Appendix A.
Census of Agriculture Methodology

The purpose of a census is to enumerate all objects with a defined characteristic. For the census of agriculture, that goal is to account for "any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year." To do this, NASS creates a Census Mail List (CML) of agricultural operations that potentially meet the farm definition, collects agricultural information from those operations, reviews the data, corrects or completes the requested information, and combines the data to provide information on the characteristics of farm operations and farm producers at the national, State, and county levels. In this appendix, these census processes are described.

THE CENSUS POPULATION

The Census Mail List

The National Agricultural Statistics Service (NASS) maintains a list of farmers and ranchers from which the CML is compiled. The goal is to build as complete a list as possible of agricultural places that meet the farm definition. The CML compilation begins with the list used to define sampling populations for NASS surveys conducted for the agricultural estimates program. Each record on the list includes name, address, telephone number, and email plus additional information that is used to efficiently administer the census of agriculture and agricultural estimates programs.

NASS builds and improves the list on an ongoing basis by obtaining outside source lists. Sources include State and federal government lists, producer association lists, seed grower lists, pesticide applicator lists, veterinarian lists, marketing association lists, and a variety of other agriculture-related lists. NASS also obtains special commodity lists to address specific list deficiencies. These outside source lists are matched to the NASS list using record linkage programs. Most names on newly acquired sources are already on the NASS list. Records not on the NASS list are treated as potential farms until NASS can confirm their existence as a qualifying farm. Staff in NASS regional and field offices routinely contact these potential farms to determine whether they meet the farm definition. For the 2022 Census of Agriculture, NASS made a concerted effort to work with community-based organizations not only to improve list coverage for minorities but also to increase census awareness and participation.

List building activities for developing the 2022 CML started in 2019 by updating list information from respondents to the 2017 Census of Agriculture. Between 2017 and 2022, NASS conducted a series of National Agricultural Classification Surveys (NACS) on over 2.1 million records, which included nonrespondents from the 2017 census and newly added records from outside list sources. The NACS report forms collected information that was used to determine whether an operation met the farm definition. If the definition was met, the operation was added to the NASS list and subsequently to the CML. Addressees that were nonrespondents to a NACS were also added to the CML and identified with a special status code.

Measures were taken to improve name and address quality. Additional record linkage programs were run to detect and remove duplicate records both within each State and across States. List addresses were processed through software programs that utilize the United States Postal Service's National Change of Address System and the Locatable Address Conversion System to improve mail delivery. Records on the list with missing or invalid phone numbers were matched against a nationally available telephone database to obtain as many phone numbers as possible. To reduce costs, operations with characteristics that indicated they were unlikely to be farms, according to the farm definition, were removed from the list.

The official CML for the 2022 Census of Agriculture was established on September 3, 2022. The list contained 2,879,343 records. Of these, 2,079,333 records were thought to meet the NASS farm definition and 800,010 were potential farm records, which included NACS nonrespondents, other records added to the CML by the NASS regional field offices after the record linkage process, and late adds to the CML that were not included in any previous NACS or State screening survey.

Not on the Mail List (NML)

Extensive efforts are directed toward developing a CML that includes all farms in the U.S. However, some farms are not on the list, and some agricultural operations on the list are not farms. NASS uses its June Area Survey (JAS) to

quantify the number and types of farms not on the CML. The records in the JAS that are not on the CML are said to be in the Not-on-the-Mail List (NML) domain. If a JAS record in the NML domain is determined to be a farm during the census, it is an NML farm. The NML farms are used to measure coverage associated with the grown crops, farm numbers, and inventories of cattle. Sampled segments in the JAS are personally enumerated. Each operation identified within a segment boundary is known as a tract.

The 2022 JAS sample was increased to improve the farm counts for operations that produced specialty commodities or had socially disadvantaged or minority producers. The total JAS sample consisted of 14,015 segments of which 4,933 were additional ACES segments. This set of additional segments is referred to as the Agricultural Coverage Evaluation Survey (ACES) segments. The ACES segments were selected using a multivariate sampling design that targeted specific items at the U.S. level. The 2022 JAS consisted of sample segments from all States, with the exception of Alaska where NASS does not maintain an area frame.

During the JAS/ACES enumeration process, each tract is identified as either agricultural or non-agricultural. Each JAS/ACES agricultural tract is identified as a farm or non-farm in June based on the farm definition of $1,000 of sales or potential sales of agricultural products. Non-agricultural tracts are further classified into categories: with farm potential, with unknown farm potential, or with no farm potential. The names and addresses collected in the 2022 JAS/ACES were matched to the CML. Those from the 2022 JAS/ACES that did not match were determined to be in the NML domain and sent a yellow census report form so that they could be differentiated from the green report form sent to those addressees on the CML. Instructions on the census report form directed any respondent who received duplicate forms to complete the CML form and to mail all duplicate forms back together. Those who returned a CML and an NML form had been misclassified as NML and were removed from the NML domain.

The initial NML mailout consisted of 41,273 records. A total of 40,775 NML records were analyzed, of which 1,913 records were confirmed to be NML and in-scope.

The farm/nonfarm status of each NML domain operation was determined based on the reported data in the census form. An operation in the NML domain that was determined to be a farm is referred to as an NML farm. Characteristics of NML farms and their producers provided a measure of the undercoverage of farms present in the CML.

The percentage of farms not represented on the CML varied by State. In general, NML farms tended to be small in acreage, production, and sales of agricultural products. Farm operations were missing from the CML for various reasons, including the possibility that the operation started after development of the CML, the operation was so small that it did not appear in any agriculture-related source list, or the operation was misclassified as a nonfarm prior to census mailout. The CML was used with the NML in a capture-recapture framework to represent all farming operations across all States in the JAS sample.

DATA COLLECTION OUTREACH AND PROMOTIONAL EFFORTS

NASS planned and executed a multi-phase strategic communications campaign for the 2022 Census of Agriculture, to increase the level of awareness and response among all U.S. agricultural producers.

- Phase 1 ran from April 2021 − June 2022. It raised awareness about the census and list building, encouraged producers to sign up in response to NASS mailings and at community, association, and other stakeholder meetings where NASS partners reached out.

- Phase 2 ran from July 2022 − October 2022. It notified farm producers and agricultural organizations that the census would be mailed in November and encouraged communications regarding the census.

- Phase 3 ran from November 2022 – May 2023. It focused on census data collection with messaging urging response to remind producers that it was not too late to respond.

- Phase 4 ran from August 2023 – February 2024. It thanked producers for their participation and NASS partners for their support and informed everyone of the February 2024 data release plan.

The communications campaign focused on these primary areas: partnership building, local-level outreach, public relations, media relations, paid media, social media and some paid advertising. Some external support was provided by a private communications agency (i.e. primarily assisted with design and paid advertising).

The unifying force behind the 2022 communications campaign was the theme “Your Voice. Your Future. Your Opportunity.” This was accompanied by supporting messages and artwork that created a consistent look and feel for all census communications. All messages and materials served the purpose of inspiring action: Sign Up to Be Counted - Show the Value of Your Work - *Grow Your*

Farm Future - Shape Farm Policy/Programs - Respond to the Census of Agriculture - Be counted - The Census of Agriculture is Your Voice, Your Future, Your Opportunity.

Partnership and Local-Level Outreach

At the national level, NASS officials met with leaders from dozens of agricultural organizations, State Departments of Agriculture, and other USDA agencies to successfully secure their support in promoting the census among their constituencies. Stakeholders partnered with NASS to promote the 2022 Census of Agriculture through publications (e.g. newsletters), special mailings, speeches, social media, websites, and other communications. In addition, through grassroots-level outreach and efforts, NASS partnered with a number of community-based organizations to reach minority and limited-resource farmers and ranchers. National-level outreach was encouraged and mirrored at the regional, State, and local levels. Among the highlights of these partnership efforts was the production of multiple television and radio public service announcements featuring the U.S. Secretary of Agriculture, State secretaries, directors, and commissioners of agriculture and leaders from community-based organizations.

Coverage of American Indian and Alaska Native Farm Producers

To maximize coverage of American Indian and Alaska Native agricultural producers, special procedures were followed in the census. A concerted effort was made to get individual reports from every American Indian and Alaska Native farm or ranch producer in the country. If this was not possible within some reservations, a single reservation-level census report was obtained from knowledgeable reservation officials. These reports covered agricultural activity on the entire reservation. NASS staff reviewed these data and removed duplication with any data reported by American Indian or Alaska Native producers who responded on an individual census report form. Additionally, NASS obtained, from knowledgeable reservation officials, the count of American Indian and Alaska Native producers (on reservations) who were not counted through individual census report forms, but whose agricultural activity was included in the reservation-level report form.

Table D, **American Indian and Alaska Native Producers:** 2022 provides the number of producers (1) reported as American Indian or Alaska Native in the race category, either as a single race or in combination with other races, on the individual census report forms (for up to four per farm) and (2) identified as American Indian or Alaska Native producers farming on reservations by reservation officials. The count from the individual report forms is summarized in the "Individually reported" column. It includes up to four producers on or off reservations. The "Other" column provides counts of producers on reservations as reported by a reservation or tribal official. The "Total" column is simply a sum of the "Individually reported" and the "Other" columns. Tables in other parts of the publication count the reservation-level reports as single farms.

Public Relations

In the public relations arena, NASS worked with internal and external, national, regional, and local stakeholders to equip them with communications tools and resources to deliver the census communications message to their audiences. NASS utilized its Intranet, the Partner Tools section on the census webpage, and a regularly scheduled, newsletter-type email update to deliver materials to staff across its 12 regions, other USDA agencies and external stakeholders. The materials included but were not limited to: customizable news releases, public service announcement scripts, and a PowerPoint template; Secretary of Agriculture video public service announcements, and drop-in advertisements; informational, instructional, and testimonial videos; website buttons and banners; brochures in multiple languages; social media posts; flyers; posters; FAQ sheets, talking points, and more. In addition, at the national level, NASS issued six news releases during data collection (three more were produced before data collection to inform and prepare producers) citing department and agency spokespeople, published half a dozen timely and relevant pieces to the USDA blog highlighting the census, and conducted three social media campaigns. These public relations efforts at the national and local-levels helped ensure that NASS' message about the census was continually in the media, including print and online publications, a variety of social media, radio, and some television programs. Media outlets included both those specializing in agriculture and more general outlets.

Paid Media

With a very limited budget, NASS was able to apply a small portion of funds toward paid advertising. For the 2022 Census of Agriculture, NASS strategically advertised in regional print publications, online, and with national agriculture news services (i.e., TV, radio) to bolster reach both in general and within geographically specific, previously under-represented populations and lower response areas.

DATA COLLECTION

Method of Enumeration

Data collection was accomplished primarily by mail, Computer-Assisted Self Interview (CASI) on the Internet, and personal enumeration for special classes of records in the census operations. Personal enumeration (interviewing) involved the use of both Computer-Assisted Telephone Interview (CATI) and Computer-Assisted Personal Interview (CAPI) data collection instruments. Enumerators at the five NASS Data Collection Centers conducted CATI data collection. In addition, enumerators under contract with NASS through the National Association of State Departments of Agriculture (NASDA) conducted phone and personal interviews with respondents. For the 2022 Census of Agriculture, NASS implemented a pre-notification strategy to increase awareness, improve overall responses, and encourage respondents to report early to avoid continued correspondence. All records with an e-mail address received an e-mail message marketing the improved web form and announcing the census mail packets were coming.

Report Forms

Four versions of report forms were used for the 2022 Census of Agriculture:

- General form (22 - A100)
- Hawaii form (22 - A101)
- American Indian form (22 - A300)
- Farm Status form (22 - A400)

The general form facilitated reporting crops and livestock most commonly grown and raised in the U.S. The short form expedited reporting specific crops or livestock for pre-identified farms and ranches in the U.S. The Hawaii form targeted crops and livestock specifically grown or raised on farms and ranches in Hawaii. The American Indian form focused on crops and livestock for farms and ranches on reservations in Arizona, New Mexico, and Utah. All report forms allowed respondents to write in specific commodities that were not prelisted on their report form.

Report Form Mailings

Census data collection began on November 22, 2022. Nearly all producers on the CML received a letter inviting them to report online. They received a unique survey code and instructions for completing their census online. The letter encouraged producers to report online early to avoid receiving mail and phone follow-up. Approximately 3 million mail packets were mailed in December 2022. Each packet contained a cover letter, instruction sheet, a labeled report form, and a return envelope. The Census Bureau's National Processing Center (NPC) in Jeffersonville, IN was contracted to perform mail packet preparation, initial mailout, and two follow-up mailings to nonrespondents.

The initial mailout was followed by a thank-you reminder correspondence in January 2023. This pressure-sealed envelope reminded respondents of the approaching deadline and that they could report online. First follow-up mail packets were mailed in mid-February 2023 to approximately 1.5 million nonrespondents. Second follow-up mail packets were mailed in mid-March 2023 to approximately 1 million nonrespondents. A final mailing went to approximately 800,000 non-respondents. This mailing included a drastically reduced four-page questionnaire designed to primarily determine if the operation was a farm or not in business.

Nonresponse Follow-up

Operating concurrently with NPC's mail data collection efforts, NASS Data Collection Centers targeted selected groups of census nonrespondents for telephone enumeration. NASS regional field offices targeted selected groups of census nonrespondents for in-person enumeration. These efforts were referred to as:

- Must Case Follow-up
- American Indian Producer Follow-up
- National Nonresponse Follow-up
- Not on Mail List (NML) Follow-up

Must Case Follow-up. Must cases are known large or unique operations, the absence of which could have significantly affected the accuracy of census results. For the 2022 Census of Agriculture, 125,697 records were categorized as Must cases. Each active Must operation was accounted for by mail receipt, phone interview, or personal enumeration; if an operation was no longer in business, its nonfarm status was documented. Call centers conducted CATI calling of nonrespondent Must cases from March 2023 through May 2023, after the initial and first follow-up mailings. Following the CATI calling, the remaining nonresponse Must cases were assigned to regional field offices for personal enumeration. Because of the potential importance of Must cases, they were all accounted for and therefore not eligible for nonresponse weighting adjustment.

