |            |                 |                    |                    |                      |                      |                      |                   | 0     |
| Total                         | 2                     | 0          | 0               | 0                  | 0                  | 0                    | 2                    | 1                    | 6                 | 11    |

\*\*Detailed Data not reported due to small sample size.

Sample Size = 11

Importers' and broker's (with value of assets, by firm type - 1989\*

| Firm type                        | Total value of assets |                          |                          |                            |                            |                            |                            |                            |                              |                              |                              | Total |                              |                                  |                                  |                           |
|----------------------------------|-----------------------|--------------------------|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|------------------------------|------------------------------|-------|------------------------------|----------------------------------|----------------------------------|---------------------------|
|                                  | \$2,499<br>or<br>less | \$2,500<br>to<br>\$4,999 | \$5,000<br>to<br>\$9,999 | \$10,000<br>to<br>\$19,999 | \$20,000<br>to<br>\$29,999 | \$30,000<br>to<br>\$39,999 | \$40,000<br>to<br>\$49,999 | \$50,000<br>to<br>\$99,999 | \$100,000<br>to<br>\$149,999 | \$150,000<br>to<br>\$199,999 | \$200,000<br>to<br>\$499,999 |       | \$500,000<br>to<br>\$999,999 | \$1,000,000<br>to<br>\$1,499,999 | \$1,500,000<br>to<br>\$1,999,999 | \$2,000,000<br>or<br>more |
| Full time importer               |                       |                          |                          |                            |                            |                            |                            |                            |                              |                              |                              |       |                              |                                  |                                  | 6                         |
| Part time broker                 |                       |                          |                          |                            |                            |                            |                            |                            |                              |                              |                              |       |                              |                                  |                                  | 1                         |
| Full time importer<br>and broker |                       |                          |                          |                            |                            |                            |                            |                            |                              |                              |                              |       |                              |                                  |                                  | 2                         |
| Part time importer               |                       |                          |                          |                            |                            |                            |                            |                            |                              |                              |                              |       |                              |                                  |                                  | 2                         |
| Part time broker                 |                       |                          |                          |                            |                            |                            |                            |                            |                              |                              |                              |       |                              |                                  |                                  | 0                         |
| Part time importer<br>and broker |                       |                          |                          |                            |                            |                            |                            |                            |                              |                              |                              |       |                              |                                  |                                  | 0                         |
| Total                            | 0                     | 0                        | 0                        | 1                          | 0                          | 0                          | 0                          | 1                          | 0                            | 2                            | 0                            | 1     | 0                            | 0                                | 6                                | 11                        |

\*Detailed Data not reported due to small sample size.

Sample Size = 11

Imparters and lenders total debt, by firm type - 1964\*\*

| Firm type                     | No debt | \$2,500 |    | \$5,000 |    | \$10,000 |    | \$20,000 |    | \$40,000 |    | \$50,000 |    | \$100,000 |    | \$150,000 |    | \$200,000 |    | \$300,000 |    | \$1,000,000 |    | \$1,500,000 |    | \$2,000,000 |    | Total |
|-------------------------------|---------|---------|----|---------|----|----------|----|----------|----|----------|----|----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-------------|----|-------------|----|-------------|----|-------|
|                               |         | or less | to | to      | to | to       | to | to       | to | to       | to | to       | to | to        | to | to        | to | to        | to | to        | to | to          | to | to          | to | to          | to |       |
| Full time importer            | 1       | 0       | 1  | 0       | 1  | 1        | 1  | 1        | 1  | 0        | 0  | 0        | 0  | 1         | 0  | 0         | 0  | 0         | 0  | 0         | 1  | 0           | 0  | 1           | 1  | 3           | 10 |       |
| Full time broker              |         |         |    |         |    |          |    |          |    |          |    |          |    |           |    |           |    |           |    |           |    |             |    |             |    |             | 5  |       |
| Part time importer and broker |         |         |    |         |    |          |    |          |    |          |    |          |    |           |    |           |    |           |    |           |    |             |    |             |    |             | 1  |       |
| Part time importer            |         |         |    |         |    |          |    |          |    |          |    |          |    |           |    |           |    |           |    |           |    |             |    |             |    |             | 2  |       |
| Part time broker              |         |         |    |         |    |          |    |          |    |          |    |          |    |           |    |           |    |           |    |           |    |             |    |             |    |             | 2  |       |
| Part time importer and broker |         |         |    |         |    |          |    |          |    |          |    |          |    |           |    |           |    |           |    |           |    |             |    |             |    |             | 0  |       |
| Total                         | 1       | 0       | 1  | 0       | 1  | 1        | 1  | 1        | 1  | 0        | 0  | 0        | 0  | 1         | 0  | 0         | 0  | 0         | 0  | 0         | 1  | 0           | 0  | 1           | 1  | 3           | 10 |       |

