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**HONEY INDUSTRY SURVEY:**

**Summary of Pretest Response**

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**September 1989**

**No. 89-33**

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## **HONEY INDUSTRY SURVEY: Summary of Pretest Response\***

### 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. The discovery of varroa mites has 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 a national survey of the industry was recommended. This survey, funded by the National Honey Board and the U.S. Department of Agriculture is conducted by the Department of Agricultural Economics at Cornell University. The purpose of the Honey Industry Survey is to collect information to identify the needs and current economic status of the honey industry.

In this report the Honey Industry Survey instrument and survey sample will be discussed. The response rate of a pretest survey, mailed in mid-August, will be reported,

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\* This research is funded by the U.S. Department of Agriculture Economic Research Service under Cooperative Agreements 58-3AEK-9-80005 and 58-3AEK-9-80006 and the National Honey Board.

compared to response rates of other surveys and analyzed. Finally, in preparation for the mailing to a larger sample of 2,000 industry participants, recommendations for revisions of the survey instrument and the procedures used will be presented.

### SURVEY INSTRUMENT

The survey instrument consists of a cover letter, a questionnaire, a return envelope and an outer envelope. The cover letter, on Cornell University letterhead, invites the addressee to be part of a pioneering research effort that may result in better support and policies for the honey industry. Support for the survey by organizations associated with the honey industry is indicated in the letter's text as well as by signatures from Dan W. Hall (National Honey Board), Frederic Hoff (U.S. Department of Agriculture), Richard Adee (American Honey Producers Association, Inc.), Reg Willbanks (American Beekeeping Federation), Robert Appel (National Honey Packers & Dealers Association) and Lois Willett (Cornell University). In the letter, the respondents are assured that their responses will remain confidential and will never be associated with their name or company. The respondents are encouraged to participate in the study because it is only by their responses that an accurate evaluation of the importance of the beekeeping and honey industry to the nation and the needs and status of the honey industry can be made known.

The questionnaire itself consists of a cover sheet, twenty-one pages of questions, two pages with brief directions, a comments page and a page where the respondents are thanked for their cooperation. A picture of a large jar of honey, the title and purpose of the survey are identified on the front cover. Inside the front cover more detailed information about the survey and information required by and provided by the Office of Management and Budget are included.

The survey questions consist of five parts. The first section asks producers about their firm characteristics, products and services, colony losses and advertising and promotional activities. Honey packers are asked to respond to questions dealing with firm characteristics,

products and services and marketing activities in the second section. The third section includes similar questions for importers and brokers. Questions in the fourth part of the survey pertain to total gross expenses and the operation's financial situation. Finally, demographic information is collected in the last section.

The cover letter, questionnaire and a white self-addressed return envelope (with \$0.85 postage affixed) are mailed in a white envelope (with \$1.05 postage affixed) to those in the sample.

### SURVEY SAMPLE

The survey will be mailed to 2,000 participants in the honey industry selected randomly from the mailing list of importers and brokers, packers and producers who pay assessments to the National Honey Board. As seen in Table 1, because of the small population of importers and brokers, all importers and brokers will receive a questionnaire. Sixty-four percent of the packers will be contacted and asked to respond to the questionnaire. The representation of the packers by assessment category will reflect the population representation. Over one thousand five hundred producers will be contacted. The majority of these producers have assessments of less than \$60.00. Two of the contacts have assessments of over \$10,000 and seven of the contacts have assessments of between \$5,000 and \$10,000. The sample will be selected randomly such that each assessment category is represented according to its population proportion.

To encourage response from those 2000 industry participants contacted in the first wave mailing, a postcard mailing to the nonrespondents will occur two to three weeks after the initial mailing of the survey. The postcard will identify the importance of their participation and encourage them to return the survey. A second cover letter, survey and return envelope will be mailed to any remaining nonrespondents two to three weeks after the postcard mailing. Once again participation will be encouraged.