American Indian Producer Follow-up. The American Indian report form (22-A300) was mailed to all operations in Arizona, New Mexico and Utah thought to have an American Indian producer. It was included in the initial

mailout, but due to poor mail response, a personal enumeration data collection strategy was utilized with no additional mail follow-up. A concerted effort was made to get individual reports from every American Indian farm producer in the country. If this was not possible within a reservation, a single reservation-level census report was obtained from knowledgeable reservation officials. These reports covered agricultural activity on the entire reservation. NASS staff reviewed these data and removed any duplicate data reported by American Indian producers from that reservation who responded on an individual census report form. Additionally, NASS obtained, from knowledgeable reservation officials, the count of American Indian farm producers (on the reservations) who were not counted through individual census report forms, but whose agricultural activity was included in the reservation-level report form.

National Nonresponse Follow-up (Excludes Must Records). In April 2023, a group of records that were not part of other nonresponse data collection efforts were identified for additional phone contacts. In total, 82,237 records with specified demographics and/or eligibility for Census Special Studies (follow-ons) were made available for nonresponse Computer-Assisted Telephone Interviews (CATI).

Not-on-the-Mail List (NML) Follow-up. To account for farming operations not on the CML, NASS used its 2022 JAS sample from the NASS area frame, augmented with the ACES segments. Because the NASS area frame covers all land in the U.S. with the exception of Alaska, it includes all farms. As previously described, NASS conducted a record linkage operation between the CML records and the records from the 2022 JAS/ACES. Those 2022 JAS records that did not match records on the CML were designated as "Not-on-the-Mail List" (NML) records. These records were mailed a yellow census form so that it could be differentiated from the green forms mailed to CML records. The NML records were mailed at the same time as the census mailing and received the same follow-up procedures as the census mailing through the first follow-up in mid-February 2023. Beginning in March 2023, CATI was used for nonresponse follow-up for NML nonrespondents.

REPORT FORM PROCESSING

Data Capture

The Census Bureau's National Processing Center (NPC) in Jeffersonville, IN was contracted to process returned mail packets. NASS staff on site at the NPC provided technical guidance and monitored NPC processing activities. All report forms returned to the NPC were immediately checked in, using bar codes printed on the mailing label, and removed from follow-up report form mailings. All forms with any data were scanned and an image was made of each page of a report form. Optical Mark Recognition (OMR) was used to capture categorical responses and to identify the other answer zones in which some type of mark was present.

Data entry operators keyed data from the scanned images using OMR results that highlighted the areas of the report forms with respondent entries. The keyer evaluated the contents and captured pertinent responses. Ten percent of the captured data were keyed a second time for quality control. If differences existed between the first keyed value and the second, an adjudicator handled resolution. The decision of the adjudicator was used to grade the performance of the keyers, who were required to maintain a certain accuracy level.

The images and the captured data were transferred to NASS's centralized network and became available to NASS analysts on a flow basis. The images were available for use in all stages of review.

Editing Data

Captured data were processed through a computer formatting program that verified that records were valid – that the record ID number was on the list of census records, that the reported counties of operation and production were valid, and other related criteria. Rejected records were referred to analysts for correction. Accepted records were sent to a complex computer batch edit process. Each execution of the computer edit in batch mode consisted of records from only one State and flowed as the data were received from NPC, the NASS Computer-Assisted Self Interview (CASI), or the Computer-Assisted Telephone Interview (CATI) applications.

The computer edit determined whether a reporting operation met the qualifying criteria to be counted as a farm (in-scope). The edit examined each in-scope record for reasonableness and completeness and determined whether to accept the recorded value for each data item or take corrective action. Such corrective actions included removing erroneously reported values, replacing an unreasonable value with one consistent with other reported data, or providing a value for an item omitted by the respondent. To the extent possible, the computer edit determined a replacement value. Strategies for determining replacement values are discussed in the next section. Operations failing to meet the qualifying criteria for being classified as a farm were categorized as out-of-scope for the census. Records that NASS had reason to believe might have been erroneously classified as out-of-

scope (indications of recent and/or significant agricultural activity reported on NASS surveys, for example) were referred to analysts for verification.

The edit systematically checked reported data section-by-section with the overall objective of achieving an internally consistent and complete report. NASS subject-matter experts had previously defined the criteria for acceptable data. Problems that could not be resolved within the edit were referred to an analyst for intervention. Prior to the census mail-out, NASS established a group of analysts in a Census Editing Unit in the National Operations Center in St. Louis, MO who examined the scanned images, consulted additional sources of information, and determined an appropriate action. Regional field office analysts also participated using an interactive version of the edit program to submit corrected data and immediately re-edit the record to ensure a satisfactory solution.

Farm Status Form Editing

From the CML, 883,732 records were selected to receive a Farm Status form as a final follow-up form; this form was derived from the full census report form by selecting a subset of the questions on the full form. Since these questions were also asked on the general form, the edit was able to treat the Farm Status form responses as though they were incomplete general forms, as described in the previous paragraphs.

Imputing Data

The edit determined the best value to impute for reported responses that were deemed unreasonable and for required responses that were absent. If an item could not be calculated directly from other current responses, the edit determined whether acreage, production, or inventory items had been reported for that farm on a recent NASS crop or livestock survey. For producers who had not changed in five years, demographics such as race and gender were taken from the previous census. Administrative data from the Farm Service Agency were used for a few items, such as Conservation Reserve Program acreage. When deterministic edit logic and previously-reported data sources were unable to provide a current value, data from a reporting farm of similar type, size, and location were considered. In cases where automated imputation was unable to provide a consistent report, the record was referred to an analyst for resolution.

Separate system processes were established to efficiently provide data from a similar farm to the edit when donor imputation was required. The farm characteristics used to define similarity between a recipient record and its donor record were determined dynamically by the edit logic. Euclidean distance was used for similarity computations, with each contributing similarity characteristic scaled appropriately. The most similar farm based on this criterion (the "nearest neighbor") was identified and returned to the edit for use as a donor. The calculated distance between the centroids of the principal counties of production of the donor and recipient was always included as one of the measures of similarity.

To provide donors to the automated edit, a pool of successfully edited records was maintained for each section of the report form. These donor pools began with 2017 census data, reconfigured to emulate 2022 data and then edited using 2022 logic. Data from the 2020 Census Content Test were similarly remapped and edited before being added to the original donor pools. As 2022 records were successfully processed, they were added to the donor pools, which maintained the most recent data for each farm. Donor pools were updated approximately every other week, as determined by edit processing schedules. After several updates, all initial data records were dropped, leaving only 2022 records in the donor pools. After each update, donor pool records were grouped into strata containing farms in the same State of similar type and size, using a data-driven algorithm to define strata. Certain American Indian farms were treated as a separate group, effectively having their own donor pool.

In response to each donor request issued by the edit, a dedicated system process would search the appropriate stratum and respond with the most similar donor, while giving preference to more recent donors. In relatively rare instances where it was unable to provide a donor, the donor selection process issued an appropriate failure message to the edit. Imputation failures occurred for several different reasons. The requirement that an imputed value be positive could have ruled out all available donors, as could have the necessity for the donor record to satisfy a particular constraint – say, that the donor record has cattle, but no milk cows. In general, an imputation failure occurred if there were no satisfactory donors in the same profile as the report being edited. Records with imputation failures were either held until more records were available in the donor pool or referred to an analyst. In addition, when such a failure occurred in finding a donor for expenditure data, donor pool averages were provided in lieu of an individual donor, wherever possible. This "failover" utility was first introduced for the 2012 census imputation process, and significantly reduced the number of imputation failures among the expenditure and labor variables. During the early stages of editing, records requiring imputation for production (and hence yields) of field crops or hay, land values, or certain expenditure variables, were set aside or "parked." These records were edited when the donor pools contained only 2022 records, ensuring that 2022 data were

used in the imputations for the variables.

After receiving a donor's data, the edit substituted the values into the edited record. In many cases, the donor record's data value was scaled using another data field specified in the edit logic. In such cases, the size of the auxiliary field's value in the edited record, relative to its value in the donor record, was used to appropriately scale the donor record's value for the field to be imputed. The imputed data were then validated by the same edit logic to which reported data were subject. Since imputation was conducted independently for each occurrence, reports requiring multiple imputations may have drawn from multiple donors.

As was done for the 2017 Census, for records reporting three or more persons as producers, a different imputation process was used for certain items (specifically the items in question 3) in the Personal Characteristics Section. Records with one or two persons reported as producers had these data edited and imputed using the decision logic table edit and donor pool imputation process. Records with three or more persons reported as producers, and for which it was determined that these data were inconsistent or missing, had these data imputed using a fully conditional specification method. During the edit for records reporting three or more producers, the items needing imputation were marked, and the record was flagged. At the end of the data collection period, the data for these records (both the items needing to be imputed and the other variables needed by the model) were pulled and run through the imputation program. The resulting imputed values were loaded back to the records, and the records were made available for review.

Data Analysis

The complex edit ensured the full internal consistency of the record. Successfully completing the edit did not provide insight as to whether the report was reasonable compared to other reports in the county. Analysts were provided an additional set of tools, in the form of listings and graphs, to review record-level data across farms. These examinations revealed extreme outliers, large and small, or unique data distribution patterns that were possibly a result of reporting, recording, or handling errors. Potential problems were investigated and, when necessary, corrections were made, and the record interactively edited again.

When NASS summarizes data from the census of agriculture, each individual report is typically assigned to a single “principal” county. The principal county is the county in which the majority of an operation’s agricultural products are produced, as reported by the producer. For large operations that have significant production in multiple counties, their reports may be broken up into multiple source counties to more accurately summarize the data. Similarly, for large farms operating in more than one State, separate report forms are completed by State in order to assign the proper portion of the farm’s total agricultural production to each State in which the farm operates.

ACCOUNTING FOR UNDERCOVERAGE, NONRESPONSE, AND MISCLASSIFICATION

Although much effort has been expended making the CML as complete and accurate as possible, it does not include all U.S. farm operations, resulting in list undercoverage. Additionally, some farm operations on the CML did not respond to the census, despite numerous contact attempts. Finally, although each operation was classified as a farm or a nonfarm based on their census responses, some were misclassified; that is, some nonfarms were classified as farms and some farms were classified as nonfarms. NASS’s goal is to produce agricultural census totals for publication at the county level that are fully adjusted for these factors: list undercoverage, nonresponse, and misclassification.

In 2017, NASS used a series of models based on a subset of the responding census and all the JAS records in a capture-recapture framework to separately adjust for undercoverage, nonresponse, and misclassification. For the 2022 Census of Agriculture, the capture-recapture methodology was extended to model the probability of capture with a single model, thereby allowing the utilization of all census responses and JAS records in the adjustments. To implement capture-recapture methods, two independent samples are required. The 2022 Census of Agriculture (based on the CML) and the 2022 JAS (based on the area frame) were those two samples. Historically, NASS has been careful to maintain the independence of the CML and the area frame. Thus, the Census of Agriculture and the JAS were assumed to be independent after accounting for heterogeneity in the capture probabilities based on characteristics of records.

For a farm to be identified as a farm, and thus captured by the census, it must be on the CML, respond to the census report form, and be classified as a farm on the form. Thus, the capture probability π_C is of interest:

$\pi_C = \pi(\text{CML, Responded, Farm on Census}|\text{Farm})$

Two types of classification error can occur. First, a farm can be misclassified as a nonfarm. This type of misclassification is accounted for in determining the probability of capture π_C. The second type of classification

error results when a response to the census is classified as a farm operation when it does not meet the definition of a farm. That is, some farms on the CML may be misclassified from their census report response and may be nonfarms. To account for the misclassification of nonfarms as farms, the probability of a farm on the census being classified correctly must be estimated; that is,

$\pi_{CCFC} = \pi$(Farm | Farm on Census)

where *CCFC* represents Correct Census Farm Classification. To adjust for undercoverage, nonresponse, and misclassification, each CML record classified as a farm based on its response to the census report form was given a weight of the ratio of the estimated probability of correct classification of a farm on the census and the estimated probability of capture $(\hat{\pi}_{CCFC}/\hat{\pi}_C$ where the hat symbol ($\hat{}$) denotes an estimate). To estimate the number of farms with a given set of characteristics, the weights of CML records responding as farms on the census and having that set of characteristics were summed.

This estimator is referred to as the capture-recapture estimator (*CR*):

$$CR = \sum_{i \in F} \frac{\hat{\pi}_{CCFC,i}}{\hat{\pi}_{C,i}}$$

where *F* is the set of all CML records classified as farms based on their responses to the census report form.

To estimate these probabilities $(\hat{\pi}_C$ and $\hat{\pi}_{CCFC})$, the records in the 2022 JAS sample were matched to the 2022 CML using probabilistic record linkage allowing the records only on the CML, JAS, and on both the CML and JAS to be identified. All CML records and JAS tracts were used to estimate the capture-recapture probabilities jointly.

Resolving Farm Status

The farm status based on census responses to either the CML or NML census data collection and the response on the JAS agreed in most cases; these records are referred to as having resolved farm status. However, in other cases, a record was identified as a farm (nonfarm) on the JAS and as a nonfarm (farm) on the CML or the NML. Such records are said to have conflicting or unresolved farm status. An operation identified as a farm is referred to as in-scope; an operation identified as a nonfarm is referred to as out-of-scope. From the set of matched records, two groups with conflicting farm status were identified: 1) in-scope JAS records that were out-of-scope on the census and 2) census in-scope and JAS out-of-scope records. The records with conflicting farm status were sent to NASS regional field offices for review. In each case, efforts were made to determine whether (1) the status had changed between June and December when the census was conducted, (2) the JAS farm status was correct, (3) the census farm status was correct, (4) the records were incorrectly matched, or (5) the farm status could not be resolved.

