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,

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

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 (^) 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

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

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	230,662	10,786	48.3	20.2	14.0	14.1
Land in farms .... acres	125,471,325	7,392,284	26.8	2.6	8.4	15.8
Farms by size:						
1 to 9 acres .... farms	24,486	1,405	66.0	37.9	17.4	10.7
acres	124,041	6,679	64.4	37.9	16.3	10.2
10 to 49 acres .... farms	81,719	3,745	55.6	31.2	13.0	11.4
acres	1,928,704	93,046	53.9	29.6	12.5	11.7
50 to 69 acres .... farms	16,781	877	48.2	22.1	12.0	14.1
acres	967,578	50,722	48.1	22.0	12.1	14.0
70 to 99 acres .... farms	16,368	858	45.6	19.9	12.0	13.7
acres	1,357,139	70,999	45.5	19.8	12.0	13.7
100 to 139 acres .... farms	16,542	832	44.3	14.3	14.7	15.3
acres	1,903,124	97,273	44.1	14.0	14.9	15.2
140 to 179 acres .... farms	12,251	773	44.0	12.8	14.7	16.4
acres	1,935,564	120,467	43.9	12.8	14.8	16.4
180 to 219 acres .... farms	8,177	704	39.2	11.4	12.8	15.1
acres	1,619,508	139,323	39.2	11.4	12.8	15.1
220 to 259 acres .... farms	5,632	328	37.7	9.7	11.8	16.3
acres	1,341,125	78,536	37.7	9.7	11.9	16.1
260 to 499 acres .... farms	18,118	1,270	36.4	6.4	13.2	16.7
acres	6,453,735	454,702	36.2	6.3	13.2	16.7
500 to 999 acres .... farms	12,674	763	33.5	4.3	15.0	14.2
acres	8,781,004	519,309	33.3	4.2	15.2	13.9
1,000 to 1,999 acres .... farms	7,939	474	33.0	2.8	14.5	15.7
acres	10,961,232	668,861	33.0	2.7	14.6	15.7
2,000 acres or more .... farms	9,975	723	27.4	1.7	9.4	16.3
acres	88,098,571	5,842,769	22.3	1.2	6.1	15.0
Irrigated land use:						
Harvested cropland .... farms	15,582	1,399	47.9	11.3	17.3	19.3
acres	3,126,982	241,220	31.4	2.0	13.5	16.0
Pastureland and other land .... farms	4,849	321	50.5	17.3	16.4	16.8
acres	638,456	117,420	33.9	2.4	13.5	18.0
Market value of agricultural products sold $1,000	32,166,561	960	19.9	7.3	3.3	9.3
Farms by value of sales:						
Less than $1,000 .... farms	75,579	6,281	60.2	22.0	19.3	18.9
$1,000	8,162	1	60.3	34.0	13.6	12.7
$1,000 to $2,499 .... farms	30,294	1,469	55.9	32.4	13.4	10.1
$1,000	49,708	2	55.5	32.2	13.3	10.0
$2,500 to $4,999 .... farms	27,619	1,541	47.8	27.6	10.6	9.5
$1,000	98,085	5	47.4	27.5	10.6	9.4
