

NATIONAL AGROFORESTRY SURVEY

OMB No. 0535-NEW

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 Frame

The 2022 Agroforestry Sampling Frame comprises active operations on NASS's List Frame that responded 'Yes' to the 2017 Census Of Agriculture question "At any time during 2017, did this operation practice alley cropping, silvopasture, or forest farming, or have riparian forest buffers or windbreaks?"

Sample Size Determination

The binomial sample size formula was used to determine the sample sizes for the publication goals. The state sample size n necessary for estimating the proportion p - the proportion of farms that practice at least one of the five agroforestry practices - of a small finite population of size N with a $(1 - \alpha)$ confidence level and a margin of error no larger than ϵ is

$$n = \frac{m}{1 + \frac{m-1}{N}}$$

where,

$$m = \frac{z_{\alpha/2}^2 \hat{p}(1-\hat{p})}{\epsilon^2}$$

p is the proportion of farms that practice at least one of the five agroforestry practices,

ε is the margin of error,

$z_{\alpha/2}$ is the alpha level z score,

N is the state population,

This procedure used a 95% confidence level, a proportion of 95% and margin of error of 2.5%.

Another factor to the sample sizes calculation was the minimum number of reports. The procedure uses

$$nr = \frac{r}{pt}$$

where,

r is the number of positive reports,

p is the proportion of farms that practice at least one of the five agroforestry practices, and

t is the percent of the proportion that are in at least one of the relevant agroforestry categories.

A systematic sample will be taken after explicitly sorting the Agroforestry Practices Sampling Frame by state and implicitly sorting by county and farm type.

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**

A postcard announcement with links describing the survey will be sent before data collection in February 2022.

An announcement letter further describing the survey will be sent after the postcard announcement and before data collection in late February 2022 or early March 2022.

A paper questionnaire and reference sheet will be mailed in March 2022 that will contain instructions how to report online. This will be followed by a pressure seal

postcard reminder in March 2022. Operations that do not respond by mail or internet by early April 2022 will be attempted by phone or personal enumeration. Responses will be monitored to make sure that the respondents are representative of the various agroforestry practices. Extra efforts will be taken to collect data from any practice that has insufficient coverage. After data collection is complete, the data will be edited for reasonableness and completeness.

2. 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.

Due to the unique nature of the survey, the announcement postcard and letter will be mailed out to the entire sample. Starting with the questionnaire mailing, respondents will be given options to respond by either mail or internet. Non-respondents will be attempted by phone and there will be limited field enumerations for respondents who have been coordinated with any other surveys that NASS will be conducting at that time. The COVID-19 protocols may impact the use of Field Enumeration. NASS will be using National Association of State Departments of Agriculture (NASDA) enumerators who have been working with NASS surveys for many years. Training will be provided by the NASDA supervisors and by our regional Data Collection Centers.

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

NASS conducted nine cognitive interviews prior to the beginning of data collection. Budget limited the number of cognitive interviews. The cognitive testing focused on comprehension of questions & retrieval of information from the respondent. Findings from the cognitive testing included:

- The perceived definition of agroforestry differed from the survey and the respondent's perspective to include
 - o Screening out respondents who still felt they were using agroforestry practices, just not the ones in the survey,
 - o Screening out respondents who used the defined agroforestry practices, but only had home gardens or gardens for personal use.
- Whether the definition of "Federal Farm Program" includes payments made to producers and/or includes technical assistance.
- Whether the windbreaks/hedgerows/shelterbelts include those built for reasons other than wind control (block dust/noise, privacy, and/or erosion control).

The screening instructions and question text were updated to reflect the clarifications.

NASS will do internal testing of the edit and summary programs before any publications will be generated to ensure accuracy of data.

- 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) 690-8141.

Data collection is carried out by NASS Field Offices; Eastern Field Operation's Director is Jody McDaniel (202) 720-3638 and the Western Field Operation's Director is Troy Joshua, (202) 720-8220.

The NASS 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.

Analysis, summary, and publication is the responsibility of the USDA's Forest Service - National Agroforestry Center. Lead Investigator is Matthew M Smith, PhD (Matthew.Smith4@usda.gov) (402) 437-5178 x4021.

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