The probability that an operation is a farm was estimated for census and JAS by using a conditional logistic model. Only those records identified as a farm based on either their JAS response or their Census response were used to develop the model for estimating the probability a record is associated with a farm. Operations with matching farm status were considered as certain if the farm status agreed between the JAS and the CML. If the status between the JAS and CML was conflicting, then the operation was treated as uncertain during the modeling stages. Characteristics of the operations were considered as potential covariates in the model. Variable selection was conducted using a stepwise algorithm to maximize the conditional likelihood. The probability of being a farm is estimated for each record classified as a farm based on their JAS or census response. The estimated probability is used as a weight in all subsequent modeling.

Capture Probabilities

Recall that, for a farm to be identified as a farm, and thus captured, by the census, it must be on the CML, respond to either the census or JAS report form and, based on that response, be classified as a farm. Therefore, the probability of capture π_C may be written as

$\pi_C = \pi$(CML, Responded, Farm on Census|Farm)
$= \pi$(CML|Farm)π(Responded|CML, Farm)π(Farm on Census|CML, Responded, Farm)

Terms in the probability of capturing a farm depend on characteristics of the farm. These terms, as well as the corresponding terms associated with a farm being captured by the JAS, were jointly estimated from a single model. Using all Census and JAS data, model variables were selected by applying a stepwise variable selection algorithm and expert opinion. Estimation was based on a conditional weighted likelihood. The events of a farm being included in the CML, the JAS or both were included in the likelihood. The event of a farm not being included in either the JAS or the CML was excluded from the likelihood but was accounted for through the model's capture-recapture properties. Although the probability of capture is estimated for both CML and JAS records, only CML records with a census response are given a census weight; records with only a JAS response are not given a census weight or used further to produce census estimates.

Because Alaska is not included in the JAS and thus has no area frame, the Alaskan agricultural operations were not

included in the capture-recapture process. No adjustments were made for undercoverage or misclassification. To account for nonresponse, the CML records were divided into three groups: (1) the Must records, (2) the Criteria Records, and (3) the remaining CML records. The must records received a weight of one, thereby receiving no adjustment for nonresponse. The probability of response for each of the other two groups was the proportion of responders within the group. Each record within the group was then given a weight equal to the reciprocal of the probability of response.

Misclassification

An operation is misclassified if: (1) it meets the definition of a farm but is classified as a nonfarm on the census or (2) it does not meet the definition of a farm but is classified as a farm on the census. The first type of misclassification is accounted for when modeling the probability of capture. An adjustment is still needed for the misclassification of nonfarms as farms. As with farm status and capture, the probability of this misclassification depends on an operation's characteristics. Thus, a conditional logistic model was developed. Given that a farm on the CML was classified as a farm in the census, the probability of its being a farm was modeled based on its characteristics.

CALIBRATION

Each operation identified as being in-scope on the CML was given a weight equal to the probability of misclassifying a nonfarm as a farm on the census divided by the probability of capture. This weight accounted for undercoverage, nonresponse, and both types of misclassification.

The record weighting processes were initially applied at the State level to produce adjusted estimates of farm numbers, land in farms, and for 64 different categories of characteristics of the farm operation or the farm producer -- value of agricultural sales (10); age (2); female; race (3); Hispanic origin; 4 sales categories for each of 10 major commodities (40); and farm type groups (7). The State-level number of farms and land in farms were two additional adjusted estimates, resulting in 66 categories. To reduce the intercensal variation at the State level, the State targets were smoothed by averaging the 2022 estimates from capture-recapture and the published 2017 State estimates.

These State estimates were general purpose in that they did not provide any control over expected levels of commodity production of the individual farm operation. As a result of this limitation, the procedures could have over-adjusted or under-adjusted for commodity production. To address this, a second set of variables, known as commodity targets, was added to the calibration algorithm. These targets were commodity totals from administrative sources or from NASS surveys of nonfarm populations (e.g., USDA Farm Service Agency program data, Agricultural Marketing Service market orders, livestock slaughter data, cotton ginning data). The introduction of these commodity coverage targets strengthened the overall adjustment procedure by ensuring that major commodity totals remained within reasonable bounds of established benchmarks.

Each State was calibrated separately. The calibration algorithm addressed commodity coverage. The algorithm was controlled by the 65 State farm operation coverage targets and the State commodity coverage targets. Because calibration targets are estimates subject to uncertainty, NASS allowed some tolerance in the determination of the adjusted weights. Rather than forcing the total for each calibration variable computed using the adjusted weights to equal a specific amount, NASS allowed the estimated total to fall within a tolerance range.

To ensure that all subdomains for which NASS publishes summed to their grand total, integer weights were produced by a discrete calibration algorithm. This eliminated the need for rounding individual cell values and ensured that marginal totals always added correctly to the grand total. If a weight was initially not in the interval [1,6], it was trimmed so that it was in that interval. That is, adjusted weights less than 1 were set to 1, and those greater than 6 were set to 6. The remaining non-integer weights were then rounded sequentially to reduce the distance of the estimated totals from the targets.

Calibration adjustments began with the computation of a priority index for each record. The priority index was the absolute value of the gradient of the relative error associated with increasing or decreasing a record's weight by one. The record with the highest priority index was then selected as a candidate to increase or decrease its weight by one to reduce the cumulative distance from the targets as measured by the relative error. If the new value produced an improvement and satisfied the range restrictions, the weight was updated and new priorities were assigned; otherwise, the record with the next highest priority index was processed. This process was iteratively performed until convergence was attained. Because census data collection was assumed to be complete for very large and unique farms, their weights were set to 1 during the calibration adjustment process. For all other farms, the final census record weights were forced to be an integer number in the interval [1, 6]. The calibration process considered all targets simultaneously through the priority index. Although calibration was seldom able to adjust

weights so that all State targets were met, all targets were brought collectively as close to the targets as possible.

The proportions of selected census data items that were due to coverage, response, and classification adjustments are displayed in Tables A and C.

DISCLOSURE REVIEW

After tabulation and review of the aggregates, a comprehensive disclosure review was conducted. NASS is obligated to withhold, under Title 7, U.S. Code, any total that would reveal an individual's information or allow it to be closely estimated by the public. Farm counts are not considered sensitive and are not subject to disclosure controls. Cell suppression was used to protect the cells that were determined to be sensitive to a disclosure of information.

Based on agency standards, data cells were determined to be sensitive to a disclosure of information if they failed either of two rules. The threshold rule failed if the data cell contained less than three operations. For example, if only one farmer produced turkeys in a county, NASS could not publish the county total for turkey inventory without disclosing that individual's information. The dominance rule failed if the distribution of the data within the cell allowed a data user to estimate any respondent's data too closely. For example, if there are many farmers producing turkeys in a county and some of them were large enough to dominate the cell total, NASS could not publish the county total for turkey inventory without risking disclosing an individual respondent's data. In both of these situations, the data were suppressed and a "(D)" was placed in the cell in the census publication table. These data cells are referred to as primary suppressions.

Since most items were summed to marginal totals, primary suppressions within these summation relationships were protected by ensuring that there were additional suppressions within the linear relationship that provided adequate protection for the primary. A detailed computer routine selected additional data cells for suppression to ensure all primary suppressions were properly protected. These data cells are referred to as complementary suppressions. These cells are not themselves sensitive to a disclosure of information but were suppressed to protect other primary suppressions. A "(D)" was also placed in the cell of the census publication table to indicate a complementary suppression. A data user cannot determine whether a cell with a (D) represents a primary or a complementary suppression.

Regional field office analysts reviewed all complementary suppressions to ensure no cells had been withheld that were vital to the data users. In instances where complementary suppressions were deemed critically important to a State or county, analysts requested an override, and a different complementary cell was chosen.

CENSUS QUALITY

The purpose of the census of agriculture is to account for "any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year." To accomplish this, NASS develops a CML that contains identifying information for operations that have an indication of meeting the census definition, develops procedures to collect agricultural information from those records, establishes criteria for analyst review of the data, creates computer routines to correct or complete the requested information, and provides census estimates of the characteristics of farms and farm producers with associated measures of uncertainty.

It is not likely that either the CML includes all operations that meet the definition of a farm or that all those that do meet the definition of a farm respond to the census inquiry. The goal is to publish data with a high level of quality. The quality of a census may be measured in many ways. One of the first indicators used is a measure of the response to the census data collection as it has generally been thought that a high response rate indicates more complete coverage of the population of interest. This is a valid assumption if the enumeration list, the CML here, has complete coverage of the population of interest. In the case of the census of agriculture, the definition requiring advance knowledge of sales makes achieving a high level of coverage difficult. To ensure that the census of agriculture is as complete as possible, records are included that might not meet the census definition of a farm – in fact, almost 50 percent more records than the anticipated number of qualifying farm operations were included in the 2022 CML. A second indicator of quality then is the coverage of the farm population by the CML. Other indicators of quality relate to the accuracy and completeness of the data, and the validity of the procedures used in processing the data.

In some cases, NASS was able to produce measures of quality – such as the response rate to the data collection, the coverage of the census mail list, and the variability of the final adjusted estimates. In other cases, measures were not produced but descriptions of procedures that NASS used to reduce errors from the procedures were subsequently provided.

Census Response Rate

The response rate is one indicator of the quality of a data

collection. It is generally assumed that if a response rate is close to a full participation level of 100 percent, the potential for nonresponse bias is small, although this has been questioned in the literature. The response rate for the 2022 Census of Agriculture CML was 61.0 percent, as compared with the 2017 Census of Agriculture's response rate of 71.8 percent and 74.6 percent for the 2012 Census of Agriculture.

The 2022 Census of Agriculture's response rate used the fourth response rate formula (RR4) from the American Association of Public Opinion Research's Response Rate Standard Definitions manual:

$$RR4 = \frac{C_{adj}}{C_{adj} + R + NC + O + Replicated + e(U)}(100)$$

where
C_{adj} = number of fully and partially completed records, excluding replicated records
R = number of explicit refusals
NC = number of non-contacted operations known to be eligible
O = number of other types of nonrespondents
Replicated = number of replicated records
U = number of operations of unknown eligibility
$e(U)$ = estimated number of operations of unknown eligibility assumed to be eligible

Records were classified into the above variables based on the combination of their active status (AS) codes, in-scope status, and replication status. Active status refers to the eligibility status of records for selection on the CML. All replicated records were considered a form of nonresponse and were classified into other nonrespondents; in-scope status was considered immaterial.

Certain active status classifications indicated records of unknown agricultural status. These classifications included records to be removed from the CML but had data from outside sources indicating agricultural activity, new records from outside data sources, nonrespondents and refusals to the NACS, records for regional office handling only, and records with Farm Service Agency or Conservation Reserve Program data on operations that are not owned by the principal producer. These records were stratified (grouped) based on their probabilities of being in-scope had they responded. The estimated number of in-scope nonrespondents was calculated for the *h*th stratum (group) by the following formula:

$$e(U_h) = \left(\frac{C_{in-scope,h}}{C_h}\right)U_h$$

where
$e(U_h)$ = estimated number of operations of unknown eligibility assumed to be eligible in the *h*th group
$C_{in-scope,h}$ = the number of completed and in-scope census records in the *h*th group
C_h = the number of completed census records in the *h*th group
U_h = number of operations of unknown eligibility in the *h*th group

Census Coverage

As a side-product of the statistical adjustment used to account for undercoverage, nonresponse of farms on the CML, and misclassification of responses to the census, the proportion of the adjustments due to each of those factors can be derived. The percentage of final census estimates due to adjustments for undercoverage, nonresponse, and misclassification as well as the total percent adjustment for selected items are displayed in Tables A and C.

MEASURED ERRORS IN THE CENSUS PROCESS

NASS uses statistical procedures in compiling the CML, in its data collection procedures, in data editing and processing, and in compiling the final data. Additionally, it uses statistical procedures to both measure errors in the various processes when adjusting for those errors in the final data. One example is the statistical process used to account for undercoverage, nonresponse of farms on the CML, and misclassification of responses to the census. The basis of the undercoverage adjustment is the capture-recapture procedure that uses the area sample enumeration from the JAS. The largest contributors to error in the census estimates are due to the adjustments for nonresponse, undercoverage, misclassification, and integer calibration.

Variability in Census Estimates due to Statistical Adjustment

In conducting the 2022 Census of Agriculture, efforts were initiated to measure error associated with the adjustments for farm operations that were not on the CML; for farm operations that were on the CML but did not respond to the census report form; for farms and nonfarms that were misclassified as nonfarms and farms, respectively; and for integer calibration. These error measurements were developed from the standard error of the estimates at the national, State, and county levels and were expressed as coefficients of variation (CVs) at the national and State levels and as generalized coefficients of variation (GCVs) at the county levels.