$5,000 to $9,999 .... farms	27,684	1,587	42.3	22.8	10.2	9.3
$1,000	194,298	11	41.9	22.6	10.0	9.3
$10,000 to $19,999 .... farms	22,343	910	33.7	14.0	9.6	10.2
$1,000	312,438	12	33.5	13.6	9.8	10.2
$20,000 to $24,999 .... farms	6,407	262	33.4	12.5	10.6	10.3
$1,000	141,547	6	33.4	12.6	10.6	10.3
$25,000 to $39,999 .... farms	10,729	421	32.2	9.5	9.5	13.2
$1,000	335,389	13	32.2	9.4	9.5	13.3
$40,000 to $49,999 .... farms	3,917	129	30.9	9.6	11.8	9.4
$1,000	173,408	6	30.9	9.5	11.9	9.4
$50,000 to $99,999 .... farms	8,785	521	30.2	7.8	9.7	12.7
$1,000	608,505	35	29.9	7.6	9.7	12.6
$100,000 to $249,999 .... farms	7,194	771	41.2	5.7	14.0	21.5
$1,000	1,091,839	118	40.2	5.3	13.9	21.0
$250,000 to $499,999 .... farms	3,383	403	40.6	5.0	18.2	17.4
$1,000	1,177,741	137	39.9	4.9	18.3	16.7
$500,000 to $999,999 .... farms	2,639	351	44.4	4.4	19.7	20.3
$1,000	1,829,022	246	43.6	4.2	19.5	19.9
$1,000,000 or more .... farms	4,089	267	36.8	9.2	8.1	19.5
$1,000	26,146,421	551	15.4	6.5	1.6	7.4
Farms by legal status for tax purposes:						
Family or individual .... farms	205,473	9,683	48.5	22.7	12.7	13.1
acres	73,252,405	5,125,544	28.4	3.4	6.8	18.2
Partnership .... farms	13,566	716	44.3	6.8	19.7	17.8
acres	32,352,815	1,774,288	24.1	1.6	9.0	13.4
Corporation:						
Family held .... farms	7,344	270	49.0	10.6	21.8	16.7
acres	14,766,773	886,421	26.0	1.9	10.5	13.6
Other than family held .... farms	1,486	77	53.9	9.8	17.6	26.5
acres	2,747,461	181,675	18.5	1.2	11.1	6.1
Other - estate or trust, prison farm, grazing association, American Indian Reservation, etc .... farms	2,793	209	49.2	13.2	17.0	19.0
acres	2,351,871	134,623	27.9	2.1	13.1	12.6
Tenure:						
Full owners .... farms	179,127	7,896	52.0	24.1	14.5	13.4
acres	50,187,898	2,344,985	32.5	4.6	10.8	17.1
Part owners .... farms	40,540	2,166	33.6	5.1	11.3	17.2
acres	58,794,545	3,930,052	22.2	1.0	5.6	15.6
Tenants .... farms	10,995	918	41.8	6.9	16.5	18.3
acres	16,488,882	1,371,026	25.6	1.9	13.0	10.7
Producers characteristics by- [1] (see text)						
Sex of operator:						
Male .... farms	208,863	10,622	47.5	19.2	14.9	13.4
acres	119,815,650	7,229,059	26.5	2.4	8.6	15.5
Female .... farms	143,585	3,503	49.6	24.5	17.7	7.4
acres	59,133,549	2,541,513	27.5	4.3	14.9	8.3
Primary occupation:						
Farming .... farms	153,043	6,039	44.5	16.1	16.5	12.0
Other .... farms	249,833	10,189	52.5	19.5	21.3	11.7