\*\*Detailed Data not reported due to small sample size. Sample Size = 10

Average gross expenses of importers and brokers, by type firm, 1988\*\*

| Cost item        | Type firm             |                     |                                     |                       |                     |                                     | Total |
|------------------|-----------------------|---------------------|-------------------------------------|-----------------------|---------------------|-------------------------------------|-------|
|                  | Full time<br>Importer | Full time<br>Broker | Full time<br>Importer and<br>Broker | Part time<br>Importer | Part time<br>Broker | Part time<br>Importer and<br>Broker |       |
|                  | Dollars/pound         |                     |                                     |                       |                     |                                     |       |
| <b>Labor</b>     |                       |                     |                                     |                       |                     |                                     |       |
| Hired labor      |                       |                     |                                     |                       |                     |                                     | 0.088 |
| Benefits         |                       |                     |                                     |                       |                     |                                     | 0.002 |
| Other            |                       |                     |                                     |                       |                     |                                     | 0.093 |
| <b>Bees</b>      |                       |                     |                                     |                       |                     |                                     |       |
| Bee food         |                       |                     |                                     |                       |                     |                                     |       |
| Queens and nucs  |                       |                     |                                     |                       |                     |                                     |       |
| Package bees     |                       |                     |                                     |                       |                     |                                     |       |
| <b>Supplies</b>  |                       |                     |                                     |                       |                     |                                     |       |
| General          |                       |                     |                                     |                       |                     |                                     |       |
| Containers etc.  |                       |                     |                                     |                       |                     |                                     |       |
| <b>Equipment</b> |                       |                     |                                     |                       |                     |                                     |       |
| Repair and Maint |                       |                     |                                     |                       |                     |                                     | 0.002 |
| Gas and oil      |                       |                     |                                     |                       |                     |                                     | 0.002 |
| <b>Buildings</b> |                       |                     |                                     |                       |                     |                                     |       |
| Repair and Maint |                       |                     |                                     |                       |                     |                                     |       |
| Mortgage         |                       |                     |                                     |                       |                     |                                     |       |
| <b>Overhead</b>  |                       |                     |                                     |                       |                     |                                     |       |
| Utilities        |                       |                     |                                     |                       |                     |                                     | 0.002 |
| Insurance        |                       |                     |                                     |                       |                     |                                     | 0.003 |
| Taxes            |                       |                     |                                     |                       |                     |                                     |       |
| Rent             |                       |                     |                                     |                       |                     |                                     | 0.005 |
| Interest on OC   |                       |                     |                                     |                       |                     |                                     |       |
| Office expenses  |                       |                     |                                     |                       |                     |                                     | 0.011 |
| <b>Marketing</b> |                       |                     |                                     |                       |                     |                                     |       |
| Advertising      |                       |                     |                                     |                       |                     |                                     | 0.006 |
| Subscriptions    |                       |                     |                                     |                       |                     |                                     |       |
| Promotion        |                       |                     |                                     |                       |                     |                                     | 0.017 |
| Fees             |                       |                     |                                     |                       |                     |                                     | 0.078 |
| Other            |                       |                     |                                     |                       |                     |                                     |       |
| <b>Total</b>     | 0.607                 | 0.000               | 0.092                               | 0.942                 |                     |                                     | 0.308 |

\*\*Detailed Data not reported due to small sample size.

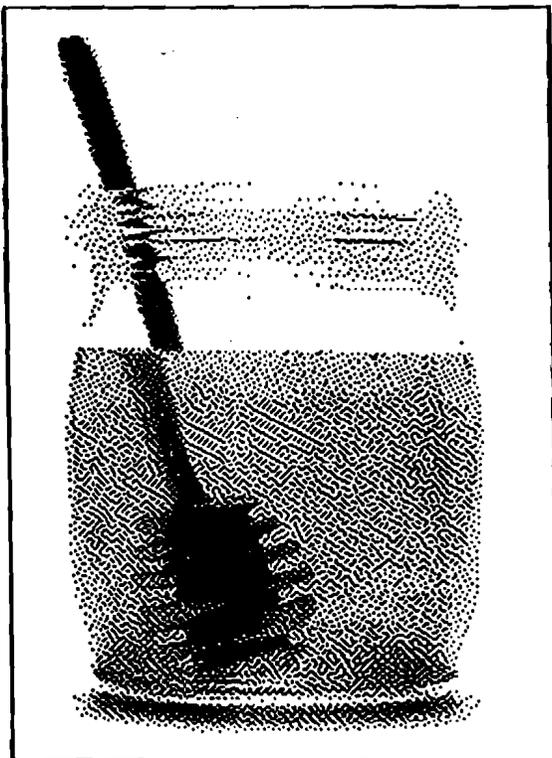
Sample Size = 4

**APPENDIX:**  
**NATIONAL SURVEY INSTRUMENT**

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# HONEY INDUSTRY SURVEY

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The purpose of this survey is to collect information to identify the needs and current economic status of the honey industry. Information from this study will be provided by the Economic Research Service of the U.S. Department of Agriculture to members of the U.S. Congress to assist them in establishing a pricing policy that reflects the needs of the industry. This information will aid the National Honey Board's development of research, advertising and promotion programs which will best serve the industry.

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Conducted by  
The Department of Agricultural Economics  
New York State College of Agriculture and Life Sciences  
Cornell University, Ithaca, New York 14853-7801

## Appendix: National Survey Instrument (continued)

Form Approved  
O.M.B. No. 0536-0035  
Expiration Date 6/30/91

### HONEY PRODUCERS, PACKERS, IMPORTERS AND BROKERS SURVEY

#### INTRODUCTION:

The Cornell Institute for Social and Economic Research (CISER) is collecting information relative to honey production, pollination and the structure of your beekeeping operation. This study of the beekeeping industry is mandated by Congress in the 1987 Appropriations Bill. The information will be used by analysts at Cornell University, the National Honey Board, and the United States Department of Agriculture.

Your response is confidential and will be used only for statistical purposes and economic analysis. Although your participation is voluntary, your cooperation is essential to help us determine the economic health of the beekeeping industry. We encourage you to make the information as accurate as possible. The survey is also supported by the American Beekeeping Federation, the American Honey Producers Association and the National Honey Packers & Dealers Association.