The standard error of an estimate is an estimate of the

standard deviation of the sampling distribution of the estimator. In each case, standard errors were computed using an approach based on a delete-a-group jackknife methodology. To conduct the jackknifing, $k = 10$ mutually exclusive and exhaustive groups of records were formed. The groups were selected using a stratified random design so that each group reflected capture status by the CML and the JAS. Based on estimated weights for records in each group, a delete-a-group jackknife estimator of the variance would account for the uncertainty associated with modeling the capture-recapture probabilities and the uncertainty due to integer calibration. Therefore, the weights within each jackknife group were computed using the group-specific models and calibrated to match group-specific targets. For a given data item *i*, such as the number of farms, the estimate was computed at the specified geographical level, such as nation, State, or county, using the weights obtained for group *j*. Estimates of the variance and standard error associated with the estimator T_i are then, respectively,

$$\sigma_i^2 = \frac{k-1}{k}\sum_{j=1}^{k}\left(T_i^{(j)} - \sum_{l=1}^{k}\frac{T_i^{(l)}}{k}\right)^2; \quad SE(T_i) = \sqrt{\sigma_i^2}$$

Ten (10) calibration-adjusted jackknife groups were used to provide standard errors for 2022 State and national estimates (i.e., $k=10$). For the estimate of the number of farms with a given set of characteristics, only the CML records with those characteristics were used to obtain the overall estimate as well as the estimates from each calibrated jackknife group.

Note that the calibrated jackknife groups were only constructed once, and different subsets of the records were used to compute estimates and standard errors for the data items.

The CV is a measure of the relative amount of error associated with the sample estimate:

$$\mathrm{CV}_i = \frac{SE(T_i)}{T_i}100\%$$

where $SE(T_i)$ is the standard error of the capture-recapture estimate for data item *i*. This relative measure allows the reliability of a range of estimates to be compared. For example, the standard error is often larger for large population estimates than for small population estimates, but the large population estimates may have a smaller CV, indicating a more reliable estimate. For county-level estimates, a generalized coefficient of variation (GCV) was determined for each estimate within a State. A generalized variance function relates a function of the variance of an estimator to a function of the estimator. Within a State, the standard error of an estimate for a data item was often found to be linearly related to the estimate of that item with an intercept of zero. Based on this modeled relationship, the GCV is the slope of the line relating the standard error to the estimate, multiplied times 100 to represent the GCV as a percentage.

The standard error is the product of the CV (or GCV for county estimates) and the estimate divided by 100. As an example, if the GCV for a State is 25 percent and a county's estimate is 4, then the standard error is 25(4)/100 = 1. The standard error of an estimated data item from the census provides a measure of the uncertainty associated with that estimated data item due to the possible outcomes of the census collection, including incompleteness of the CML, nonresponse to the census, misclassification either as a farm or as a nonfarm, and the integer calibration. With 95 percent confidence, an estimate is within two standard errors of the true value being estimated. For this example, with 95 percent confidence, the estimate of 4 is within 2(1) = 2 of the true county value.

Note: The standard errors and consequently, the CVs tend to be substantially smaller than those reported for the 2017 Census of Agriculture. For 2017, the model of the probability of capture incorporated information from the approximately 40,000 respondents to the 2017 JAS and the census records matching a JAS record. In contrast, the models for the 2022 Census of Agriculture relied on information from the approximately 1 million responding CML records and the 2022 JAS, some of which were on both the CML and the JAS. The large increase in the number of records used in the modeling process led to a major decrease in the measures of uncertainty (standard errors and CVs).

Table B presents the fully adjusted estimates with the coefficient of variation for selected items.

NONMEASURED ERRORS IN THE CENSUS PROCESS

As noted in the previous section, errors can be introduced from adjustments for coverage, nonresponse, and misclassification and from integer calibration. These errors are measurable. However, nonsampling errors are imbedded in the census process that cannot be directly measured as part of the design of the census but must be contained to ensure an accurate count. Extensive efforts were made to compile a complete and accurate mail list for the census, to elicit response to the census, to design an understandable report form with clear instructions, to minimize processing errors through the use of quality control measures, to reduce matching error associated with the capture-recapture estimation process, and to minimize

error associated with identification of a respondent as a farm operation (referred to as classification error). The weight adjustment and tabulation processes recognize the presence of nonsampling errors; however, it is assumed that these errors are small and that, in total, the net effect is zero. In other words, the positive errors cancel the negative errors.

Respondent and Enumerator Error

Incorrect or incomplete responses to the census report form or to the questions posed by an enumerator can introduce error into the census data. Steps were taken in the design and execution of the Census of Agriculture to reduce errors from respondent reporting. Poor instructions and ambiguous definitions lead to misreporting. Respondents may not remember accurately, may estimate responses, or may record an item in the wrong cell. To reduce reporting and recording errors, the report form was tested prior to the census using industry-accepted cognitive testing procedures. Detailed instructions for completing the report form were provided to each respondent. Questions were phrased as clearly as possible based on previous tests of the report form. Computer-assisted telephone interviewing software included immediate integrity checks of recorded responses so suspect data could be verified or corrected. In addition, each respondent's answers were checked for completeness and consistency by the complex edit and imputation system.

Processing Error

Processing of each census report form was another potential source of nonsampling error. All mail returns that included multiple reports, respondent remarks, or that were marked out of business and report forms with no reported data were sent to an analyst for verification and appropriate action. Integrity checks were performed by the imaging system and data transfer functions. Standard quality control procedures were in place that required that randomly selected batches of data keyed from image be re-entered by a different operator to verify the work and evaluate key entry operators. All systems and programs were thoroughly tested before going on-line and were monitored throughout the processing period.

Developing accurate processing methods is complicated by the complex structure of agriculture. Among the complexities are the many places to be included, the variety of arrangements under which farms are operated, the continuing changes in the relationship of producers to the farm operated, the expiration of leases and the initiation or renewal of leases, the problem of obtaining a complete list of agriculture operations, the difficulty of contacting and identifying some types of contractor/contractee relationships, the producer's absence from the farm during the data collection period, and the producer's opinion that part or all of the operation does not qualify and should not be included in the census. During data collection and processing of the census, all operations underwent a number of quality control checks to ensure results were as accurate as possible.

Item Nonresponse

All item nonresponse actions provide another opportunity to introduce measurement errors. Regardless of whether previously reported data, administrative data, the nearest neighbor algorithm, the fully conditional specification method, or manual imputation is used to complete a nonresponse item, some risk exists that the imputed value does not equal the actual value. Previously reported and administrative data were used only when they related to the census reference period. A new nearest neighbor was randomly selected for each incident to eliminate the chance of a consistent bias.

Record Matching Error

The process of building and expanding the CML involves finding new list sources and checking for names not on the list. An automated processing system compared each new name to the existing CML names and "linked" like records for the purpose of preventing duplication. New names with strong links to a CML name were discarded and those with no links were added as potential farms. Names with weak links, possible matches, were reviewed by staff to determine whether the new name should be added. Despite this thorough review, some new names may have been erroneously added or deleted. Additions could contribute to duplication (overcoverage) whereas deletions could contribute to undercoverage. As a result, some names received more than one report form, and some farm producers did not receive a report form. Respondents were instructed to complete one form and return all forms so the duplication could be removed.

Another chance for error came when comparing June Area Survey tract producer names to the CML. Area producers whose names were not found on the CML were part of the measure of list incompleteness, or NML. Mistakes in determining overlap status resulted in overcounts (including a tract whose producer was on the CML) or undercounts (excluding a tract whose producer was not on the CML). All tracts determined to not be on the list were triple checked to eliminate, or at least minimize, any error. NML tract producers were mailed a report form printed in a different color. To identify duplication, all respondents who received multiple report forms were instructed to complete the CML version and return all forms so

duplication could be removed.

Records in the 2022 JAS were matched to the 2022 census using probabilistic record linkage. The records of operations with differing farm status were sent out to be reviewed by NASS regional field offices. If farm status could not be resolved, the probability of an operation being a farm was imputed using a missing data model. The uncertainty associated with this estimate apart from model uncertainty was accounted for, but errors not found through this process were not.

Table A. **Summary of State Coverage, Nonresponse, and Misclassification Adjustments: 2022**

[For meaning of abbreviations and symbols, see introductory text.]

Item	Total	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
Farms ..... number	39,264	2,072	47.4	12.3	19.4	15.7
Land in farms ..... acres	9,939,313	2,713,044	34.4	3.8	9.9	20.8
Farms by size:						
1 to 9 acres ..... farms	3,345	645	54.0	21.4	19.9	12.7
acres	16,393	2,790	55.1	22.1	20.2	12.7
10 to 49 acres ..... farms	12,508	1,603	51.6	17.5	19.8	14.3
acres	329,663	37,589	51.2	16.7	19.4	15.1
50 to 69 acres ..... farms	3,668	311	49.1	14.7	18.6	15.8
acres	212,433	17,975	49.1	14.7	18.7	15.8
70 to 99 acres ..... farms	3,539	337	45.3	11.0	19.2	15.2
acres	292,902	27,784	45.2	10.9	19.3	15.1
100 to 139 acres ..... farms	3,435	316	44.9	9.7	19.4	15.9
acres	397,368	36,175	45.0	9.7	19.5	15.8
140 to 179 acres ..... farms	2,181	194	45.6	8.5	22.7	14.3
acres	341,574	31,302	45.6	8.5	22.8	14.2
180 to 219 acres ..... farms	1,768	198	44.3	8.7	20.3	15.3
acres	349,178	39,126	44.2	8.7	20.4	15.2
220 to 259 acres ..... farms	1,065	100	41.8	7.7	17.5	16.6
acres	252,656	24,004	41.7	7.7	17.4	16.7
260 to 499 acres ..... farms	3,311	378	44.7	6.2	22.8	15.7
acres	1,184,275	144,374	45.3	6.3	22.7	16.3
500 to 999 acres ..... farms	2,212	871	46.7	4.3	19.5	22.9
acres	1,519,823	616,183	46.9	4.2	19.0	23.7
1,000 to 1,999 acres ..... farms	1,312	780	35.4	2.9	15.1	17.5
acres	1,845,727	1,113,344	35.2	2.9	14.8	17.4
2,000 acres or more ..... farms	920	395	22.9	2.4	2.9	17.6
acres	3,197,321	998,911	16.1	1.0	1.4	13.7
Irrigated land use:						
Harvested cropland ..... farms	6,079	644	42.9	6.1	22.1	14.6
acres	1,252,298	251,436	24.4	1.9	8.4	14.2
Pastureland and other land ..... farms	573	69	46.8	7.5	21.4	17.9
acres	34,953	17,457	43.9	1.0	32.5	10.4
Market value of agricultural products sold $1,000	13,239,372	934	27.8	7.9	3.8	16.2
Farms by value of sales:						
Less than $1,000 ..... farms	11,822	1,187	59.3	35.0	11.4	12.9
$1,000	1,182	(Z)	65.6	40.9	10.8	13.9
$1,000 to $2,499 ..... farms	3,436	374	52.2	11.1	24.9	16.2
$1,000	5,608	1	51.8	11.0	24.5	16.3
$2,500 to $4,999 ..... farms	3,562	430	46.7	10.4	22.0	14.3
$1,000	12,688	2	46.4	10.5	21.8	14.2
$5,000 to $9,999 ..... farms	4,825	406	45.8	8.1	22.5	15.2
$1,000	33,746	3	45.6	8.0	22.3	15.2
$10,000 to $19,999 ..... farms	3,746	395	35.2	6.2	18.3	10.8
$1,000	52,547	6	35.0	6.1	18.3	10.6
$20,000 to $24,999 ..... farms	1,052	111	35.9	5.5	19.6	10.8
$1,000	23,284	2	35.9	5.5	19.6	10.7
$25,000 to $39,999 ..... farms	1,875	253	37.5	5.7	21.1	10.7
$1,000	58,637	8	37.6	5.7	21.0	10.9
$40,000 to $49,999 ..... farms	743	116	38.6	5.0	16.7	16.9
$1,000	32,882	5	38.4	5.0	16.8	16.6
$50,000 to $99,999 ..... farms	1,590	236	39.6	4.7	17.1	17.8
$1,000	110,213	17	39.3	4.7	16.6	17.9
$100,000 to $249,999 ..... farms	1,269	154	40.7	3.1	22.8	14.8
$1,000	201,277	24	40.3	3.1	22.5	14.7
$250,000 to $499,999 ..... farms	1,012	169	49.9	3.3	15.4	31.2
$1,000	368,005	63	49.6	3.3	15.9	30.4
$500,000 to $999,999 ..... farms	1,258	164	56.2	7.0	21.3	28.0
$1,000	925,998	125	56.1	6.8	21.1	28.2
$1,000,000 or more ..... farms	3,074	220	29.3	9.4	2.9	17.0
$1,000	11,413,307	793	24.3	7.9	1.7	14.7
Farms by legal status for tax purposes:						
Family or individual ..... farms	32,831	2,109	47.6	13.3	18.7	15.6
acres	6,320,840	1,498,825	37.8	5.3	13.0	19.5
Partnership ..... farms	2,549	395	45.3	7.2	23.8	14.3
acres	1,844,945	564,474	27.4	4.2	12.4	10.8
Corporation:						
Family held ..... farms	2,821	386	46.8	8.8	22.7	15.3
acres	1,355,105	544,513	30.1	1.3	5.3	23.5
Other than family held ..... farms	583	52	49.4	7.6	18.9	23.0
acres	204,934	51,552	29.1	2.1	5.6	21.5
Other - estate or trust, prison farm, grazing association, American Indian Reservation, etc ..... farms	480	38	44.8	11.7	10.4	22.7
acres	213,489	70,089	26.4	4.2	3.1	19.1
Tenure:						
Full owners ..... farms	30,650	2,074	49.5	14.5	19.5	15.5
acres	5,114,693	1,448,384	39.2	7.3	14.2	17.8
Part owners ..... farms	6,999	1,065	38.8	2.5	18.7	17.6
acres	4,402,624	1,179,847	28.4	0.6	5.6	22.3
Tenants ..... farms	1,615	218	44.8	4.9	24.3	15.5
acres	421,996	106,725	39.1	4.2	18.4	16.4
Producers characteristics by- [1] (see text)						
Sex of operator:						
Male ..... farms	36,354	1,859	47.4	11.9	20.1	15.4
acres	9,464,868	2,554,921	34.4	3.6	10.1	20.7
Female ..... farms	21,409	1,434	49.8	15.2	29.1	5.5
acres	4,048,520	1,130,050	37.9	7.9	25.1	4.9
Primary occupation:						
Farming ..... farms	26,974	1,477	44.5	10.0	23.4	11.1
Other ..... farms	40,108	2,040	52.3	12.6	29.3	10.4

See footnote(s) at end of table.

