

**BEE and HONEY SURVEY**

OMB No. 0535-0153

**B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS**

- 1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection has been conducted previously, include the actual response rate achieved during the last collection.**

Historically, the target population for the Bee and Honey Survey has been U.S. commercial apiaries with five or more colonies. Beginning with the 2015 survey, NASS expanded the target population to include operations with at least one colony and began administering both annual and quarterly Colony Loss panel surveys. This was in response to a Presidential Initiative relating to the wellbeing of the honey bee industry.

Each year NASS administers a Bee and Honey Survey, an Annual Colony Loss Survey and four Quarterly Colony Loss panel surveys. The Bee and Honey sampling frame comprises all active operations on NASS's List Frame with at least one colony. The Annual Colony Loss Survey comprises all active operations with at least one but fewer than five colonies and the Quarterly Colony Loss Survey sampling frame comprises operations that report positive data on the Bee and Honey Survey and have at least five colonies on NASS's List Frame. In addition to these surveys, control data on NASS's List Frame are updated sporadically from other sources, including the Office of the State Apiarist, Industry and Trade Groups, Government Agencies, and NASS's Census of Agriculture.

The Bee and Honey and the Annual Colony Loss Sampling Frames operations with fewer than five colonies are placed into one stratum for each state. In contrast, Bee and Honey Sampling Frame operations with at least five colonies are categorized into one of two distinct groups by state (single state operation (Group 1) or multi-state operation (Group 2)) before stratifying each group using total colonies as a measure of size. The number of strata in Group 1 and Group 2 range from two to five strata and one to two strata, respectively.

The Bee and Honey sample size is derived by targeting on honey type price and adjusted for item of interest and response rate. The Annual Colony Loss and Quarterly Colony Loss panel survey sample sizes are derived by targeting on total colonies.

The stratum level sample size formula is:

$$n_{jh} = \frac{1}{\left(\frac{CV_{jh} * T_{jh}}{100 * N_{jh} * S_{jh}}\right)^2 + \frac{1}{N_{jh}}}$$

Where:

$n_{jh}$  is the sample size for stratum h in state j,

$N_{jh}$  is the population for stratum h in state j,

$S_{jh}$  is the standard deviation for stratum h in state j,

$CV_{jh}$  is the target coefficient of variation for stratum h in state j (percent), and

$T_{jh}$  is the total for stratum h in state j.

2016 Bee and Honey and Colony Loss Surveys				Response Rates
Survey	Sample Size	Waves of Data Collection	Total Responses	Response Rate
Bee and Honey	6,224	1	4,175	67.1%
Annual Colony Loss *	4,196	1	2,563	61.1%
Quarterly Colony Loss *	3,763	4	2,852	75.8%

\* The Annual Colony Loss Sample consists of operations with fewer than 5 colonies and the Quarterly Colony Loss sample consists of operations with 5 or more colonies. The Colony Loss Surveys were previously

2. **Describe the procedures for the collection of information including:**
- **statistical methodology for stratification and sample selection,**
  - **estimation procedure,**
  - **degree of accuracy needed for the purpose described in the justification,**
  - **unusual problems requiring specialized sampling procedures**

Bee and Honey Survey questionnaires are mailed in December and data collection is completed by mid-February to reflect the December 15 honey stocks. Beekeepers not responding by mail or internet will be attempted by telephone or in person. In-person contacts are used if requested by the operator or if there are reporting difficulties such as with cross-State producers. Headquarters acts as the clearing house for multi-State data between the different field offices.

All Regional Field Offices (RFOs) execute a survey summary program created in Headquarters. Review of summary results and preparation of estimates by RFOs are completed by early March and sent to Headquarters. Survey estimates are based on direct expansions and ratio estimates from matched reports to the previous year's survey. The Census of Agriculture provides a benchmark every five years to evaluate survey performance.

3. **Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.**

NASS has well-established, long-term relationships with the larger operations and respondents are familiar with the instrument and purposes of the survey. Some operators make special arrangements with NASS RFOs to report by phone or personal interview. The completed responses for the 2016 survey were 34.8 percent by mail, 9.0 percent by internet, 50.1 percent by telephone, and 6.1 percent by personal interview. Telephone follow-up is conducted for non-respondents. NASS employs a staff of experienced phone enumerators in five calling centers. All Bee and Honey calling was done by two of these calling centers. Calling is performed by a core set of enumerators who are trained to administer this survey by phone and are monitored by supervisors for quality control. Non-respondents are attempted up to 10 times.

After the data collection period closes, data for operations that were pre-selected for the survey sample with 100 percent probability (because they are too large or dissimilar to be represented by other operations) are manually

imputed and the remaining strata are reweighted NASS typically designs surveys to produce CVs under 5 for larger states and under 10 for smaller producing states. Data from states that fail to meet the requirements for disclosure are collapsed and published as "Other States". With non-response follow-ups, the resulting estimates provide reliable and useable measures of this industry.

**4. Describe any tests of procedures or methods to be undertaken.**

In this renewal, NASS has included respondent burden for conducting up to 25 cognitive and usability interviews per year.

**5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

Sample sizes for each state are determined by the agency's Sampling, Editing, and Imputation Methodology Branch, headed by Branch Chief Mark Apodaca, (202)720-5805.

Data collection is carried out by NASS Regional Field Offices. The Eastern Field Operations Director is Jay Johnson, (202) 720-3638. The Western Field Operations Director is Kevin Barnes, (202) 720-8220.

The NASS commodity statistician in Headquarters for the bee and honey survey is Joshua O'Rear, (202)690-3676, in the Poultry and Specialty Commodities Section of the Livestock Branch, Statistics Division. The Livestock Branch Chief is Dan Kerestes (202)720-3570. Commodity statisticians are responsible for national and regional summaries, analysis, presentations to the Agricultural Statistics Board for final estimates, publication, and the Estimation Manual.

The NASS Survey Administrative Statistician in Headquarters for the Bee and Honey Survey is Ruben McCann (202) 720-2570, in the Commodity Surveys Section of the Survey Administration Branch, Census and Survey Division; Branch Chief is Gerald Tillman, (202) 720-3895. The Survey Administrator is responsible for coordination of sampling, questionnaires, data collection, training, Interviewers Manual, Survey Administration Manual, data processing, and other Field Office support.

The national summary is the responsibility of the Summary, Estimation, and Disclosure Methodology Branch in the Methodology Division. Branch Chief is Jeff Bailey, (202)720-4008.