

**CALIFORNIA IRRIGATION SURVEY – JULY 2022**

OMB No. 0535-0264

**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.**

An analysis of the 2012 Agricultural Census data suggests California total cropland is highly correlated with California irrigated land (R-square = 91%). Therefore, the California Irrigation Method Type (IMT) Sampling Frame is comprised of all active California operations on NASS's List Frame with positive total cropland acreage (cT300, excluding rice and permanent pasture).

Initial contact will be by mail, with telephone follow-up on some or all non-respondents. Non-response followup will help ensure a representative sample within each of the 10 watershed districts in California at a minimum and preferably, by county.

The response rate for the 2017 survey (sample size 20,000) was 41.7% completed questionnaires.

This is a new information collection under the Quick Response for Cooperator-funded Surveys Generic Clearance.

- 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**

Information and resources were not available to merge California Water Regions and NASS Control Data. Therefore, sample size allocation will be made at the California Agricultural District Level. There are many targeted commodities for this survey. To ensure a representative sample within each District, a systematic sample of 20,000 operations will be selected after sorting by county and maximum probability of selection. The maximum probability of selection for each record was derived using the Multivariate Probability Proportionate to Size sampling methodology. The sample will also include as many respondents from the 2017 survey as possible. For this design the targeted commodities are:

1. Total Fruit, Nut, and Berry Acreage.
2. Total Vegetable Acreage,
3. Calculated Land in Field Crops Acreage, and
4. Horticulture and all Others Acreage.

This design assigns a relatively higher probability of selection to operations that have rare commodities or relatively large acreage. Therefore, the implicit stratification results in operations selected across the entire probability spectrum of these specific records.

- 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 relies on multiple modes for collecting data. The questionnaires are mailed to the respondents who can either return them by postage paid envelope or Internet. If we have not received a response within the allotted time, phone enumerators will be used to contact the remainder of respondents.

Non-response weighting will not be used to account for the non-response. This is consistent with previous Irrigation Surveys.

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

If a pretest of the data collection instrument(s) is warranted, then prior to the actual survey, NASS will conduct the testing to ensure the adequacy of the data collection instrument. If we need more than 9 test questionnaires to be completed, then the testing will be conducted under the Generic Testing docket (0535-0248).

- 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), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

Population and sample sizes are reviewed by the Agency's Sampling, Editing and Imputation Methodology Branch, Methods Division; Branch Chief is Mark Apodaca (202) 690-8141.

The NASS survey administration, and data collection, NASS Regional Field Offices; Western Field Operation's Director is Troy Joshua, (202) 720-8220. The survey administrators are responsible for coordination of sampling, questionnaires, documentation, training, data processing.

Analysis, summary, and publication are carried out by California Department of Water Resources. Lead analyst is Dr. Morteza Orang, (916) 653-7707.

May 2022