--continued

Table A. **Summary of State Coverage, Nonresponse, and Misclassification Adjustments: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Item		Total	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
Producers characteristics by- [1] (see text) - Con.							
Hispanic, Latino, or Spanish origin	farms	837	63	52.6	14.0	23.9	14.7
	acres	193,259	37,836	34.9	2.8	22.3	9.8
Race:							
American Indian or Alaska Native	farms	207	35	37.7	12.4	10.7	14.6
	acres	73,486	19,577	31.9	4.6	4.0	23.3
Asian	farms	382	102	30.4	8.0	7.9	14.5
	acres	32,637	6,487	29.6	4.6	6.6	18.5
Black or African American	farms	1,743	211	53.6	12.1	21.6	19.9
	acres	323,899	96,805	56.5	5.0	25.3	26.1
Native Hawaiian or Other Pacific Islander	farms	41	12	46.3	5.0	26.3	15.0
	acres	6,413	752	46.9	1.3	28.1	17.5
White	farms	37,058	1,899	47.3	12.4	19.5	15.4
	acres	9,539,003	2,573,915	33.7	3.7	9.8	20.2
More than one race reported	farms	469	44	52.9	13.9	20.5	18.5
	acres	77,220	19,404	45.2	4.3	11.8	29.1
Military service:							
Never served or only on active duty for training in the Reserves or National Guard (see text)	producers	59,743	3,172	49.4	11.4	27.3	10.7
Active duty now or in the past (see text)	producers	7,339	409	47.3	12.7	24.0	10.5
All producers by age group [1]:							
Under 25 years	farms	956	95	63.2	10.6	45.4	7.2
25 to 34 years	farms	4,075	430	64.2	10.1	40.6	13.5
35 to 44 years	farms	7,578	476	55.5	11.4	33.0	11.1
45 to 54 years	farms	11,151	492	49.6	14.6	21.8	13.2
55 to 64 years	farms	16,636	1,050	48.0	10.0	26.0	12.0
65 to 74 years	farms	16,418	851	46.1	11.0	26.3	8.9
75 years and over	farms	10,268	508	43.6	14.4	22.9	6.3
Net cash farm income of operations:							
Farms with gains of- [2]							
Less than $1,000	farms	945	212	40.7	9.1	17.3	14.4
	$1,000	437	(Z)	37.9	8.2	17.3	12.4
$1,000 to $4,999	farms	2,378	285	42.4	8.2	18.9	15.3
	$1,000	6,516	1	41.8	8.2	19.2	14.4
$5,000 to $9,999	farms	1,584	134	39.3	6.7	21.5	11.1
	$1,000	11,677	1	39.3	6.7	21.3	11.4
$10,000 to $24,999	farms	2,100	202	40.3	6.2	20.4	13.7
	$1,000	34,036	3	40.1	6.2	20.0	13.9
$25,000 to $49,999	farms	1,515	159	42.8	6.8	22.0	13.9
	$1,000	53,955	6	42.4	6.7	21.6	14.2
$50,000 or more	farms	6,057	448	39.6	7.2	12.0	20.5
	$1,000	5,036,290	346	29.0	8.3	3.7	17.0
Farms with losses of-							
Less than $1,000	farms	1,254	164	49.0	14.9	16.2	17.9
	$1,000	637	(Z)	48.9	15.7	16.5	16.6
$1,000 to $4,999	farms	5,988	574	52.2	17.8	20.4	14.0
	$1,000	17,597	2	52.3	18.3	19.7	14.3
$5,000 to $9,999	farms	5,668	402	52.5	18.4	19.2	14.9
	$1,000	41,449	3	52.4	18.3	19.1	15.0
$10,000 to $24,999	farms	6,931	280	51.7	17.1	20.5	14.1
	$1,000	109,622	4	51.7	17.0	20.3	14.4
$25,000 to $49,999	farms	2,850	212	52.2	14.2	20.8	17.1
	$1,000	97,098	8	52.1	14.3	20.7	17.1
$50,000 or more	farms	1,994	358	46.3	7.0	23.7	15.6
	$1,000	336,663	59	38.2	5.4	15.8	17.0
Livestock and poultry:							
Cattle and calves inventory	farms	13,708	563	33.9	21.9	8.5	3.5
	number	1,000,560	49,239	28.6	11.1	11.5	6.0
Beef cows inventory	farms	12,462	486	32.6	20.4	8.6	3.5
	number	490,955	22,783	27.0	10.7	11.0	5.3
Milk cows inventory	farms	391	14	33.5	23.5	7.2	2.8
	number	72,830	27,518	10.0	4.3	1.1	4.5
Hog and pigs inventory	farms	1,053	132	47.5	14.2	21.3	11.9
	number	41,671	1,551	8.7	3.4	1.7	3.6
Layers inventory	farms	4,682	406	51.4	13.3	25.5	12.6
	number	22,129,571	8,066,625	34.0	12.5	3.8	17.7
Broilers sold	farms	2,018	305	38.9	12.7	7.9	18.3
	number	1,300,052,315	112,995,427	32.3	12.1	2.3	17.9
Aquaculture sold	farms	60	5	15.0	3.5	2.6	8.9
	$1,000	21,304	(Z)	(Z)	(Z)	(Z)	(Z)
Selected crops harvested:							
Corn for grain	farms	2,102	474	40.8	3.2	15.5	22.1
	acres	394,097	111,940	31.0	1.8	8.3	20.9
Durum wheat for grain	farms	-	-	-	-	-	-
	acres	-	-	-	-	-	-
Other spring wheat for grain	farms	10	3	20.0	7.3	8.8	4.0
	acres	1,033	149	7.7	4.1	1.5	2.1
Winter wheat for grain	farms	664	182	42.5	2.1	17.3	23.1
	acres	124,467	35,687	33.3	1.7	14.2	17.4
Sorghum for grain	farms	128	20	31.3	2.1	6.2	23.0
	acres	13,532	1,952	13.5	1.4	1.8	10.3
Soybeans for beans	farms	903	166	42.2	2.5	16.4	23.3
	acres	160,648	37,343	38.5	1.4	19.5	17.7
Rice	farms	-	-	-	-	-	-
	acres	-	-	-	-	-	-
Cotton	farms	2,289	506	39.4	2.6	13.0	23.8
	acres	1,256,908	215,398	29.2	2.0	4.4	22.8

See footnote(s) at end of table.

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Table A. **Summary of State Coverage, Nonresponse, and Misclassification Adjustments: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Item		Total	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
Selected crops harvested: - Con.							
Peanuts	farms	2,217	503	37.4	4.6	12.2	20.6
	acres	692,619	170,737	26.6	2.7	8.6	15.3
Barley	farms	-	-	-	-	-	-
	acres	-	-	-	-	-	-
Oats	farms	205	58	31.7	1.9	22.6	7.2
	acres	14,164	2,659	24.3	1.4	15.9	6.9
Forage - land used for all hay and haylage, grass silage, and greenchop	farms	12,016	971	43.9	6.6	19.7	17.6
	acres	621,132	134,936	40.8	3.5	18.1	19.2
Land in vegetables (see text)	farms	1,634	427	39.6	1.6	22.0	16.0
	acres	88,380	11,303	11.6	0.1	1.7	9.8
Potatoes	farms	263	82	38.8	2.3	23.9	12.6
	acres	1,692	705	25.8	3.6	3.1	19.1
Tomatoes in the open	farms	667	244	39.4	1.4	23.1	15.0
	acres	2,037	81	8.5	0.6	5.2	2.8
Sweet corn (see text)	farms	493	164	37.3	1.3	19.8	16.3
	acres	23,843	144	2.1	(Z)	1.3	0.8
Lettuce	farms	202	69	38.1	1.6	24.5	12.1
	acres	(D)	(D)	(D)	(D)	(D)	(D)
Land in orchards (see text)	farms	4,253	482	41.2	9.7	29.3	2.3
	acres	200,332	22,913	11.4	2.4	6.1	3.0
Apples	farms	352	52	47.7	8.7	37.0	2.0
	acres	984	129	28.5	1.7	26.6	0.2
Grapes (including muscadine) (see text)	farms	532	63	44.5	8.0	34.5	2.0
	acres	2,084	223	34.0	4.9	27.8	1.3
Oranges	farms	110	21	45.5	12.6	31.0	1.8
	acres	582	215	31.7	13.4	14.2	4.1
Almonds	farms	5	2	40.0	3.4	36.1	0.4
	acres	1	(Z)	20.0	5.7	14.1	0.2
Land in berries	farms	1,521	173	46.9	7.2	23.7	16.0
	acres	30,291	4,740	38.5	1.8	6.6	30.1

[1] Data were collected for a maximum of four producers per farm.
[2] Farms with total production expenses equal to market value of agricultural products sold, government payments, and farm-related income are included as farms with gains of less than $1,000.

Table B. **Reliability Estimates of State Totals: 2022**

[For meaning of abbreviations and symbols, see introductory text.]

Item	Total	Coefficient of variation (percent)
Farms ..... number	39,264	5.3
Land in farms ..... acres	9,939,313	27.3
Farms by size:		
1 to 9 acres ..... farms	3,345	19.3
acres	16,393	17.0
10 to 49 acres ..... farms	12,508	12.8
acres	329,663	11.4
50 to 69 acres ..... farms	3,668	8.5
acres	212,433	8.5
70 to 99 acres ..... farms	3,539	9.5
acres	292,902	9.5
100 to 139 acres ..... farms	3,435	9.2
acres	397,368	9.1
140 to 179 acres ..... farms	2,181	8.9
acres	341,574	9.2
180 to 219 acres ..... farms	1,768	11.2
acres	349,178	11.2
220 to 259 acres ..... farms	1,065	9.4
acres	252,656	9.5
260 to 499 acres ..... farms	3,311	11.4
acres	1,184,275	12.2
500 to 999 acres ..... farms	2,212	39.4
acres	1,519,823	40.5
1,000 to 1,999 acres ..... farms	1,312	59.4
acres	1,845,727	60.3
2,000 acres or more ..... farms	920	42.9
acres	3,197,321	31.2
Irrigated land use:		
Harvested cropland ..... farms	6,079	10.6
acres	1,252,298	20.1
Pastureland and other land ..... farms	573	12.1
acres	34,953	49.9
Market value of agricultural products sold $1,000	13,239,372	7.1
Farms by value of sales:		
Less than $1,000 ..... farms	11,822	10.0
$1,000	1,182	16.2
$1,000 to $2,499 ..... farms	3,436	10.9
$1,000	5,608	11.7
$2,500 to $4,999 ..... farms	3,562	12.1
$1,000	12,688	12.1
$5,000 to $9,999 ..... farms	4,825	8.4
$1,000	33,746	8.7
$10,000 to $19,999 ..... farms	3,746	10.5
$1,000	52,547	10.7
$20,000 to $24,999 ..... farms	1,052	10.5
$1,000	23,284	10.6
$25,000 to $39,999 ..... farms	1,875	13.5
$1,000	58,637	13.4
$40,000 to $49,999 ..... farms	743	15.6
$1,000	32,882	15.3
$50,000 to $99,999 ..... farms	1,590	14.8
$1,000	110,213	15.1
$100,000 to $249,999 ..... farms	1,269	12.1
$1,000	201,277	11.7
$250,000 to $499,999 ..... farms	1,012	16.7
$1,000	368,005	17.0
$500,000 to $999,999 ..... farms	1,258	13.0
$1,000	925,998	13.5
$1,000,000 or more ..... farms	3,074	7.2
$1,000	11,413,307	6.9
Farms by legal status for tax purposes:		
Family or individual ..... farms	32,831	6.4
acres	6,320,840	23.7
Partnership ..... farms	2,549	15.5
acres	1,844,945	30.6
Corporation:		
Family held ..... farms	2,821	13.7
acres	1,355,105	40.2
Other than family held ..... farms	583	8.9
acres	204,934	25.2
Other - estate or trust, prison farm, grazing association, American Indian Reservation, etc ..... farms	480	7.8
acres	213,489	32.8
Tenure:		
Full owners ..... farms	30,650	6.8
acres	5,114,693	28.3
Part owners ..... farms	6,999	15.2
acres	4,402,624	26.8
Tenants ..... farms	1,615	13.5
acres	421,996	25.3
Producers characteristics by- [1] (see text)		
Sex of operator:		
Male ..... farms	36,354	5.1
acres	9,464,868	27.0
Female ..... farms	21,409	6.7
acres	4,048,520	27.9
Primary occupation:		
Farming ..... farms	26,974	5.5
Other ..... farms	40,108	5.1
Producers characteristics by- [1] (see text) - Con.		
Hispanic, Latino, or Spanish origin ..... farms	837	7.5
acres	193,259	19.6
Race:		
American Indian or Alaska Native ..... farms	207	17.0
acres	73,486	26.6
Asian ..... farms	382	26.7
acres	32,637	19.9
Black or African American ..... farms	1,743	12.1
acres	323,899	29.9
Native Hawaiian or Other Pacific Islander ..... farms	41	28.8
acres	6,413	11.7
White ..... farms	37,058	5.1
acres	9,539,003	27.0
More than one race reported ..... farms	469	9.3
acres	77,220	25.1
Military service:		
Never served or only on active duty for training in the Reserves or National Guard (see text) ..... producers	59,743	5.3
Active duty now or in the past (see text) ..... producers	7,339	5.6
All producers by age group [1]:		
Under 25 years ..... farms	956	10.0
25 to 34 years ..... farms	4,075	10.6
35 to 44 years ..... farms	7,578	6.3
45 to 54 years ..... farms	11,151	4.4
55 to 64 years ..... farms	16,636	6.3
65 to 74 years ..... farms	16,418	5.2
75 years and over ..... farms	10,268	4.9
Net cash farm income of operations:		
Farms with gains of- [2]		
Less than $1,000 ..... farms	945	22.4
$1,000	437	27.8
$1,000 to $4,999 ..... farms	2,378	12.0
$1,000	6,516	11.3
$5,000 to $9,999 ..... farms	1,584	8.5
$1,000	11,677	8.4
$10,000 to $24,999 ..... farms	2,100	9.6
$1,000	34,036	9.5
$25,000 to $49,999 ..... farms	1,515	10.5
$1,000	53,955	10.7
$50,000 or more ..... farms	6,057	7.4
$1,000	5,036,290	6.9
Farms with losses of-		
Less than $1,000 ..... farms	1,254	13.0
$1,000	637	11.5
$1,000 to $4,999 ..... farms	5,988	9.6
$1,000	17,597	8.5
$5,000 to $9,999 ..... farms	5,668	7.1
$1,000	41,449	7.1
$10,000 to $24,999 ..... farms	6,931	4.0
$1,000	109,622	3.9
$25,000 to $49,999 ..... farms	2,850	7.4
$1,000	97,098	7.8
$50,000 or more ..... farms	1,994	18.0
$1,000	336,663	17.6
Livestock and poultry:		
Cattle and calves inventory ..... farms	13,708	4.1
number	1,000,560	4.9
Beef cows inventory ..... farms	12,462	3.9
number	490,955	4.6
Milk cows inventory ..... farms	391	3.5
number	72,830	37.8
Hog and pigs inventory ..... farms	1,053	12.6
number	41,671	3.7
Layers inventory ..... farms	4,682	8.7
number	22,129,571	36.5
Broilers sold ..... farms	2,018	15.1
number	1,300,052,315	8.7
Aquaculture sold ..... farms	60	7.9
$1,000	21,304	0.3
Selected crops harvested:		
Corn for grain ..... farms	2,102	22.6
acres	394,097	28.4
Durum wheat for grain ..... farms	-	-
acres	-	-
Other spring wheat for grain ..... farms	10	32.9
acres	1,033	14.4
Winter wheat for grain ..... farms	664	27.5
acres	124,467	28.7
Sorghum for grain ..... farms	128	15.4
acres	13,532	14.4
Soybeans for beans ..... farms	903	18.4
acres	160,648	23.2
Rice ..... farms	-	-
acres	-	-

