1 Supporting Statement – Part B

COST of POLLINATION SURVEY

OMB No. 0535-0258

In an effort to increase the transparency of NASS's survey processes and provide information on the quality of its estimates, NASS publishes Methodology and Quality Measures Reports for some commodities. The Methodology and Quality Measures Reports are published at the same time or shortly after estimates are released.

This supporting statement incorporates data and methodology from the NASS 2024 Cost of Pollination Methodology and Quality Measures Publication located at:https://www.nass.usda.gov/Publications/Methodology_and_Data_Quality/Cost_of_Pollination/01_2024/copqm24.pdf

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.

Sampling: The target population for Cost of Pollination estimation program is all farms and ranches with at least one acre of a crop determined to be potentially pollinated by honey bees. There were 33 specific crops, identified to use honey bee pollination, targeted in the Cost of Pollination sampling scheme. Additional crops were allowed to be reported in the “All Other Crops” item code on the questionnaire. The Cost of Pollination samples were selected using a Multivariate Probability Proportional to Size (MPPS) sampling scheme. Each record was assigned a measure of size based on list frame data for multiple specified commodities. Nonresponse groupings were formed based on each records probability of selection and previous pollination history. The 2023 sample size was 15,548. The US response rate was 40.0 percent in 2023.

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**

Analysis Tools: Edited data are processed through an interactive analysis tool which displays data for all reports by item. The tool provides scatterplots, tables, charts, and special tabulations that allow the analyst to compare an individual record to similar records. Outliers and unusual data relationships become evident and assigned RFO staff review them to determine if they are correct. The tool allows comparison to an operation's previously reported data to detect large changes in the operation. Data found to be in error are corrected, while data found to be correct are retained.

Non-sampling Errors: Non-sampling errors are present in every survey process. These errors include reporting, recording, and editing errors. Steps are taken to minimize these errors, such as comprehensive interviewer training, validation, and verification of processing systems, application of detailed computer edits, and evaluation of the data via the analysis tools.

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.

Survey Timeline: For the Cost of Pollination survey, data collection begins in October and concludes in December. Estimates are released to the public in December on the date designated by the Agricultural Statistics Board (ASB) on its annual publications calendar.

Estimators: Response to the survey is voluntary. Some producers refuse to participate in the survey. Others cannot be located during the data collection period, and some submit incomplete reports. The nonrespondents are accounted for in the estimation process. Point estimates, called direct expansions, are calculated by multiplying the reported value by the nonresponse adjusted weight and summing to a nonresponse grouping total. The nonresponse adjustment is calculated by summing the weights for all sample records within the group and dividing by the sum of the weights from the usable records. This adjustment assumes that the data of the nonrespondents are similar to the data of the respondents. A variance estimate is also computed for each nonresponse grouping. Totals and variances are additive across nonresponse groupings to form a state estimate and states are additive to regional estimates. Ratio estimates are also computed for many items. For example, dollars per acre values are calculated as the ratio of total dollars paid to acres paid for pollination. Both the numerator and denominator must be usable for that record to be used in the ratio estimator

Estimation: Estimates were prepared by the Agricultural Statistics Board after reviewing recommendations and analysis submitted by each Regional Field Office. All data were analyzed for unusual values. Data from each operation were compared to their own past operating profile and to trends from similar operations. Data for missing operations were covered by weighting positive data of similar operations based on location and nonresponse grouping. National and State survey data were reviewed for reasonableness with each other, estimates from the previous survey cycles, and other USDA, NASS reports. To be published individually, a crop must have an appropriate threshold of paid pollinated acres in a region and meet USDA/NASS's confidentiality policy. If a crop did not meet either of these requirements, it was combined with all other unpublished crops under the "All Other" heading. Due to the differences in regions and years, the aggregate and other published estimates may include different crops.

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

No tests of procedures or questionnaire content are proposed

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.

Survey design and methodology are determined by the Summary, Estimation, and Disclosure Methodology Branch, Methodology Division; Branch Chief is Lindsay Drunasky. Lindsay's email is lindsay.drunasky@usda.gov and phone number is (202) 690-8141.

Sample sizes for each State are determined by the Sampling, Editing, and Imputation Methodology Branch, Methods Division; Branch Chief is Andrew Dau. Andrew's email is andrew.dau@usda.gov and phone number is (202) 690-8141.

Data collection is carried out by NASS Field Offices; Eastern Field Operation's Director is Jody McDaniel. Jody's email is jody.mcdaniel@usda.gov and phone number is (202) 720-3638. Western Field Operation's Director is King Whetstone. King's email is king.whetstone@usda.gov. His phone number is (202) 720-9567.

The Census and Survey Division, Survey Administration Branch Chief is Suzanne Adams. Suzanne's email is suzanne.adams@usda.gov and phone number is (202) 720-4028.

Statistics Division, Livestock Branch is responsible for national and regional summaries, analysis, and presentation of data to the Agricultural Statistics Board

for final estimates, publication, and the Estimation Manual. The Livestock Branch Chief is Travis Averill. Travis's email is travis.averill@usda.gov and phone number is (202) 692-0069.

September 2024