Table 1

POPULATION AND PARTICIPANTS IN COMPLETE HONEY INDUSTRY SURVEY  
BY SIZE CATEGORY

	Population (#)	(% of Total)	Complete Sample (#)	(% of Total)
<b>Producer</b>				
Assessments ≤ \$60	3223	52.8 %	816	52.8 %
\$60 < Assessments ≤ \$218.50	1328	21.7 %	336	21.7 %
\$218.50 < Assessments ≤ \$5,000	1526	25.0 %	386	25.0 %
\$5,000 < Assessments ≤ \$10,000	25	0.4 %	7	0.4 %
\$10,000 < Assessments	<u>6</u>	<u>0.1 %</u>	<u>2</u>	<u>0.1 %</u>
<b>TOTAL</b>	6108	100 0%	1547	100.0 %
<b>Packers</b>				
Assessments ≤ \$100	150	38.4 %	96	38.4 %
\$100 < Assessments ≤ \$1,000	174	44.5 %	111	44.5 %
\$1,000 < Assessments	<u>67</u>	<u>17.1 %</u>	<u>43</u>	<u>17.1 %</u>
<b>TOTAL</b>	391	100.0 %	250	100.0 %
<b>Importers and Brokers</b>				
Importers	185	91.1 %	185	91.1 %
Brokers	<u>18</u>	<u>8.9%</u>	<u>18</u>	<u>8.9 %</u>
<b>TOTAL</b>	203	100.0 %	203	100.0 %
<b>GRAND TOTAL</b>	6702		2000	

To assist in identifying problems that may arise with the survey instrument a pretest mailing to 200 participants in the industry was conducted in mid-August. This mailing consisted of the complete survey instrument (cover letter, survey, return envelope and outer envelope). As seen in Table 2, importers and brokers were not contacted in the pretest. Thirty packers and one hundred seventy producers selected randomly from the mailing list of the National Honey Board, were contacted. Contacts were selected such that the representation of each assessment category in the pretest was similar to the population representation. There is

no duplication of names between the 200 contacts in the pretest and the 2,000 contacts in the complete mailing. The initial mailing of the pretest was not followed by a postcard mailing to nonrespondents nor a second wave mailing of a cover letter, survey and return envelope. Hence, one would expect the response rates on the pretest to be much lower than the response rates on the mailing to 2,000 contacts in the industry.

Table 2

POPULATION AND PARTICIPANTS IN PRETEST OF HONEY INDUSTRY SURVEY  
BY SIZE CATEGORY

	Population (#)	(% of Total)	Pretest Sample (#)	(% of Total)
<b>Producer</b>				
Assessments ≤ \$60	3223	52.8 %	90	52.8 %
\$60 < Assessments ≤ \$218.50	1328	21.7 %	36	21.7 %
\$218.50 < Assessments ≤ \$5,000	1526	25.0 %	43	25.0 %
\$5,000 < Assessments ≤ \$10,000	25	0.4 %	1	0.5 %
\$10,000 < Assessments	<u>6</u>	<u>0.1 %</u>	<u>0</u>	<u>0.0 %</u>
TOTAL	6108	100 0%	170	100.0 %
<b>Packers</b>				
Assessments ≤ \$100	150	38.4 %	12	38.4 %
\$100 < Assessments ≤ \$1,000	174	44.5 %	13	44.5 %
\$1,000 < Assessments	<u>67</u>	<u>17.1 %</u>	<u>5</u>	<u>17.1 %</u>
TOTAL	391	100.0 %	30	100.0 %
<b>Importers and Brokers</b>				
Importers	185	91.1 %	0	0.0 %
Brokers	<u>18</u>	<u>8.9%</u>	<u>0</u>	<u>0.0 %</u>
TOTAL	203	100.0 %	0	100.0 %
GRAND TOTAL	6702		200	



## PRETEST SURVEY RESPONSE RATE

The pretest mailing was sent to 200 participants on August 14, 1989. Seven weeks after the initial mailing, fifty-one surveys had been returned, as seen in Table 3. This response represents twenty-five and one half (25.5) percent of the mailing. Four of these surveys were returned because of incorrect addresses. One of the forty-seven surveys was returned blank because the respondent would not release information he felt was confidential. One of the forty-seven surveys was returned blank because the operator was no longer in the honey business. The remaining surveys were fully completed.