Public reporting burden for this collection of information is estimated to average one hour (60 minutes) per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collected information. Send comments regarding this burden estimate or any other aspect of collection of information, including suggestions for reducing this burden to:

Department of Agriculture, Clearance Officer  
O.I.R.M Room 404-W  
Washington D.C. 20250

and to the: Office of Management and Budget  
Paperwork Reduction Project (O.M.B. No. 0536-0035)  
Washington D.C. 20502

*Cover photo courtesy of National Honey Board*

**ANSWER THIS QUESTION FIRST**

How would you classify yourself in the honey industry? (Please circle ALL that apply.)

a. PRODUCER  
 b. PACKER  
 c. IMPORTER  
 d. BROKER

→ If not a producer ALSO, Skip to Section B, page 13

**SECTION A. PRODUCERS**

**I. FIRM CHARACTERISTICS**

- 1) Is beekeeping your: (Please circle ONE response.)
  - a. Full time profession
  - b. Part time profession
  - c. Hobby
  
- 2) What state do you consider the primary headquarters for your beekeeping operation?  
 \_\_\_\_\_
  
- 3) Is your actual residence in the same state as your primary beekeeping headquarters?
  - a. No → If no: In what state is your actual residence? \_\_\_\_\_
  - b. Yes
  
- 4) Which of the following years did you NOT have a beekeeping operation?  
 (Circle ALL that apply.)
 

|         |         |         |
|---------|---------|---------|
| a. 1981 | d. 1984 | g. 1987 |
| b. 1982 | e. 1985 | h. 1988 |
| c. 1983 | f. 1986 |         |
  
- 5) We would like to know your operation's peak production history during each of the last four years and the number of working colonies you had during that time.  
 (Please fill in the information for the years when you had a beekeeping operation in the spaces provided. Write "0" if none.)
 

|  | 1985           | 1986           | 1987           | 1988           |
|--|----------------|----------------|----------------|----------------|
| a. Number of colonies on October 1                                 | _____          | _____          | _____          | _____          |
| b. # of working colonies at peak production                        | _____          | _____          | _____          | _____          |
| c. Month(s) of the year your operation experienced peak production | _____<br>_____ | _____<br>_____ | _____<br>_____ | _____<br>_____ |

Appendix: National Survey Instrument (continued)

**II. PRODUCTS AND SERVICES**

**Receipts and Production:**

- 1) What were your total gross receipts from products sold, services provided and/or program participation from 1985 to 1988?

Please write: NA - if you DID NOT produce or provide specific products or services or participate in programs for that year.  
 0 - if you DID NOT receive any money for specific products, services or programs your operation had for that year.

| Products, Services,<br>and Programs | TOTAL GROSS RECEIPTS<br>FOR<br>CALENDAR YEAR |          |          |          |
|-------------------------------------|--|----------|----------|----------|
|                                     | 1985   | 1986     | 1987     | 1988     |
| Honey (not forfeited to CCC)        | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Pollination Services                | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Beeswax                             | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Package Bees                        | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Queens and Nuc                      | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Royal Jelly, Propolis, Pollen       | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Other                               | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Gov't. payments (net receipts)      |  |          |          |          |
| CCC forfeitures                     | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |
| Marketing loan benefit*             | \$ _____                                     | \$ _____ | \$ _____ | \$ _____ |

\* Difference between loan rate and repayment rate.

- 2) How much of the following did your beekeeping operation produce or provide from 1985 to 1988?

| Products/Services                   | CALENDAR YEAR |           |           |           |
|-------------------------------------|---------------|-----------|-----------|-----------|
|                                     | 1985          | 1986      | 1987      | 1988      |
| Honey                               | _____ lbs     | _____ lbs | _____ lbs | _____ lbs |
| Beeswax                             | _____ lbs     | _____ lbs | _____ lbs | _____ lbs |
| Royal jelly,<br>Propolis and Pollen | _____ lbs     | _____ lbs | _____ lbs | _____ lbs |
| Package Bees                        | _____ lbs     | _____ lbs | _____ lbs | _____ lbs |
| Nucs                                | _____ #       | _____ #   | _____ #   | _____ #   |
| Queens Sold<br>Separately           | _____ #       | _____ #   | _____ #   | _____ #   |
| Pollination Services                |               |           |           |           |
| # of Colonies                       | _____ #       | _____ #   | _____ #   | _____ #   |
| # of Rentals                        | _____ #       | _____ #   | _____ #   | _____ #   |

3) Of the products and services provided by your beekeeping operation referred to in Question 2, which three do you consider most important to your operation? (Please write down the items in the spaces provided in the order of their importance to your operation.)

\_\_\_\_\_ Most Important  
 \_\_\_\_\_ Second Most Important  
 \_\_\_\_\_ Third Most Important

4) Did your beekeeping operation suffer a reduction in production for any of the following reasons from 1985 to 1988? (CHECK where appropriate.)

| Reason          | CALENDAR YEAR |       |       |       |
|-----------------|---------------|-------|-------|-------|
|                 | 1985          | 1986  | 1987  | 1988  |
| Drought         | _____         | _____ | _____ | _____ |
| Disease         | _____         | _____ | _____ | _____ |
| Mites           | _____         | _____ | _____ | _____ |
| Other (Specify) | _____         | _____ | _____ | _____ |
| _____           | _____         | _____ | _____ | _____ |
| _____           | _____         | _____ | _____ | _____ |

**Honey Marketing:**

5) During the period of 1985 to 1988 what percent of the honey you marketed was white, extra light amber, light amber or amber?

| Honey Marketed    | PERCENT OF TOTAL HONEY MARKETED FOR CALENDAR YEAR |         |         |         |
|-------------------|---|---------|---------|---------|
|                   | 1985  | 1986    | 1987    | 1988    |
| White             | _____ %   | _____ % | _____ % | _____ % |
| Extra Light Amber | _____ %   | _____ % | _____ % | _____ % |
| Light Amber       | _____ %   | _____ % | _____ % | _____ % |
| Amber             | _____ %   | _____ % | _____ % | _____ % |

Appendix: National Survey Instrument (continued)

- 6) During the period of 1985 to 1988, which of the following markets did you use to dispose of your honey crop and what was the amount of honey sold in each market? (Each honey crop year's total should agree with the honey production you reported in Question 2.)