See footnote(s) at end of table.

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Table B. **Reliability Estimates of State Totals: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Item		Total	Coefficient of variation (percent)
Selected crops harvested: - Con.			
Cotton	farms	2,289	22.1
	acres	1,256,908	17.1
Peanuts	farms	2,217	22.7
	acres	692,619	24.7
Barley	farms	-	-
	acres	-	-
Oats	farms	205	28.1
	acres	14,164	18.8
Forage - land used for all hay and haylage, grass silage, and greenchop	farms	12,016	8.1
	acres	621,132	21.7
Land in vegetables (see text)	farms	1,634	26.1
	acres	88,380	12.8
Potatoes	farms	263	31.1
	acres	1,692	41.7
Tomatoes in the open	farms	667	36.6
	acres	2,037	4.0
Selected crops harvested: - Con. Land in vegetables (see text) - Con.			
Sweet corn (see text)	farms	493	33.2
	acres	23,843	0.6
Lettuce	farms	202	34.1
	acres	(D)	(D)
Land in orchards (see text)	farms	4,253	11.3
	acres	200,332	11.4
Apples	farms	352	14.8
	acres	984	13.1
Grapes (including muscadine) (see text)	farms	532	11.8
	acres	2,084	10.7
Oranges	farms	110	19.5
	acres	582	36.9
Almonds	farms	5	37.9
	acres	1	19.0
Land in berries	farms	1,521	11.4
	acres	30,291	15.6

[1] Data were collected for a maximum of four producers per farm.
[2] Farms with total production expenses equal to market value of agricultural products sold, government payments, and farm-related income are included as farms with gains of less than $1,000.

Table C. **Summary of Coverage, Nonresponse, and Misclassification Adjustments by County: 2022**

[For meaning of abbreviations and symbols, see introductory text.]

Geographic area	Total (number)	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
ALL FARMS (NUMBER)						
State Total						
Georgia	39,264	2,072	47.0	12.3	18.9	15.7
Counties						
Appling	495	43	44.1	13.4	21.7	9.0
Atkinson	185	18	43.8	9.1	21.2	13.5
Bacon	312	69	44.4	6.0	16.8	21.7
Baker	106	23	26.4	7.1	14.1	5.2
Baldwin	113	10	53.1	17.9	28.3	6.8
Banks	450	52	47.7	12.6	15.6	19.5
Barrow	256	29	47.4	19.6	15.8	12.1
Bartow	457	54	51.7	10.6	18.5	22.6
Ben Hill	167	28	37.9	12.7	20.9	4.3
Berrien	362	52	43.9	13.3	23.7	6.9
Bibb	95	11	58.2	16.0	20.5	21.7
Bleckley	151	17	46.8	16.1	18.1	12.6
Brantley	207	16	48.5	10.3	16.9	21.3
Brooks	392	29	38.6	8.7	10.6	19.3
Bryan	89	26	52.6	10.3	16.0	26.3
Bulloch	495	59	47.4	10.3	15.0	22.1
Burke	403	80	46.3	7.5	17.3	21.5
Butts	166	19	55.3	17.8	19.8	17.7
Calhoun	144	55	33.3	10.8	7.9	14.7
Camden	69	12	54.4	12.5	29.9	11.9
Candler	301	26	48.2	11.2	29.4	7.6
Carroll	806	39	47.3	14.4	15.0	17.9
Catoosa	213	63	47.2	10.5	25.9	10.8
Charlton	85	16	47.2	7.4	37.7	2.1
Chatham	41	8	50.0	17.1	14.7	18.2
Chattahoochee	4	3	25.0	6.1	18.8	0.1
Chattooga	275	20	50.0	9.8	22.4	17.8
Cherokee	377	31	54.9	21.6	14.6	18.7
Clarke	72	26	50.0	17.9	18.3	13.8
Clay	73	28	24.2	9.6	9.4	5.2
Clayton	23	6	57.1	18.2	28.5	10.4
Clinch	158	25	39.5	6.7	3.0	29.8
Cobb	92	13	55.3	16.1	26.4	12.9
Coffee	541	66	39.2	13.2	12.3	13.8
Colquitt	429	53	35.6	8.9	17.6	9.1
Columbia	227	27	57.1	11.3	20.8	25.0
Cook	210	30	35.7	13.0	16.6	6.2
Coweta	324	36	56.0	11.3	26.3	18.5
Crawford	180	27	51.6	14.5	27.7	9.4
Crisp	176	21	34.1	4.5	8.0	21.6
Dade	180	16	51.9	10.2	23.9	17.8
Dawson	170	20	49.1	19.4	19.2	10.5
Decatur	326	48	38.6	9.0	10.8	18.9
DeKalb	15	(H)	40.9	15.4	18.6	6.8
Dodge	395	32	49.3	13.5	16.5	19.3
Dooly	283	46	35.5	5.4	20.6	9.6
Dougherty	100	40	30.7	9.9	16.9	3.9
Douglas	74	27	41.0	15.8	16.1	9.1
Early	288	30	37.8	9.7	15.4	12.7
Echols	96	16	42.0	12.2	9.5	20.3
Effingham	223	51	57.5	10.3	19.5	27.7
Elbert	424	44	49.3	14.9	21.1	13.3
Emanuel	404	35	44.6	13.0	21.0	10.6
Evans	167	31	51.0	15.6	24.2	11.2
Fannin	195	50	51.8	14.8	18.0	18.9
Fayette	120	19	54.0	18.1	21.4	14.5
Floyd	465	36	51.7	14.1	20.9	16.7
Forsyth	262	38	52.1	15.3	29.7	7.2
Franklin	669	80	46.9	18.6	17.6	10.7
Fulton	167	54	57.0	15.8	27.1	14.0
Gilmer	264	42	42.5	12.4	22.7	7.4
Glascock	64	20	50.0	12.3	17.4	20.3
Glynn	64	15	58.3	14.6	30.3	13.4
Gordon	592	63	43.4	13.3	9.9	20.2
Grady	408	33	36.7	11.6	13.9	11.2
Greene	222	44	45.2	8.0	15.6	21.5
Gwinnett	117	13	46.3	15.5	15.7	15.1
Habersham	375	75	50.9	14.5	21.0	15.4
Hall	574	47	49.3	14.6	19.4	15.4
Hancock	137	19	47.2	13.1	15.5	18.5
Haralson	303	37	51.2	11.7	22.9	16.6
Harris	227	37	53.2	19.5	19.8	13.9
Hart	547	73	47.4	13.2	20.5	13.7
Heard	180	22	54.1	11.5	24.9	17.7
Henry	214	34	55.0	14.7	23.3	17.1
Houston	302	22	52.4	13.2	24.8	14.4
Irwin	286	31	34.1	12.9	18.2	3.0
Jackson	636	111	47.3	18.1	17.3	11.9
Jasper	293	22	52.9	14.5	22.1	16.4
Jeff Davis	195	17	48.2	14.6	10.0	23.5
Jefferson	309	67	45.7	7.0	16.1	22.5
Jenkins	214	38	42.6	11.9	20.9	9.8
Johnson	253	27	45.7	14.6	14.6	16.5

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Table C. **Summary of Coverage, Nonresponse, and Misclassification Adjustments by County: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Geographic area	Total (number)	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
ALL FARMS (NUMBER) - Con.						
Counties - Con.						
Jones	195	29	59.1	15.2	26.5	17.4
Lamar	175	30	48.6	15.4	25.5	7.7
Lanier	133	30	55.0	13.5	20.0	21.5
Laurens	674	67	51.4	14.5	18.4	18.5
Lee	180	24	32.5	14.5	7.9	10.2
Liberty	53	13	59.4	30.4	17.4	11.6
Lincoln	130	19	53.7	9.3	39.1	5.4
Long	94	8	55.2	7.6	10.2	37.3
Lowndes	389	49	50.6	14.3	27.7	8.6
Lumpkin	260	16	50.4	12.4	24.6	13.4
McDuffie	243	54	52.7	16.5	17.5	18.7
McIntosh	52	15	55.6	11.1	21.8	22.7
Macon	270	31	40.1	11.6	12.2	16.3
Madison	707	63	46.6	16.4	15.8	14.4
Marion	199	29	53.1	12.5	22.1	18.5
Meriwether	308	54	48.5	12.1	16.2	20.1
Miller	179	20	36.5	14.1	12.8	9.6
Mitchell	367	44	35.1	11.0	16.3	7.8
Monroe	198	25	50.8	8.5	25.7	16.5
Montgomery	152	42	48.1	13.0	24.1	11.0
Morgan	537	61	49.3	15.1	23.7	10.5
Murray	276	26	45.2	13.5	15.0	16.7
Muscogee	19	6	45.0	21.1	16.8	7.1
Newton	274	31	52.3	8.8	23.5	20.0
Oconee	292	47	50.0	20.2	17.8	12.0
Oglethorpe	438	26	47.9	14.6	16.6	16.7
Paulding	220	28	60.3	10.7	31.1	18.4
Peach	182	40	50.0	13.9	23.3	12.8
Pickens	220	22	49.5	17.6	12.7	19.2
Pierce	345	46	48.3	12.9	20.9	14.5
Pike	260	19	52.4	14.6	13.9	24.0
Polk	299	31	47.3	13.5	22.2	11.7
Pulaski	153	24	45.5	11.2	18.6	15.8
Putnam	161	28	51.5	13.0	25.6	12.9
Quitman	26	3	53.1	26.0	17.1	10.1
Rabun	122	26	51.7	10.6	31.3	9.8
Randolph	168	30	31.8	8.4	9.8	13.6
Richmond	123	24	51.5	9.7	36.1	5.7
Rockdale	71	10	56.3	15.3	18.5	22.5
Schley	101	19	42.1	11.1	15.5	15.6
Screven	326	56	47.5	7.5	18.3	21.6
Seminole	95	41	29.5	6.0	13.7	9.8
Spalding	212	17	55.2	17.8	23.4	13.9
Stephens	163	41	45.3	10.4	15.2	19.7
Stewart	74	13	51.1	20.7	24.5	5.9
Sumter	373	40	40.1	8.5	16.2	15.3
Talbot	106	29	52.4	12.9	23.7	15.8
Taliaferro	60	31	45.9	16.2	9.8	20.0
Tattnall	514	47	43.1	10.1	18.9	14.2
Taylor	211	25	46.2	7.7	21.7	16.8
Telfair	181	34	41.9	9.7	14.7	17.5
Terrell	272	35	36.2	8.7	6.7	20.9
Thomas	366	41	37.7	8.3	13.9	15.6
Tift	279	28	38.9	13.4	17.0	8.6
Toombs	296	56	48.5	13.9	15.5	19.2
Towns	103	21	50.5	19.5	19.2	11.8
Treutlen	152	15	45.4	11.1	20.2	14.1
Troup	251	26	50.9	14.0	17.8	19.1
Turner	182	31	34.6	7.5	15.7	11.4
Twiggs	87	15	48.4	27.2	16.6	4.6
Union	248	21	50.2	13.8	23.6	12.9
Upson	216	24	46.6	12.6	16.6	17.4
Walker	557	61	51.4	10.6	21.3	19.5
Walton	406	44	54.0	14.4	19.7	19.9
Ware	251	38	51.6	9.6	18.4	23.6
Warren	105	6	48.1	19.5	16.8	11.8
Washington	363	49	49.0	10.5	25.0	13.4
Wayne	272	53	45.5	10.1	24.3	11.1
Webster	93	27	37.1	15.3	17.5	4.3
Wheeler	127	19	46.5	9.2	14.1	23.2
White	304	46	50.7	11.6	24.6	14.5
Whitfield	285	34	44.0	15.5	19.0	9.5
Wilcox	211	38	31.5	8.5	9.5	13.5
Wilkes	248	25	45.6	8.0	11.6	26.0
Wilkinson	138	33	58.6	18.7	24.6	15.3
Worth	372	45	37.2	7.8	14.3	15.1
LAND IN FARMS (ACRES)						
State Total						
Georgia	9,939,313	2,713,044	34.6	3.9	9.8	21.0
Counties						
Appling	119,040	56,114	26.4	3.9	16.9	5.6
Atkinson	75,760	10,456	25.3	8.0	4.7	12.6
Bacon	77,153	17,446	37.0	1.0	6.9	29.1