Table 3

### SUMMARY OF PRETEST RESPONSE (Seven Weeks Following Initial Mailing)

	Pretest Mailing (#)	Pretest Response (#)	Response Rate
Producer			
Assessments ≤ \$60	90	19	21 %
\$60 < Assessments ≤ \$218.50	36	9	25 %
\$218.50 < Assessments ≤ \$5,000	43	8	19 %
\$5,000 < Assessments ≤ \$10,000	1	0	0 %
\$10,000 < Assessments	<u>0</u>	<u>0</u>	<u>-- %</u>
TOTAL	170	36	21 %
Packers			
Assessments ≤ \$100	12	4	33 %
\$100 < Assessments ≤ \$1,000	13	4	31 %
\$1,000 < Assessments	<u>5</u>	<u>3</u>	<u>60 %</u>
TOTAL	30	11	37 %
Incorrect Address		4	
GRAND TOTAL	200	51	25.5 %

Honey packers had a higher response rate to the pretest than producers. In addition, the response rate of large packers, as indicated by the amount of assessments paid to the National Honey Board, is the highest for any category in the pretest sample. It does not appear that the response rate of large producers is significantly lower than the response rate of smaller producers.

#### ANALYSIS OF PRETEST SURVEY RESPONSE RATE

A response rate of 25.5 percent is somewhat lower than hoped for and can be the cause of some concern. However, there are a few characteristics of the pretest that must be taken into consideration when evaluating the response rate. First, the pretest was mailed in mid-August. This time of year is quite busy for honey producers and packers. Because of the competing demands on producers' and packers' time it is not unusual to get a lower response rate than anticipated. The mailing to 2,000 industry participants will occur in the late fall or early winter when beekeeping activities are at a minimum. Hence, one can anticipate a much larger response rate and perhaps a doubling of the initial response.

Second, the response rate to the pretest is low because there was no follow-up to the initial mailing. A postcard was not mailed to nonrespondents two weeks after the initial mailing and a follow-up cover letter and additional survey was not mailed to nonrespondents two weeks following the postcard mailing. Studies have shown that additional contacts increase the response rate. The first follow-up yields an additional 20 percent in the response rate, while a second and third follow-up yields an additional 12 percent and 10 percent respectively (Heberlein and Baumgartner). When the mailing to 2,000 industry participants occurs in the late fall or early winter the initial contact will be followed by a postcard mailing and a second cover letter and survey.

Third, there might be some concern that the length of the survey contributed to the low response rate. The respondents indicated it took them an average of 30 minutes to 45 minutes to complete the questionnaire. Several respondents complete the questionnaire in less than 30

minutes. One respondent worked on the questionnaire for over two hours. These averages or much lower than estimated by the Office of Management and Budget.

In order to determine why the survey had not been returned and if there was concern about the length of the survey, forty-two names were selected randomly from the list of nonrespondents and were contacted by telephone. Their responses are summarized in Table 4. Of the forty-two attempts at telephone contacts, fifteen individuals were not contacted because of unlisted phone numbers, unidentifiable names or lack of directory assistance due to the telephone strike. Of the twenty-seven that were contacted, five did not remember receiving the survey while twenty-two did recall receiving the survey but had not responded. As seen in Table 4, the reasons for not responding ranged from an unwillingness to release confidential information to concern that parts of the survey did not apply to their operation. Four of those contacted indicated that they did not have the time to complete the survey because it was a busy time of year for them. Only one of those four expressed concern that the survey was too long. Ten of those contacted said they were working on the survey and would return it when they could. Of course their prompt response was encouraged. To date, six of the ten have returned the survey.

Numerous studies of survey instruments and their responses have examined the length of a survey and the response rate. A number of studies have found either no effect or a modest negative effect (Sletto, Scott, Mason et. al, Champion and Sear, Berdie). Heberlein and Baumgartner have found no significant correlation exists between the length of the questionnaire and overall responses. Hence, they conclude that long questionnaires averaged just as high a response as very short survey instruments. However, after a number of other factors were controlled they did discover that length of a questionnaire did have a modest negative influence (.05%) on the response rate.

Heberlein and Baumgartner identified the number of contacts and the salience of the questionnaire as the key determinants of the response rate. The more contacts with a potential respondent the higher the likelihood that person will respond. A salient topic is one which

deals with important behavior or current interests. Topics that are not salient are those topics in which the respondent is not concerned or those topics that are not current.