Please write NA - if you DID NOT use that specific outlet in a given year.

| Markets Used                            | POUNDS SOLD FOR<br>CALENDAR YEAR |           |           |           |
|---|----------------------------------|-----------|-----------|-----------|
|   | 1985                             | 1986      | 1987      | 1988      |
| Roadside Market                         | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Retail Stores                           | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Institutions                            | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Broker or Dealer                        | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Packers/Bottlers<br>Independent         | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Cooperative                             | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Direct Export                           | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Industrial User or<br>Food Manufacturer | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Forfeited to CCC                        | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Other Outlet (Specify)                  | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| _____                                   | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Not Sold or<br>In Storage               | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| <b>TOTAL</b>                            | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |

**Government Honey Price Support Program:**

- 7) Since the 1981 crop year, have you participated in the government honey price support program?
- a. No → Skip to Question 9, page 6.
- b. Yes

Appendix: National Survey Instrument (continued)

8) Please fill in the information for honey your operation placed under loan with the government honey price support program from 1981 to 1988.

Please write: NA - if you DID NOT participate in the program that year.  
 0 - if you participated in the program but DID NOT FORFEIT ANY HONEY to the CCC or receive net receipts.

| Honey Crop Year | Quantity Placed Under Loan | Quantity Forfeited to CCC | Net Receipts from Gov't Payments |                         |
|-----------------|----------------------------|---------------------------|----------------------------------|-------------------------|
|                 |                            |                           | Loan Forfeitures                 | Marketing Loan Benefit* |
| 1981            | _____ lbs                  | _____ lbs                 | \$ _____                         |                         |
| 1982            | _____ lbs                  | _____ lbs                 | \$ _____                         |                         |
| 1983            | _____ lbs                  | _____ lbs                 | \$ _____                         |                         |
| 1984            | _____ lbs                  | _____ lbs                 | \$ _____                         |                         |
| 1985            | _____ lbs                  | _____ lbs                 | \$ _____                         |                         |
| 1986            | _____ lbs                  | _____ lbs                 | \$ _____                         | \$ _____                |
| 1987            | _____ lbs                  | _____ lbs                 | \$ _____                         | \$ _____                |
| 1988            | _____ lbs                  | _____ lbs                 | \$ _____                         | \$ _____                |

\* Difference between loan rate and repayment rate.

9) For the years that you did not participate in the government honey price support program and had a beekeeping operation:

Which of the following best describes why you did not participate? (Circle ALL that apply.)

- a. I received a higher price through local markets.
- b. I did not produce enough honey to use the program.
- c. I was not familiar with how the program worked.
- d. It took too much time to complete the paper work.
- e. Cooperative placed honey under loan for me.
- f. Other (Specify)

\_\_\_\_\_

\_\_\_\_\_

10) In your opinion, how would your operation be affected if the federal honey support program were eliminated? (Please circle ALL that apply.)

- a. **COULD NOT CONTINUE** being a beekeeper.
- b. Would **MAINTAIN** the size of my operation.
- c. Would **DECREASE** the size of my operation.
- d. Would **EXPAND** the size of my operation.
- e. Would **DIVERSIFY** into other areas of beekeeping.

If e.: Would diversify into: \_\_\_\_\_

\_\_\_\_\_

f. Other changes (Please specify.) \_\_\_\_\_

\_\_\_\_\_

**Bee Colony Transport:**

11) a. Did you transport any of your bee colonies to other states in 1985, 1986, 1987 or 1988? (Circle ONE letter for each year.)

|        |        |        |        |
|--------|--------|--------|--------|
| 1985   | 1986   | 1987   | 1988   |
| a. Yes | a. Yes | a. Yes | a. Yes |

— b. No, I did not transport bee colonies to other states in 1985, 1986, 1987 or 1988 → Skip to Question 11c, below.

b. If you transported any of your bee colonies to other states, what was the main purpose? (Please check where appropriate)

**Main Purpose for Transporting Bees**    1985    1986    1987    1988

|  |       |       |       |       |
|--|-------|-------|-------|-------|
| a. Provide paid pollination services   | _____ | _____ | _____ | _____ |
| b. Seek floral source for honey prod'n | _____ | _____ | _____ | _____ |
| c. Wintering                           | _____ | _____ | _____ | _____ |
| d. Other (Specify) _____               | _____ | _____ | _____ | _____ |

c. What is your best estimate of the total mileage for transporting your bee colonies in each year for any reason? Total mileage includes all transporting activities to and from home location within state as well as between states for all vehicles.

|         |             |
|---------|-------------|
| a. 1985 | _____ miles |
| b. 1986 | _____ miles |
| c. 1987 | _____ miles |
| d. 1988 | _____ miles |

**Pollination Services:**

12) Did your operation transport bee colonies to one or more locations during 1985, 1986, 1987 or 1988 to provide paid pollination services?

- a. No      ➡ Skip to Section III, page 10.
- b. Yes

13) Please answer the following questions based on your most recent experience.

a. For which year are you providing information on pollination services?

19\_\_\_\_\_

b. How many of your colonies were used at the start of the pollination season?

\_\_\_\_\_ # of COLONIES

c. How many of your colonies were being used at the end of the pollination season?