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Table C. **Summary of Coverage, Nonresponse, and Misclassification Adjustments by County: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Geographic area	Total (number)	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
LAND IN FARMS (ACRES) - Con.						
Counties - Con.						
Baker	113,062	9,635	7.0	0.4	0.4	6.2
Baldwin	25,183	4,296	47.2	17.2	25.8	4.3
Banks	57,455	6,953	48.0	7.2	17.8	23.0
Barrow	21,238	3,644	40.1	11.2	18.5	10.4
Bartow	69,569	7,413	45.9	1.7	6.3	37.8
Ben Hill	40,197	6,457	21.9	5.3	15.3	1.2
Berrien	127,226	29,130	23.3	7.3	12.9	3.1
Bibb	7,017	560	53.7	7.0	21.2	25.4
Bleckley	32,749	21,043	29.9	7.3	16.5	6.1
Brantley	33,900	15,015	42.0	8.6	20.0	13.4
Brooks	207,151	34,156	33.9	0.4	2.5	30.9
Bryan	25,817	11,898	36.9	5.8	5.1	26.0
Bulloch	195,261	122,597	48.7	4.4	7.4	36.9
Burke	214,575	100,188	34.9	5.7	11.7	17.5
Butts	22,844	6,419	51.3	12.2	15.3	23.8
Calhoun	138,414	73,887	21.2	3.3	1.2	16.7
Camden	8,492	2,876	45.1	6.4	31.3	7.5
Candler	80,603	34,235	42.5	3.9	34.4	4.2
Carroll	92,092	16,332	46.1	8.4	15.0	22.7
Catoosa	18,464	5,081	44.0	4.3	31.5	8.1
Charlton	19,395	16,622	45.8	6.5	34.7	4.6
Chatham	7,742	3,346	55.3	25.4	19.0	10.9
Chattahoochee	306	229	36.6	8.3	28.3	0.1
Chattooga	58,942	17,059	47.9	8.5	19.6	19.9
Cherokee	24,284	2,761	52.2	9.1	14.9	28.2
Clarke	4,485	1,947	31.4	13.2	13.9	4.2
Clay	43,141	18,531	24.6	13.8	7.0	3.8
Clayton	3,294	2,293	76.8	11.1	51.4	14.2
Clinch	44,721	18,429	25.3	1.1	0.4	23.8
Cobb	2,830	290	72.2	28.8	36.5	7.0
Coffee	161,594	30,169	25.4	8.5	7.8	9.0
Colquitt	184,400	29,277	25.9	1.1	23.2	1.6
Columbia	25,036	6,466	57.2	3.2	10.2	43.8
Cook	77,736	23,195	17.0	6.1	6.3	4.5
Coweta	53,189	21,552	37.8	7.4	13.8	16.6
Crawford	29,558	5,440	36.2	9.5	23.1	3.6
Crisp	121,261	42,369	31.7	0.8	4.2	26.7
Dade	31,350	6,576	45.2	5.6	23.0	16.5
Dawson	15,853	3,829	49.0	14.9	16.4	17.8
Decatur	180,755	27,629	26.8	1.5	7.3	18.0
DeKalb	72	(H)	14.3	1.7	2.3	10.2
Dodge	84,570	25,592	54.3	5.4	20.7	28.3
Dooly	214,446	38,847	30.2	3.0	22.1	5.1
Dougherty	54,565	30,162	15.3	6.3	2.0	7.1
Douglas	7,323	735	18.8	6.6	5.3	6.9
Early	156,043	18,746	28.4	4.3	16.3	7.8
Echols	27,413	9,235	14.2	1.0	0.4	12.8
Effingham	42,347	8,955	50.8	4.0	7.2	39.6
Elbert	76,233	44,878	50.8	7.1	33.0	10.8
Emanuel	117,430	26,301	29.5	7.5	17.7	4.3
Evans	44,380	18,474	42.2	12.7	18.1	11.4
Fannin	11,041	1,791	47.8	12.4	22.9	12.5
Fayette	7,212	1,969	39.7	12.3	17.5	9.8
Floyd	73,663	12,831	47.8	9.3	24.3	14.2
Forsyth	15,700	2,538	43.8	7.2	29.2	7.4
Franklin	68,943	6,226	41.1	14.9	16.4	9.8
Fulton	9,150	4,335	62.6	7.3	47.1	8.3
Gilmer	31,626	7,692	38.9	7.3	24.9	6.7
Glascock	13,079	3,107	43.7	6.4	29.8	7.5
Glynn	1,894	1,594	65.2	18.3	5.3	41.6
Gordon	77,290	9,783	36.1	6.6	9.4	20.1
Grady	110,417	18,532	31.7	6.9	3.3	21.6
Greene	46,778	8,335	40.3	6.0	18.4	15.9
Gwinnett	5,392	2,734	33.6	8.3	12.5	12.7
Habersham	27,608	8,492	48.6	10.7	23.2	14.6
Hall	43,910	2,218	41.3	6.8	18.4	16.1
Hancock	49,509	23,784	46.9	4.7	6.8	35.4
Haralson	26,001	6,204	49.9	9.4	29.6	10.9
Harris	44,733	20,978	53.9	16.7	23.3	13.8
Hart	70,336	16,926	50.4	6.7	23.2	20.5
Heard	33,726	9,431	53.1	11.2	22.7	19.2
Henry	14,108	2,941	51.4	7.6	20.0	23.8
Houston	54,850	4,297	27.8	5.4	16.6	5.8
Irwin	116,408	34,560	24.1	10.1	11.3	2.7
Jackson	64,732	12,413	36.7	12.5	15.2	9.0
Jasper	54,987	32,338	35.7	8.6	15.7	11.3
Jeff Davis	46,321	2,575	20.6	6.7	4.9	8.9
Jefferson	151,521	101,374	42.5	3.7	14.6	24.3
Jenkins	74,888	9,076	30.3	10.2	17.0	3.1
Johnson	66,336	24,254	31.8	9.8	12.7	9.2
Jones	27,803	9,508	57.5	8.4	37.1	12.0
Lamar	39,485	16,697	46.2	10.9	32.1	3.2
Lanier	48,841	18,526	20.3	1.7	2.3	16.3
Laurens	155,200	69,259	39.0	7.2	5.7	26.1
Lee	110,997	24,414	13.6	11.1	1.7	0.9
Liberty	7,849	3,482	42.0	12.7	20.8	8.5
Lincoln	27,118	15,012	54.7	6.6	41.8	6.2

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Table C. **Summary of Coverage, Nonresponse, and Misclassification Adjustments by County: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Geographic area	Total (number)	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
LAND IN FARMS (ACRES) - Con.						
Counties - Con.						
Long	17,132	8,693	64.2	3.3	6.4	54.5
Lowndes	84,299	14,134	29.3	5.1	19.4	4.9
Lumpkin	23,501	15,163	45.9	15.6	18.9	11.4
McDuffie	56,083	43,316	43.6	7.9	8.1	27.5
McIntosh	15,559	1,536	13.5	2.4	2.4	8.8
Macon	118,727	11,903	18.2	5.4	8.5	4.3
Madison	76,519	5,889	39.6	10.8	12.9	15.8
Marion	59,650	23,800	38.8	10.5	11.6	16.7
Meriwether	92,208	48,368	47.8	11.8	21.4	14.6
Miller	113,853	21,842	31.5	8.5	6.2	16.9
Mitchell	205,689	34,283	13.2	5.1	6.3	1.8
Monroe	49,816	9,762	43.2	4.3	19.4	19.6
Montgomery	56,537	28,194	31.7	5.1	21.2	5.4
Morgan	97,901	40,672	43.2	10.0	22.4	10.8
Murray	41,883	7,951	44.5	8.7	26.0	9.9
Muscogee	5,848	1,481	18.1	14.4	1.2	2.5
Newton	38,686	17,970	45.5	3.5	24.8	17.2
Oconee	38,713	24,766	37.7	16.4	14.2	7.2
Oglethorpe	79,994	10,904	43.9	12.0	14.3	17.6
Paulding	17,175	3,105	61.6	9.3	30.5	21.8
Peach	43,434	3,063	14.9	7.1	4.5	3.4
Pickens	16,078	6,567	47.9	11.2	17.4	19.4
Pierce	85,622	13,448	30.0	4.2	15.1	10.7
Pike	37,935	23,529	59.2	4.4	5.6	49.3
Polk	51,432	25,685	46.6	8.5	12.9	25.2
Pulaski	61,509	37,727	27.5	8.6	9.3	9.5
Putnam	41,183	13,963	37.7	7.6	20.6	9.5
Quitman	12,612	676	49.2	19.7	14.8	14.7
Rabun	6,201	677	34.3	6.0	23.3	5.0
Randolph	103,755	49,652	19.0	5.8	5.9	7.3
Richmond	18,978	6,527	54.6	2.9	49.9	1.7
Rockdale	8,318	(H)	68.9	18.9	25.8	24.1
Schley	30,068	5,962	22.2	7.6	4.9	9.7
Screven	168,506	74,199	35.8	4.0	25.5	6.2
Seminole	75,035	13,799	15.2	7.1	6.4	1.7
Spalding	16,543	1,623	52.1	18.2	26.2	7.7
Stephens	13,144	1,639	35.6	6.7	11.0	17.9
Stewart	76,192	8,368	28.7	16.6	7.5	4.7
Sumter	160,670	78,561	36.9	5.3	13.7	17.9
Talbot	30,569	17,776	50.3	7.0	21.8	21.5
Taliaferro	11,679	4,147	32.4	10.9	6.1	15.4
Tattnall	128,240	45,369	31.1	2.0	3.8	25.3
Taylor	84,840	29,092	41.5	3.8	21.9	15.9
Telfair	49,177	6,492	34.2	8.8	12.7	12.6
Terrell	168,890	31,770	26.5	2.9	1.1	22.5
Thomas	208,509	98,101	35.0	3.4	2.7	28.9
Tift	91,722	16,026	18.5	2.7	14.7	1.0
Toombs	69,898	29,610	32.5	2.5	3.9	26.1
Towns	5,774	1,776	38.7	9.8	20.9	8.1
Treutlen	34,067	7,522	27.6	6.6	14.6	6.4
Troup	39,911	11,138	41.3	7.1	13.2	20.9
Turner	83,527	5,935	11.6	2.4	5.2	4.0
Twiggs	40,478	32,553	36.2	15.0	13.7	7.6
Union	30,452	19,025	58.9	3.2	49.6	6.1
Upson	36,027	2,800	41.5	8.0	27.6	6.0
Walker	77,204	12,189	46.0	5.1	24.0	17.0
Walton	55,131	26,578	52.1	8.3	19.2	24.6
Ware	67,002	38,395	41.3	1.3	4.8	35.2
Warren	22,417	1,748	30.4	13.0	10.8	6.6
Washington	97,770	30,307	45.3	5.2	27.1	13.0
Wayne	51,504	14,769	44.2	6.3	22.2	15.7
Webster	70,416	37,749	27.8	5.9	20.5	1.4
Wheeler	52,995	29,366	26.9	6.7	3.5	16.8
White	20,378	4,240	43.1	6.5	25.9	10.7
Whitfield	34,457	10,672	44.0	12.4	24.5	7.1
Wilcox	85,098	15,715	12.6	4.3	3.4	4.9
Wilkes	83,917	19,673	31.5	5.7	7.9	17.9
Wilkinson	24,542	11,214	57.8	16.9	29.2	11.6
Worth	218,326	95,093	26.8	4.2	2.3	20.3
SALES ($1,000)						
State Total						
Georgia	13,239,372	934	27.8	7.7	3.7	16.5
Counties						
Appling	196,233	45	32.1	14.7	6.7	10.6
Atkinson	85,761	5	23.1	5.6	2.6	14.9
Bacon	107,255	13	19.1	1.7	3.8	13.6
Baker	58,896	10	12.0	6.1	3.2	2.7
Baldwin	1,907	1	44.9	6.5	27.6	10.8
Banks	236,475	29	39.7	19.7	6.5	13.5
Barrow	92,839	49	29.5	8.3	3.4	17.7
Bartow	126,378	37	42.0	8.7	18.5	14.7
Ben Hill	21,898	4	1.1	0.4	0.2	0.5
Berrien	108,153	13	18.0	5.9	5.2	6.9
Bibb	20,280	8	49.9	44.2	2.2	3.5

