Turkeys Raised Methodology and Quality Measures

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Scope and Purpose: The Turkeys Raised survey is conducted in all States that have qualifying operations. The target population consists of all known operations who are raising 1,000 or more turkeys annually. Data are summarized for all operations in the target population. If turkeys were placed in more than one State, the inventory is recorded by State where the turkeys are placed. Turkeys raised estimates are published for the U.S. and thirteen States individually. The remaining States are combined and published as 'Other States'.

Survey Timeline: The reference period for the Turkeys Raised survey is September 1 of the previous year to August 31 of the current year. The data collection period lasts approximately two weeks. States complete data collection, analysis, summarization, and submission of estimates during the month of September. During this time, a National review is completed, and National estimates are established. Estimates are released to the public in late September on the date designated by the Agricultural Statistics Board (ASB) annual publication calendar.

Sampling: This survey is a complete census of the qualifying records described above on the NASS List Sampling Frame. The List Sampling Frame is a current and unduplicated list of agricultural operations, and all current turkey grow-out operations are assumed to be on the list. If a new turkey grow-out operation is found at any time, the operation is added to the List Sampling Frame. Since this is a census of turkey grow-out operations, all sample weights are equal to one. Each operation accounts only for itself.

Data Collection: All federal data collections require approval by the Office of Management and Budget (OMB). NASS must document the public need for the data, apply sound statistical practice, prove the data does not already exist elsewhere, and ensure the public is not excessively burdened. The questionnaire must display an active OMB number that gives NASS the authority to conduct the survey, a statement of the purpose of the survey and the use of the data being collected, a response burden statement that gives an estimate of the time required to complete the form, a confidentiality statement that the respondent's information will only be used for statistical purposes in combination with other producers, and a statement saying that response to the survey is voluntary and not required by law.

All Regional Field Offices (RFO) use the same standardized questionnaire for data collection. For consistency across modes, the paper version is considered the master questionnaire and the Computer Assisted Self Interview (CASI), mobile Computer Assisted Telephone Interview (mCATI), and Computer Assisted Telephone Interview (CATI) instruments are built to model the paper questionnaire. The questionnaire content and format are evaluated annually through a specification process where requests for changes are evaluated and approved or disapproved. Input may vary from question wording or formatting to a program change involving the deletion or modification of current questions or addition of new ones. If there are significant changes to either the content or format proposed, a NASS survey methodologist will pre-test the changes for usability. Prior to the start of data collection, all modes of instruments are reviewed, and CASI, mCATI, and CATI instruments are thoroughly tested.

Sampled operations receive a pre-survey letter explaining the purpose and importance of the survey and that they are being contacted for survey purposes only. Attached to the letter is a complete copy of the paper questionnaire and a pass code to complete the survey securely online. RFOs are responsible for their data collection strategy which must include provisions for respondents to report securely online. If a response is not received by mail or online, respondents are contacted by CATI.

Survey Edit: As survey data are collected and captured, they are edited for consistency and reasonableness using automated systems. Relationships between data items on the current survey are verified and in certain situations those

items may be compared to data from earlier surveys to make sure certain relationships are logical. The edit will determine the status of each record to be either “dirty” or “clean”. Dirty records must be updated and reedited or certified by an analyst to be clean. If updates are needed, they are reedited interactively. Only clean records are eligible for analysis and summary.

Analysis Tools: Edited data are processed through an interactive analysis tool which displays data for all reports by item. The tool provides scatter plots, 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 any 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.

Estimators: The Turkeys Raised survey is a complete enumeration of all known turkey grow-out operations raising 1,000 or more turkeys annually. Turkey grow-out operations are selected from the list of all agricultural operations, and new operations are added into the sample when discovered. No coverage adjustment is made.

Response to the Turkeys Raised survey is voluntary. Producers may refuse to participate in the survey, may not be located during the data collection period, or may submit incomplete reports. The sampling weights for current items are equal to 1 since the survey is a census of all records. No adjustments are needed since all nonresponse data items and units are manually imputed by RFO statisticians. The estimates are a summation of all reported and imputed data. The measurement of error due to sampling in the current survey period is zero for a fully enumerated census. Moreover, standard errors and coefficients of variation (CVs) are zero for all current data items collected.

Estimation: When all samples are accounted, all responses fully edited, and the analysis material is reviewed, each assigned RFO executes a summary to evaluate and analyze the data under its responsibility. Since identical surveys are conducted in each State, the samples are pooled, and National survey results computed. The summary results provide multiple indications and information to assess the performance of the current survey and evaluate the quality of survey indications, such as response rates and strata level expansions. RFOs are responsible for performing a detailed review of their survey results. Any irregularities revealed by the summary must be investigated and, if necessary, resolved. Assigned RFOs interpret the survey results and submit a recommended estimate to Headquarters for turkeys placed, percent lost, and turkeys raised by geographic region. NASS assembles a panel of statisticians to serve as the ASB, which reviews the National results and establishes the National estimates. The ASB follows the same approach the assigned RFOs do in determining the National estimate.