\_\_\_\_\_ # of COLONIES

d. How many times were your colonies relocated during the year to provide paid or unpaid pollination services?

\_\_\_\_\_ # of TIMES RELOCATED

e. How many total miles were your colonies transported during a year to provide pollination services? (Please approximate if unsure. Total miles includes all transporting activities to and from home location within state as well as between states.)

\_\_\_\_\_ TOTAL MILES



Appendix: National Survey Instrument (continued)

III. 1988 PESTICIDE AND WINTER LOSSES

1) Did your beekeeping operation incur losses from pesticides during 1988?

- a. No → Skip to Question 6, below.
- b. Yes

2) What percent of your colonies were affected by pesticides in 1988?

\_\_\_\_\_ % COLONIES AFFECTED

3) What percent of your affected colonies suffered 50% or more loss of honey bees from pesticides?

\_\_\_\_\_ % COLONIES WITH 50% LOSS

4) Where did most of your losses occur? (Circle ONE answer.)

- a. Colony
- b. Field
- c. Both

5) Are you normally reimbursed for your honey bee losses from pesticides?

- a. No
- b. Yes

6) Does your beekeeping operation normally incur winter losses?

- a. No → Skip to Section IV, page 11.
- b. Yes

7) What percent of your colonies are affected by winter loss each year?

\_\_\_\_\_ % COLONIES AFFECTED

8) What percent of your affected colonies suffered 50% or more winter loss of honey bees?

\_\_\_\_\_ % COLONIES WITH 50% LOSS

9) What method do you use to replace winter losses? (Circle ALL that apply.)

- a. Package bees
- b. Divisions with purchased queens
- c. Divisions with queens raised by the beekeeper using a natural queen cell
- d. Divisions with queens raised by the beekeeper using a grafted queen cell

**IV. LABOR USE**

1) What is the average number of hours per week each of the following have spent on your entire operation in 1988? (Please fill in the blanks provided.)

Please write: NA - if you DID NOT USE a specific labor source during a given time.

|                         | Jan-Mar<br><small>(hours/week)</small> | Apr-Jun<br><small>(hours/week)</small> | Jul-Sep<br><small>(hours/week)</small> | Oct-Dec<br><small>(hours/week)</small> |
|-------------------------|--|--|--|--|
| Yourself                | _____                                  | _____                                  | _____                                  | _____                                  |
| Other Family<br>Members | _____                                  | _____                                  | _____                                  | _____                                  |
| Hired Labor             |  |  |  |  |
| Full Time               | _____                                  | _____                                  | _____                                  | _____                                  |
| Part Time               | _____                                  | _____                                  | _____                                  | _____                                  |

2) What is the average wage rate paid by your operation for each of the following?

- a. Full time hired labor? \_\_\_\_\_ dollars/hour.
- b. Part time hired labor? \_\_\_\_\_ dollars/hour.

Appendix: National Survey Instrument (continued)

V. ADVERTISING AND PROMOTIONAL ACTIVITIES

1) Where did you advertise your products and services in 1988? Exclude contributions for advertising and promotion done by marketing cooperatives and the National Honey Board. (Please put a CHECK on the appropriate spaces.)

|                           | <u>Honey</u> | <u>Honey with other Products</u> | <u>Beeswax</u> | <u>Pollination Services</u> | <u>Package Bees and Queens</u> |
|---------------------------|--------------|----------------------------------|----------------|-----------------------------|--------------------------------|
| Local Newspapers          | _____        | _____                            | _____          | _____                       | _____                          |
| Circulars                 | _____        | _____                            | _____          | _____                       | _____                          |
| Beekeeping Journals       | _____        | _____                            | _____          | _____                       | _____                          |
| Magazines                 | _____        | _____                            | _____          | _____                       | _____                          |
| Community Bulletin Boards | _____        | _____                            | _____          | _____                       | _____                          |
| Direct Mail               | _____        | _____                            | _____          | _____                       | _____                          |
| Road Signs                | _____        | _____                            | _____          | _____                       | _____                          |
| Word of Mouth             | _____        | _____                            | _____          | _____                       | _____                          |
| Other (Please List)       | _____        | _____                            | _____          | _____                       | _____                          |
|                           | _____        | _____                            | _____          | _____                       | _____                          |
| Didn't Advertise          | _____        | _____                            | _____          | _____                       | _____                          |

2) Which of the following beekeeping promotional activities did you participate in during 1988? (Circle ALL that apply.)

- a. Distributing recipes using honey
- b. Giving demonstrations/Setting up Displays (e.g. county fairs, flea markets, grocery stores, bazaars etc.)
- c. Distributing honey information
- d. Distributing free samples
- e. Publishing newspaper articles
- f. Maintaining observation hive
- g. Contributing to the National Honey Board
- h. Other (Please Specify) \_\_\_\_\_

i. Did not participate during 1988 \_\_\_\_\_

**SECTION B**

If you are:

- a PRODUCER only → Skip to Section D, Page 21
- a PACKER → Continue with Section B, Page 14
- All Others → Skip to Section C, Page 17

**SECTION B. PACKERS**

**I. FIRM CHARACTERISTICS**

- 1) Are you a: (Please circle ONE response.)
- a. Full time Packer
  - b. Part time Packer;  
Other time spent on beekeeping activities
  - c. Part time Packer;  
Other time spent on non-beekeeping activities
- 2) In what state do you have your packing facilities?
- \_\_\_\_\_

**II. PRODUCTS AND SERVICES**

- 1) Did your operation do any subcontracted packing services for other businesses in 1988?
- a. No → Skip to question 3, page 15.
  - b. Yes
- 2) **FOR SUBCONTRACTED HONEY ONLY:**  
Please fill in the following information about honey you packed for other businesses from 1985 to 1988.