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Table C. **Summary of Coverage, Nonresponse, and Misclassification Adjustments by County: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Geographic area	Total (number)	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
SALES ($1,000) - Con.						
Counties - Con.						
Bleckley	13,994	5	29.4	6.1	16.1	7.2
Brantley	34,521	3	5.7	1.6	0.4	3.7
Brooks	193,129	29	12.0	6.9	0.9	4.3
Bryan	2,395	1	49.2	7.5	5.3	36.4
Bulloch	119,381	43	46.1	9.5	11.4	25.2
Burke	142,134	20	25.2	2.7	11.7	10.7
Butts	4,130	(Z)	55.8	7.6	43.2	5.1
Calhoun	87,071	51	19.8	3.3	0.6	16.0
Camden	988	(Z)	48.1	14.8	23.0	10.3
Candler	33,156	11	28.7	4.5	19.2	5.0
Carroll	310,941	30	30.4	17.5	3.4	9.5
Catoosa	38,157	9	33.6	17.2	13.5	2.9
Charlton	1,895	1	38.7	21.0	10.8	6.9
Chatham	10,150	1	9.1	8.6	0.2	0.3
Chattahoochee	(D)	(D)	(D)	(D)	(D)	(D)
Chattooga	96,735	11	22.2	4.4	1.4	16.5
Cherokee	23,531	6	27.8	16.1	7.7	4.0
Clarke	59,584	4	5.7	4.7	0.1	0.9
Clay	18,968	15	27.3	14.8	4.5	8.1
Clayton	228	(Z)	65.7	15.0	45.8	4.9
Clinch	71,144	23	20.5	0.7	0.1	19.7
Cobb	4,324	(Z)	12.0	6.5	4.2	1.2
Coffee	293,110	17	19.1	9.1	1.0	9.0
Colquitt	385,752	44	25.7	4.0	6.9	14.8
Columbia	5,996	3	63.1	5.7	43.0	14.4
Cook	129,878	25	17.7	8.6	5.4	3.7
Coweta	15,141	8	23.7	1.5	1.2	21.0
Crawford	93,757	28	19.7	10.6	2.2	6.9
Crisp	91,009	14	30.3	1.7	2.9	25.7
Dade	52,648	6	33.7	18.2	2.4	13.1
Dawson	123,387	17	35.2	21.7	7.2	6.2
Decatur	220,522	18	17.7	1.9	6.2	9.7
DeKalb	485	(H)	22.8	7.1	14.2	1.5
Dodge	22,085	(H)	26.1	5.2	4.6	16.3
Dooly	162,485	27	36.1	5.4	21.1	9.6
Dougherty	19,626	12	1.5	0.7	0.1	0.7
Douglas	2,421	1	23.5	7.3	9.1	7.1
Early	66,243	8	27.4	7.7	7.7	11.9
Echols	18,462	4	19.8	3.8	1.4	14.6
Effingham	17,120	5	47.5	2.5	6.0	39.0
Elbert	182,507	24	45.2	12.5	6.1	26.7
Emanuel	28,143	8	14.6	4.3	6.7	3.6
Evans	43,711	6	23.2	3.8	1.3	18.1
Fannin	19,587	1	5.3	2.4	0.7	2.2
Fayette	1,832	(Z)	42.7	15.8	14.5	12.4
Floyd	69,600	17	41.4	16.9	10.9	13.5
Forsyth	40,297	27	40.0	13.7	24.6	1.6
Franklin	486,475	79	40.7	19.0	15.5	6.2
Fulton	7,532	5	52.2	22.5	19.4	10.4
Gilmer	277,584	60	34.8	24.1	2.1	8.6
Glascock	2,876	(Z)	25.4	2.4	17.6	5.3
Glynn	551	(Z)	58.9	12.1	27.3	19.5
Gordon	368,408	29	25.5	12.7	1.6	11.2
Grady	144,594	40	19.9	2.9	0.4	16.6
Greene	80,450	23	35.9	12.2	12.7	11.1
Gwinnett	9,915	1	1.6	1.4	0.1	0.1
Habersham	133,785	35	38.0	11.7	4.5	21.7
Hall	208,475	13	22.0	12.0	2.4	7.6
Hancock	4,971	1	44.3	3.5	6.1	34.7
Haralson	84,745	13	24.5	3.6	0.6	20.2
Harris	4,464	1	45.7	12.1	28.4	5.2
Hart	383,031	64	38.0	13.9	7.5	16.6
Heard	68,104	11	45.1	29.9	9.7	5.5
Henry	3,636	1	50.2	6.5	28.7	15.0
Houston	28,400	10	33.6	4.9	24.5	4.2
Irwin	71,664	16	21.7	13.6	2.4	5.7
Jackson	296,120	53	32.9	8.0	1.8	23.1
Jasper	85,834	(H)	13.3	5.1	0.6	7.6
Jeff Davis	56,691	3	15.3	10.5	1.4	3.5
Jefferson	77,453	24	40.5	1.1	4.8	34.6
Jenkins	23,339	4	38.7	3.4	33.7	1.6
Johnson	17,786	7	25.6	14.1	5.7	5.8
Jones	21,519	(H)	51.6	18.0	19.3	14.3
Lamar	63,499	20	22.0	14.1	1.9	5.9
Lanier	26,830	11	12.5	1.1	0.9	10.5
Laurens	35,281	15	40.8	7.0	14.5	19.3
Lee	86,307	14	8.8	6.7	1.0	1.2
Liberty	320	(Z)	48.0	24.2	16.1	7.6
Lincoln	8,238	3	11.2	2.7	6.5	2.1
Long	15,268	9	47.8	2.0	4.2	41.6
Lowndes	38,452	11	26.1	3.5	15.6	7.1
Lumpkin	94,214	9	39.4	16.5	5.0	17.9
McDuffie	52,928	12	11.2	1.3	0.1	9.9
McIntosh	6,863	3	24.9	3.4	4.1	17.4
Macon	387,291	74	17.0	5.5	1.2	10.3
Madison	402,660	94	31.8	15.2	2.4	14.2
Marion	17,784	10	21.6	13.4	3.1	5.1

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Table C. **Summary of Coverage, Nonresponse, and Misclassification Adjustments by County: 2022** (continued)

[For meaning of abbreviations and symbols, see introductory text.]

Geographic area	Total (number)	Standard error	Adjustment as percent of total	Percent of total adjustment from coverage	Percent of total adjustment from nonresponse	Percent of total adjustment from misclassification
SALES ($1,000) - Con.						
Counties - Con.						
Meriwether	15,069	7	30.7	7.2	18.6	5.0
Miller	97,782	12	35.9	11.5	5.8	18.5
Mitchell	346,092	34	12.9	4.9	1.1	6.8
Monroe	(D)	(D)	(D)	(D)	(D)	(D)
Montgomery	25,339	5	10.8	2.5	4.0	4.3
Morgan	145,806	33	15.6	5.8	0.7	9.0
Murray	205,490	17	41.9	12.3	5.6	24.0
Muscogee	166	(Z)	2.1	0.1	0.6	1.3
Newton	9,953	1	20.4	8.7	3.2	8.6
Oconee	53,137	13	25.8	12.0	12.9	0.9
Oglethorpe	407,421	37	30.2	13.3	1.6	15.3
Paulding	6,319	(Z)	50.4	5.0	22.8	22.6
Peach	82,598	4	5.0	3.0	0.4	1.6
Pickens	64,666	13	19.4	4.3	0.5	14.6
Pierce	52,264	5	15.8	2.8	6.5	6.5
Pike	12,767	1	50.0	10.1	9.2	30.7
Polk	60,789	14	29.5	17.4	3.4	8.7
Pulaski	50,631	11	26.1	12.4	8.1	5.6
Putnam	32,463	6	25.6	5.8	12.5	7.3
Quitman	(D)	(Z)	(D)	(D)	(D)	(D)
Rabun	16,260	6	22.5	4.6	16.7	1.2
Randolph	49,593	20	20.6	6.6	9.0	5.0
Richmond	3,449	1	62.1	0.9	60.6	0.6
Rockdale	961	1	62.2	14.8	22.9	24.6
Schley	15,355	3	1.8	0.9	0.6	0.3
Screven	75,383	20	32.9	10.5	9.5	13.0
Seminole	81,396	21	20.3	10.5	7.2	2.5
Spalding	6,433	1	25.9	4.1	18.8	3.0
Stephens	93,967	29	20.3	8.4	3.5	8.4
Stewart	14,510	3	51.2	18.2	4.8	28.2
Sumter	184,208	82	25.3	4.9	8.2	12.2
Talbot	778	(Z)	29.4	7.0	15.4	7.0
Taliaferro	72,990	32	58.1	6.4	5.0	46.8
Tattnall	514,049	65	29.9	8.8	1.6	19.4
Taylor	68,800	14	17.6	3.1	1.3	13.2
Telfair	19,334	6	37.7	6.0	10.1	21.5
Terrell	93,831	18	35.3	2.3	5.3	27.7
Thomas	113,927	22	33.0	5.3	7.9	19.8
Tift	73,033	15	16.0	2.8	7.4	5.7
Toombs	123,380	64	14.2	0.1	0.4	13.7
Towns	679	(Z)	28.8	8.2	18.8	1.8
Treutlen	13,866	6	11.7	1.2	2.9	7.6
Troup	4,634	1	40.5	3.7	27.7	9.1
Turner	64,938	3	7.1	2.3	0.6	4.2
Twiggs	16,693	8	15.6	7.3	5.8	2.5
Union	39,809	3	9.4	5.5	2.0	1.9
Upson	50,474	14	20.8	11.2	1.9	7.7
Walker	185,638	19	33.5	5.7	4.8	23.0
Walton	37,354	20	44.1	14.3	7.2	22.6
Ware	38,402	9	19.2	3.8	5.0	10.4
Warren	4,282	1	12.4	2.7	8.9	0.8
Washington	25,636	12	32.7	6.9	20.2	5.7
Wayne	45,250	12	22.2	2.8	17.4	2.0
Webster	33,841	19	20.5	3.8	15.7	1.0
Wheeler	19,953	1	2.3	0.3	0.2	1.9
White	103,766	13	39.3	13.7	7.6	18.0
Whitfield	136,740	18	20.7	15.6	0.6	4.6
Wilcox	120,523	13	16.4	11.4	2.5	2.6
Wilkes	123,925	37	27.8	2.4	0.4	25.0
Wilkinson	5,806	4	49.2	27.5	16.6	5.1
Worth	159,469	51	23.2	1.3	8.6	13.2

Table D. **American Indian or Alaska Native Producers: 2022**

[For meaning of abbreviations and symbols, see introductory text.]

Geographic area	American Indian or Alaska Native farm producers		
	Total	Individually reported [1]	Other [2]
State Total			
Georgia	556	556	-
Counties			
Appling	9	9	-
Atkinson	1	1	-
Bacon	7	7	-
Baker	1	1	-
Baldwin	2	2	-
Banks	6	6	-
Barrow	6	6	-
Bartow	6	6	-
Ben Hill	1	1	-
Berrien	11	11	-
Bleckley	3	3	-
Brantley	1	1	-
Brooks	8	8	-
Bryan	3	3	-
Burke	7	7	-
Carroll	17	17	-
Catoosa	3	3	-
Chatham	2	2	-
Cherokee	6	6	-
Clay	1	1	-
Clayton	2	2	-
Coffee	10	10	-
Colquitt	11	11	-
Columbia	1	1	-
Cook	4	4	-
Coweta	2	2	-
Crawford	2	2	-
Crisp	3	3	-
Dade	3	3	-
Dawson	6	6	-
Decatur	6	6	-
Dodge	31	31	-
Dougherty	2	2	-
Early	1	1	-
Echols	4	4	-
Effingham	2	2	-
Elbert	2	2	-
Evans	2	2	-
Fannin	11	11	-
Fayette	3	3	-
Forsyth	9	9	-
Franklin	2	2	-
Gilmer	1	1	-
Glynn	5	5	-
Gordon	6	6	-
Grady	9	9	-
Greene	3	3	-
Habersham	5	5	-
Hall	8	8	-
Hancock	5	5	-
Harris	9	9	-
Hart	1	1	-
Henry	3	3	-

Geographic area	American Indian or Alaska Native farm producers		
	Total	Individually reported [1]	Other [2]
Counties - Con.			
Houston	13	13	-
Irwin	7	7	-
Jackson	5	5	-
Jasper	8	8	-
Jenkins	2	2	-
Jones	2	2	-
Lanier	3	3	-
Laurens	6	6	-
Lee	1	1	-
Liberty	1	1	-
Lincoln	1	1	-
Lowndes	6	6	-
Lumpkin	6	6	-
McDuffie	1	1	-
Macon	1	1	-
Madison	6	6	-
Meriwether	7	7	-
Miller	10	10	-
Mitchell	10	10	-
Montgomery	3	3	-
Morgan	2	2	-
Newton	3	3	-
Oconee	2	2	-
Oglethorpe	13	13	-
Peach	2	2	-
Pickens	8	8	-
Pierce	6	6	-
Pike	11	11	-
Polk	1	1	-
Pulaski	1	1	-
Putnam	2	2	-
Rabun	5	5	-
Rockdale	4	4	-
Screven	1	1	-
Seminole	2	2	-
Spalding	1	1	-
Stewart	1	1	-
Sumter	5	5	-
Taliaferro	2	2	-
Thomas	9	9	-
Tift	2	2	-
Treutlen	4	4	-
Twiggs	4	4	-
Union	8	8	-
Upson	4	4	-
Walker	14	14	-
Walton	8	8	-
Ware	9	9	-
Warren	4	4	-
Wayne	2	2	-
White	17	17	-
Whitfield	7	7	-
Wilcox	4	4	-
Wilkes	3	3	-
Wilkinson	1	1	-
Worth	10	10	-

[1] Data were collected for a maximum of four producers per farm.
[2] Data represent American Indian or Alaska Native farm or ranch producers on reservations who did not report individually. Data obtained by reservation officials.