Table 4

SUMMARY OF PRETEST TELEPHONE CONTACTS

	Telephone Contact (#)
<b>Unable to Contact</b>	
Unlisted Number	3
No Directory Assistance (Phone Strike)	5
Unidentifiable Name	<u>7</u>
<b>TOTAL</b>	<b>15</b>
<b>Contacted</b>	
Don't Remember Receiving Survey	5
Received Survey But Did Not Return	<u>22</u>
Already Discarded (1)	
Not Applicable (5)	
Confidentiality (1)	
Some Parts They Can't Answer (1)	
No Time (4)	
Will Work on It and Return (10)	
<b>TOTAL</b>	<b>27</b>
<b>GRAND TOTAL</b>	<b>42</b>

In addition, Heberlein and Baumgartner indicate that high return rates are correlated with lowering the costs involved in completing and returning the questionnaire. The most effective way to overcome the cost barrier is to include a postage paid return envelope and increase the perceived importance of the study and the importance of the individual's response to the overall success of the study. When the respondent is knowledgeable of and interested in the topic of the questionnaire, their input to the study may be judged to be more important. In addition, each additional contact with the respondent, by postcard mailings or mailings of

second cover letters and a follow-up survey, will convince the individual of the importance of their participation. Heberlein and Baumgartner suggest that since they found no significant effects due to the length of the survey that longer questionnaires may impress the individual with the importance of their response. It is easy for a potential respondent to discard a single page questionnaire, but discarding a lengthy questionnaire is more difficult. The potential respondent might feel the research is serious since the researcher has taken considerable time to prepare the questionnaire. Hence, length of the survey might convince the respondent that the survey and their response to the survey is important. Heberlein and Baumgartner also indicate that a longer questionnaire may make it easier for the respondent to complete. Long survey instruments are usually less cluttered, have fewer items per page and reinforce the individual's progress as they complete the questionnaire.

With these considerations, the response rate to the pretest is quite reasonable. One could anticipate a much higher rate of response on the mailing to the sample of 2,000 industry participants because that mailing could be preceded by a press release identifying the importance of the honey industry and the importance of this national survey of the industry. The use of the survey results in providing information that can be used to formulate better policies for the honey industry will be stressed in the cover letter. Hence, the salience of the survey instrument will increase. In addition, the mailing to 2,000 industry participants will be followed by a postcard mailing to nonrespondents and a subsequent mailing of an additional cover letter, another survey and a postage-paid return envelope to any remaining nonrespondents.

#### RECOMMENDATIONS FOR REVISIONS OF SURVEY INSTRUMENT AND SURVEY PROCEDURES

Based on the response rate of the pretest survey, a comparison of this response to the literature on mailed questionnaires and follow-up telephone conversations with twenty-seven of the nonrespondents the following actions are recommended for the mailing of the survey

instrument to the random sample of 2,000 industry participants.

- (1) The mailing of the survey instrument should be preceded by a press release identifying the importance of the honey industry to the nation's agricultural industry and the importance of the survey to identify the current needs and economic status of the industry.
- (2) The next issue of the National Honey Board's newsletter and other industry newsletters should contain a column identifying this pioneering research, its importance to the honey industry and encouraging those contacted to respond to the questionnaire.
- (3) The mailing of the survey instrument should be done in late fall or early winter when the demands on the time of honey industry participants may not be as great.
- (4) Although the cover letter included in the packet mailed to each individual currently states the importance of this research effort, it should be reiterated and stressed.
- (5) The initial mailing of the survey to the 2,000 industry participants should be followed by a postcard mailing to the nonrespondents in two to three weeks . This mailing should identify the importance of the research and the importance of receiving each person's response.
- (6) A second cover letter and additional survey should be mailed two to three weeks after the postcard mailing to individuals who have still not responded. In the second cover letter the research importance will be stressed as well as how important it is to receive a response from all those in the random sample.
- (7) The survey should not be revised. There should not be a separate survey mailed to importers and brokers and a separate survey mailed to packers. From the pretest, it was quite clear that several of the packers were also producers. Hence, all sections of the survey are relevant to some respondents.

- (8) Questions dealing with costs of production and other financial information should remain in the survey. The pretest results indicate that respondents had no problems or reluctance in filling out this section of the questionnaire.
- (9) The survey should not be shortened. The length of the survey allows for fewer items per page, reinforces the individual's progress as they complete the questionnaire and contributes to the individual's perception of the importance of the survey and the importance of their response. Average time to complete the survey was less than estimated by the Office of Management and Budget. Telephone follow-up with twenty-seven nonrespondents indicated that length of the survey was not a reason for their lack of response.

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