Please write: NA - if you DID NOT accept any subcontracts that year.

| Calendar Year | Honey Source | Volume Packed | Total Cost of Purchased Honey | Revenue Received From Services |
|---------------|--------------|---------------|-------------------------------|--------------------------------|
| 1985          | Domestic     | _____ lbs     | \$ _____                      | \$ _____                       |
|               | Foreign      | _____ lbs     | \$ _____                      | \$ _____                       |
| 1986          | Domestic     | _____ lbs     | \$ _____                      | \$ _____                       |
|               | Foreign      | _____ lbs     | \$ _____                      | \$ _____                       |
| 1987          | Domestic     | _____ lbs     | \$ _____                      | \$ _____                       |
|               | Foreign      | _____ lbs     | \$ _____                      | \$ _____                       |
| 1988          | Domestic     | _____ lbs     | \$ _____                      | \$ _____                       |
|               | Foreign      | _____ lbs     | \$ _____                      | \$ _____                       |

Appendix: National Survey Instrument (continued)

- 3) **For All Packing Services Excluding Subcontracted Services:**  
Please fill in the following information about honey you packed from 1985 to 1988.

| Calendar Year | Honey Source       | Volume Packed | Total Cost of Purchased Honey | Revenue Received From Packed Honey |
|---------------|--------------------|---------------|-------------------------------|------------------------------------|
| 1985          | Own Honey          | _____ lbs     |                               | \$ _____                           |
|               | Purchased Domestic | _____ lbs     | \$ _____                      | \$ _____                           |
|               | Purchased Foreign  | _____ lbs     | \$ _____                      | \$ _____                           |
| 1986          | Own Honey          | _____ lbs     |                               | \$ _____                           |
|               | Purchased Domestic | _____ lbs     | \$ _____                      | \$ _____                           |
|               | Purchased Foreign  | _____ lbs     | \$ _____                      | \$ _____                           |
| 1987          | Own Honey          | _____ lbs     |                               | \$ _____                           |
|               | Purchased Domestic | _____ lbs     | \$ _____                      | \$ _____                           |
|               | Purchased Foreign  | _____ lbs     | \$ _____                      | \$ _____                           |
| 1988          | Own Honey          | _____ lbs     |                               | \$ _____                           |
|               | Purchased Domestic | _____ lbs     | \$ _____                      | \$ _____                           |
|               | Purchased Foreign  | _____ lbs     | \$ _____                      | \$ _____                           |

- 4) How much honey did your operation sell through the following market outlets from 1985 to 1988?

Please write NA - if you DID NOT use that specific outlet in a given year.

| Markets Used                         | POUNDS SOLD FOR CALENDAR YEAR |           |           |           |
|--------------------------------------|-------------------------------|-----------|-----------|-----------|
|                                      | 1985                          | 1986      | 1987      | 1988      |
| Roadside Market                      | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| Retail Stores                        | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| Institutions                         | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| Broker or Dealer                     | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| Direct Export                        | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| Industrial User or Food Manufacturer | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| Other Outlet (Specify)               | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| _____                                | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| Not Sold or In Storage               | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |
| <b>TOTAL</b>                         | _____ lbs                     | _____ lbs | _____ lbs | _____ lbs |

Appendix: National Survey Instrument (continued)

III. ADVERTISING AND PROMOTIONAL ACTIVITIES

1) Where did you advertise your products and services in 1988? (Please put a CHECK on the appropriate spaces.)

|                              | Honey | Honey<br>with other<br>Products | Packing<br>Services | Other<br>Products or<br>Services |
|------------------------------|-------|---------------------------------|---------------------|----------------------------------|
| Local Newspapers             | _____ | _____                           | _____               | _____                            |
| Circulars                    | _____ | _____                           | _____               | _____                            |
| Beekeeping<br>Journals       | _____ | _____                           | _____               | _____                            |
| Magazines                    | _____ | _____                           | _____               | _____                            |
| Community<br>Bulletin Boards | _____ | _____                           | _____               | _____                            |
| Direct Mail                  | _____ | _____                           | _____               | _____                            |
| Road Signs                   | _____ | _____                           | _____               | _____                            |
| Word of Mouth                | _____ | _____                           | _____               | _____                            |
| Other (Please List)          | _____ | _____                           | _____               | _____                            |
| _____                        | _____ | _____                           | _____               | _____                            |
| _____                        | _____ | _____                           | _____               | _____                            |
| Didn't Advertise             | _____ | _____                           | _____               | _____                            |

**SECTION C**

If you are:

- NOT an Importer or Broker → Skip to Section D, Page 21
- an Importer or Broker → Please continue with Section C, Page 18

Appendix: National Survey Instrument (continued)

SECTION C. IMPORTERS AND BROKERS

I. FIRM CHARACTERISTICS

1) Which of the following best describes your operation? (Please circle ONE response.)

- a. Full time Importer
- b. Full time Broker
- c. Full time Importer and Broker
- d. Part time Importer
- e. Part time Broker
- f. Part time Importer and Broker

2) In what state do you have your primary headquarters?

\_\_\_\_\_

II. PRODUCTS AND SERVICES

1) What products do you negotiate? (Circle ALL that apply.)