Previous year’s estimates are subject to revision when current year’s estimates are set. Revisions are the result of late reports or corrected data. Every five years, NASS conducts the Census of Agriculture, which is an exhaustive data collection effort for all known farm operations across the United States. Estimates are thoroughly reviewed for possible revision after data from the Census of Agriculture are available. The information gathered from the Census of Agriculture is used to establish benchmark levels by which the survey estimates can be compared, and bias determined.

Quality Metrics for Turkeys Raised

Purpose and Definitions: Under the guidance of the Statistical Policy Office of the OMB, NASS provides data users with quality metrics for its published data series. The metrics tables below describe the performance data for surveys contributing to the publication. The accuracy of data products may be evaluated through sampling and non-sampling error. There is no sampling error present for this survey since it is a census of the target population; however, non-sampling error is evaluated.

Sample size is the number of observations selected from the population to represent a characteristic of the population. Operations that did not have the item of interest or were out of business at the time of data collection have been excluded. Multi-state operations that report from a headquarters (HQ) location are only counted once in sample size calculations despite the number of locations they may have.

Response rate is the proportion of the above sample that responds to the survey.

Weighted item response rate is a ratio of reported survey data expanded by the original sampling weight compared to final nonresponse adjusted summary totals. Operations may report data in multiple states. All data reported for a particular state is included in the weighted item response rate for that state even though the HQ operation may be located in another state.

Turkeys Raised Survey Sample Size and Response Rates: To assist in evaluating the performance of the estimates in the Turkeys Raised report, the sample size and response rates are displayed. Response rates overall for 2023 and 2024 are displayed.

Turkeys Raised Survey Sample Size and Response Rate - States and United States: September 1, 2023-2024

	Sample size		Response rate	
	2023	2024	2023	2024
	(number)	(number)	(percent)	(percent)
Arkansas	4	3	100.0	100.0
California	5	3	-	-
Indiana	5	11	80.0	81.8
Iowa	39	42	69.2	54.8
Michigan	19	21	52.6	57.1
Minnesota	70	69	55.7	55.1
Missouri	8	9	75.0	33.3
North Carolina	7	11	71.4	72.7
Ohio	8	10	62.5	80.0
Pennsylvania	21	32	47.6	40.6
South Dakota	41	43	78.0	55.8
Virginia	5	11	60.0	63.6
West Virginia	1	2	0.0	50.0
Other States[1]	21	19	47.6	47.4
United States	254	286	61.0	55.2

- Represents zero.
[1] Includes data for States not published in this table

Quality Metrics for Total Turkeys Raised Inventory - States and United States: September 1, 2023-2024

State	Weighted item response rate	
	2023	2024
	(percent)	(percent)
Arkansas	100.0	100.0
California	-	-
Indiana	59.3	99.0
Iowa	28.3	22.1
Michigan	53.2	65.4
Minnesota	74.8	68.2
Missouri	98.9	60.8
North Carolina	90.4	89.1
Ohio	5.6	96.3
Pennsylvania	68.4	25.4
South Dakota	84.0	56.7
Virginia	65.6	99.4
West Virginia	75.3	95.4
Other States[1]	55.7	54.8
United States	70.6	72.1

- Represents zero.
[1] Includes data for States not published in this table

Information Contacts

Process	Unit	Telephone	Email
Estimation	Livestock Branch	(202) 720-3570	HQ_SD_LB@usda.gov
Data Collection	Survey Administration Branch	(202) 720-3895	HQ_CSD_SAB@usda.gov
Questionnaires	Data Collection Branch	(202) 720-6201	HQ_CSD_DCB@usda.gov
Sampling and Editing	Sampling Editing and Imputation Methodology Branch	(202) 690-8141	HQ_CSD_SB@usda.gov
Summary and Estimators	Summary Estimation and Disclosure Methodology Branch	(202) 690-8141	HQ_SD_SMB@usda.gov
Dissemination	Data Dissemination Office	(202) 720-3869	HQSDOD@usda.gov
Media Contact and Webmaster	Public Affairs Office	(202) 720-2639	HQOAPAO@usda.gov

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For more information on NASS surveys and reports, call the NASS Agricultural Statistics Hotline at (800) 727-9540, 7:30 a.m. to 4:00 p.m. ET, or e-mail: nass@usda.gov.

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