- a. Honey
- b. Other Nutritive Sweeteners (e.g. corn syrup, sugar, etc.)
- c. Other Agricultural Products
- d. Non-Agricultural Products

2) During the period of 1985 to 1988, please indicate the quantity of honey negotiated by your operation, its source, the cost, and the revenue received.

| Calendar Year | Honey Source | Volume    | Total Cost | Total Revenue |
|---------------|--------------|-----------|------------|---------------|
| 1985          | Domestic     | _____ lbs | \$ _____   | \$ _____      |
|               | Foreign      | _____ lbs | \$ _____   | \$ _____      |
| 1986          | Domestic     | _____ lbs | \$ _____   | \$ _____      |
|               | Foreign      | _____ lbs | \$ _____   | \$ _____      |
| 1987          | Domestic     | _____ lbs | \$ _____   | \$ _____      |
|               | Foreign      | _____ lbs | \$ _____   | \$ _____      |
| 1988          | Domestic     | _____ lbs | \$ _____   | \$ _____      |
|               | Foreign      | _____ lbs | \$ _____   | \$ _____      |

Appendix: National Survey Instrument (continued)

3) How much of your negotiated honey did your operation sell through the following market outlets from 1985 to 1988?

Please write NA - if you DID NOT use that specific outlet in a given year.

| Markets Used                            | POUNDS SOLD FOR<br>CALENDAR YEAR |           |           |           |
|---|----------------------------------|-----------|-----------|-----------|
|   | 1985                             | 1986      | 1987      | 1988      |
| Roadside Market                         | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Retail Stores                           | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Institutions                            | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| <b>Packers/Bottlers</b>                 |                                  |           |           |           |
| Independent                             | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Cooperative                             | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Direct Export                           | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Industrial User or<br>Food Manufacturer | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Other Outlet (Specify)                  |                                  |           |           |           |
| _____                                   | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| _____                                   | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| Not Sold or<br>In Storage               | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |
| <b>TOTAL</b>                            | _____ lbs                        | _____ lbs | _____ lbs | _____ lbs |

Appendix: National Survey Instrument (continued)

III. ADVERTISING AND PROMOTIONAL ACTIVITIES

1) Where did you advertise your products and services in 1988? (Please put a CHECK on the appropriate spaces.)

|                              | Honey | Honey<br>with other<br>Nutritive<br>Sweeteners | Brokerage<br>and Importer<br>Services | Other<br>Products or<br>Services |
|------------------------------|-------|--|---------------------------------------|----------------------------------|
| Local Newspapers             | _____ | _____  | _____                                 | _____                            |
| Circulars                    | _____ | _____  | _____                                 | _____                            |
| Beekeeping<br>Journals       | _____ | _____  | _____                                 | _____                            |
| Magazines                    | _____ | _____  | _____                                 | _____                            |
| Community<br>Bulletin Boards | _____ | _____  | _____                                 | _____                            |
| Direct Mail                  | _____ | _____  | _____                                 | _____                            |
| Road Signs                   | _____ | _____  | _____                                 | _____                            |
| Word of Mouth                | _____ | _____  | _____                                 | _____                            |
| Other (Please List)          |       |  |                                       |                                  |
| _____                        | _____ | _____  | _____                                 | _____                            |
| _____                        | _____ | _____  | _____                                 | _____                            |
| Didn't Advertise             | _____ | _____  | _____                                 | _____                            |

Please continue with Section D, Page 21.

**SECTION D. FINANCES**

**Total Gross Expenses:** - Please answer the following questions with regard to your entire beekeeping and/or marketing operation.

- 1) Please estimate the cost of the following items to your entire operation in 1988. (Please fill in the blanks for ALL that apply.)

Please write: NA - for items that DO NOT apply to your operation.  
0 - if you DID NOT incur any expenses for that item in 1988.

| <u>COST</u> | <u>ITEM</u>  |
|-------------|--|
|             | <b>Labor</b>   |
| \$ _____    | Hired labor  |
| \$ _____    | Hired labor benefits (e.g. housing allowance, insurance, etc.) |
| \$ _____    | Salaries of corporate officers, management, office labor, etc. |
|             | <b>Bees</b>  |
| \$ _____    | Bee food   |
| \$ _____    | Queens and Nucs  |
| \$ _____    | Package Bees   |
|             | <b>Supplies</b>  |
| \$ _____    | General (e.g. smokers, veils, drugs, supers)                   |
| \$ _____    | Containers and Packaging Materials                             |
|             | <b>Equipment</b>   |
| \$ _____    | Repair and Maintenance   |
| \$ _____    | Gas and oil  |
|             | <b>Buildings</b>   |
| \$ _____    | Repair and Maintenance   |
| \$ _____    | Mortgage (including interest paid)                             |
|             | <b>Overhead Expenses</b>                                       |
| \$ _____    | Utilities  |
| \$ _____    | Business Insurance   |
| \$ _____    | Taxes  |
| \$ _____    | Location Rent  |
| \$ _____    | Interest on Operating Capital                                  |
| \$ _____    | Office Expenses (excluding salaries)                           |
|             | <b>Marketing Activities</b>                                    |
| \$ _____    | Advertising  |
| \$ _____    | Publication Subscriptions                                      |
| \$ _____    | Promotion (excluding NHB Assessments)                          |
| \$ _____    | Marketing Fees (e.g. brokerage fees)                           |
| \$ _____    | Other (Specify.) _____   |

Appendix: National Survey Instrument (continued)

**Financial Situation:** -Please answer the following questions with regard to your entire beekeeping and/or marketing operation.

2) In 1988, what was your operation's approximate gross income? (Gross income is the total income before subtracting expenses. Circle the LETTER which applies to your operation.)

- |                         |                           |
|-------------------------|---------------------------|
| a. \$2,499 or less      | g. \$50,000 to \$99,999   |
| b. \$2,500 to \$4,999   | h. \$100,000 to \$149,999 |
| c. \$5,000 to \$9,999   | i. \$150,000 to \$199,999 |
| d. \$10,000 to \$19,999 | j. \$200,000 to \$499,999 |
| e. \$20,000 to \$39,999 | k. \$500,000 to \$999,999 |
| f. \$40,000 to \$49,999 | l. \$1,000,000 or more    |

3) In 1988, what was your operation's net income? (Net income is gross income minus expenses. Circle the LETTER which applies.)

- |                          |                         |
|--------------------------|-------------------------|
| a. Costs exceeded income | e. \$5,000 to \$9,999   |
| b. Broke even            | f. \$10,000 to \$19,999 |
| c. \$1 to \$2,499        | g. \$20,000 to \$49,999 |
| d. \$2,500 to \$4,999    | h. \$50,000 to \$99,999 |
|                          | i. \$100,000 or more    |

4) What would you estimate to be the total value of all the assets of your operation at the end of 1988? (Assets include land, buildings, machinery, hives, honey, beeswax and other property. Circle the LETTER which applies.)

- |                         |                               |
|-------------------------|-------------------------------|
| a. \$2,499 or less      | h. \$100,000 to \$149,999     |
| b. \$2,500 to \$4,999   | i. \$150,000 to \$199,999     |
| c. \$5,000 to \$9,999   | j. \$200,000 to \$499,999     |
| d. \$10,000 to \$19,999 | k. \$500,000 to \$999,999     |
| e. \$20,000 to \$39,999 | l. \$1,000,000 to \$1,499,999 |
| f. \$40,000 to \$49,999 | m. \$1,500,000 to \$1,999,999 |
| g. \$50,000 to \$99,999 | n. \$2,000,000 or more        |

5) What was the approximate total amount of debt on the assets of your operation at the end of 1988? (Circle the LETTER which applies.)

- |                         |                               |
|-------------------------|-------------------------------|
| a. No debt              | i. \$100,000 to \$149,999     |
| b. \$2,499 or less      | j. \$150,000 to \$199,999     |
| c. \$2,500 to \$4,999   | k. \$200,000 to \$499,999     |
| d. \$5,000 to \$9,999   | l. \$500,000 to \$999,999     |
| e. \$10,000 to \$19,999 | m. \$1,000,000 to \$1,499,999 |
| f. \$20,000 to \$39,999 | n. \$1,500,000 to \$1,999,999 |
| g. \$40,000 to \$49,999 | o. \$2,000,000 or more        |
| h. \$50,000 to \$99,999 |                               |

Appendix: National Survey Instrument (continued)

SECTION E. PERSONAL INFORMATION

- 1) Which of the following best describes the location of your primary residence? (Please circle the LETTER where you live most of the year.)
- a. Farm
  - b. Rural but not farm
  - c. Community under 2,500
  - d. Community 2,500 or more but less than 25,000
  - e. Community 25,000 or more but less than 50,000
  - f. Community 50,000 or more but less than 100,000
  - g. Community 100,000 or more
- 2) How many people, including yourself, live at your present address? (Please fill in the blanks. Put "0" where applicable.)
- a. Under 6 years old \_\_\_\_\_
  - b. 6 to 12 years old \_\_\_\_\_
  - c. 13 to 18 years old \_\_\_\_\_
  - d. 19 or older \_\_\_\_\_
- 3) What is your current marital status? (Please circle ONE response.)
- a. Married
  - b. Single
  - c. Widowed/Divorced/Separated
- 4) How many years of school did you complete? (Please circle ONE response.)
- a. 1 to 8 years (Elementary school only)
  - b. 9 to 11 years (Attended some high school)
  - c. 12 years (Graduated high school)
  - d. 13 to 15 years (Attended college)
  - e. 16 or more years (Graduated college)
- 5) What do you consider your major occupation? (Circle the LETTER which best describes your occupation.)
- a. Clerical
  - b. Professional (teacher, lawyer, etc)
  - c. Managerial
  - d. Technician
  - e. Labor (construction, factory, etc.)
  - f. Own my own business (excluding farming)
  - g. Sales
  - h. Beekeeper and/or bee producer
  - i. Farmer (crop, livestock, aquaculture, poultry etc.)
  - j. Retired
  - k. Other \_\_\_\_\_

Appendix: National Survey Instrument (continued)

6) Is this occupation the major source of your household's income?

- a. No
- b. Yes

7) How long have you been a producer, packer, importer, or broker in the beekeeping industry?

\_\_\_\_\_ years

8) Which income category best describes the annual gross income for all wage earners in your immediate family living with you last year? (Please circle ONE response.)

- |                         |                             |
|-------------------------|-----------------------------|
| a. Less than \$9,999    | f. \$100,000 to \$149,999   |
| b. \$10,000 to \$19,999 | g. \$150,000 to \$199,999   |
| c. \$20,000 to \$39,999 | h. \$200,000 to \$499,999   |
| d. \$40,000 to \$69,999 | i. \$500,000 to \$1,000,000 |
| e. \$70,000 to \$99,999 | j. Over \$1,000,000         |

9) How old were you on your last birthday?

\_\_\_\_\_ years old

10) Are you:

- a. Female
- b. Male

11) How long did it take you to complete this questionnaire?

\_\_\_\_\_ minutes

Appendix: National Survey Instrument (continued)

**SECTION F. YOUR COMMENTS**

Is there anything else that you would like to tell us about your operation? If you do, please use the space below for that purpose.

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Do you have any comments about this survey in general, as well as any of its specific sections or questions? We would appreciate your comments to help us learn more about issues important in identifying the needs and current economic status of the honey industry.

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Appendix: National Survey Instrument (continued)

If you have any questions regarding this study or this questionnaire, please contact:

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THANK YOU FOR YOUR COOPERATION. PLEASE MAIL THIS  
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