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	28,269	2,886	56.9	25.2	17.1	14.5
	acres	10,128,859	1,316,465	26.7	2.1	8.5	16.1
Race:							
American Indian or							
Alaska Native	farms	2,705	119	56.8	31.3	11.7	13.8
	acres	825,480	77,170	36.9	8.7	14.7	13.4
Asian	farms	1,748	113	59.7	27.4	13.5	18.8
	acres	181,705	13,147	37.3	4.9	4.2	28.3
Black or African American	farms	7,235	391	67.1	40.1	12.1	14.8
	acres	855,704	194,609	58.5	10.9	32.2	15.4
Native Hawaiian or							
Other Pacific Islander	farms	306	24	58.2	33.3	10.7	14.2
	acres	66,608	30,692	36.7	8.1	8.7	19.9
White	farms	221,037	10,474	47.5	19.7	14.0	13.8
	acres	124,062,222	7,277,802	26.5	2.5	8.4	15.7
More than one race reported	farms	3,067	188	59.2	28.0	16.0	15.3
	acres	1,000,462	165,959	42.4	7.8	20.3	14.3
Military service:							
Never served or only on active duty for training							
in the Reserves or National Guard (see text)	producers	360,624	13,910	49.5	18.0	19.7	11.8
Active duty now or in the past (see text)	producers	42,252	2,132	48.5	20.3	17.1	11.2
All producers by age group [1]:							
Under 25 years	farms	5,549	506	64.6	19.8	34.5	10.3
25 to 34 years	farms	19,351	3,255	65.1	17.0	42.8	5.3
35 to 44 years	farms	42,184	2,065	57.8	18.7	28.7	10.4
45 to 54 years	farms	63,194	2,831	54.2	21.1	16.4	16.7
55 to 64 years	farms	105,668	5,183	49.8	19.4	16.4	14.0
65 to 74 years	farms	103,310	4,000	44.1	16.7	16.4	11.0
75 years and over	farms	63,620	2,330	41.2	17.5	15.0	8.7
Net cash farm income of operations:							
Farms with gains of- [2]							
Less than $1,000	farms	6,312	404	46.1	23.3	12.3	10.5
	$1,000	3,019	(Z)	45.4	22.4	13.1	9.9
$1,000 to $4,999	farms	14,311	988	43.1	17.9	12.7	12.5
	$1,000	39,064	3	42.5	17.1	12.9	12.5
$5,000 to $9,999	farms	8,254	588	37.6	13.3	11.9	12.5
	$1,000	59,637	4	37.3	12.9	11.8	12.6
$10,000 to $24,999	farms	10,278	521	36.3	9.7	12.4	14.2
	$1,000	166,302	8	36.1	9.6	11.9	14.6
$25,000 to $49,999	farms	6,070	357	36.4	9.1	13.6	13.6
	$1,000	215,619	13	36.6	9.2	13.8	13.6
$50,000 or more	farms	14,365	1,067	40.8	6.4	14.6	19.8
	$1,000	11,188,014	349	20.1	6.3	3.8	10.0
Farms with losses of-							
Less than $1,000	farms	8,652	534	50.3	24.5	11.0	14.7
	$1,000	4,523	(Z)	50.9	24.4	11.3	15.2
$1,000 to $4,999	farms	41,039	2,039	52.8	27.4	12.7	12.7
	$1,000	121,468	6	52.9	27.6	12.7	12.7
$5,000 to $9,999	farms	37,774	1,786	52.5	26.5	13.6	12.5
	$1,000	276,040	13	52.5	26.5	13.4	12.6
$10,000 to $24,999	farms	48,786	2,132	51.5	24.5	14.5	12.4
	$1,000	777,670	34	51.3	24.1	14.7	12.5
$25,000 to $49,999	farms	20,098	1,135	48.8	19.5	14.2	15.2
	$1,000	694,111	40	48.6	19.0	14.3	15.3
$50,000 or more	farms	14,723	685	44.8	10.0	18.0	16.8
	$1,000	2,451,499	114	40.6	7.0	16.5	17.2
Livestock and poultry:							
Cattle and calves inventory	farms	131,815	5,446	40.4	29.9	4.7	5.8
	number	12,543,300	334,357	22.3	11.9	2.7	7.8
Beef cows inventory	farms	117,838	4,733	39.4	28.8	4.7	5.9
	number	4,360,026	142,631	29.7	14.1	5.5	10.1
Milk cows inventory	farms	479	13	14.4	11.2	1.3	1.9
	number	639,506	6,536	4.3	3.3	(Z)	0.9
Hog and pigs inventory	farms	5,837	1,636	61.1	26.7	19.5	14.9
	number	1,188,820	123,966	7.4	2.9	0.4	4.0
Layers inventory	farms	30,288	1,611	54.8	28.7	16.2	9.9
	number	24,478,507	5,860,019	12.0	4.8	0.4	6.8
Broilers sold	farms	2,086	724	58.5	27.8	16.9	13.8
	number	709,585,824	64,856,116	46.3	21.0	6.3	19.1
Aquaculture sold	farms	202	17	35.6	11.6	6.0	18.1
	$1,000	72,328	2	21.2	7.9	0.5	12.8
Selected crops harvested:							
Corn for grain	farms	3,714	705	34.7	2.9	11.4	20.4
	acres	1,680,377	330,990	17.0	0.9	5.8	10.4
Durum wheat for grain	farms	-	-	-	-	-	-
	acres	-	-	-	-	-	-
Other spring wheat for grain	farms	124	21	38.7	8.9	6.6	23.1
	acres	9,096	1,796	28.8	4.7	7.1	17.0
Winter wheat for grain	farms	4,008	519	36.2	3.6	11.5	21.1
	acres	1,740,243	168,222	28.2	2.0	8.9	17.3
Sorghum for grain	farms	2,237	788	24.6	2.0	9.3	13.2
	acres	994,977	134,382	6.1	0.4	2.1	3.6
Soybeans for beans	farms	385	68	30.4	4.4	12.0	14.0
	acres	97,284	12,815	11.6	0.7	6.2	4.7
Rice	farms	289	42	40.8	3.7	18.1	19.1
	acres	193,438	30,014	42.7	2.4	18.1	22.2
Cotton	farms	4,822	878	40.1	2.3	17.4	20.4
	acres	2,337,631	82,999	7.3	0.4	2.7	4.1

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	306	120	15.4	1.1	8.2	6.1
	acres	118,260	22,576	2.4	0.1	1.1	1.1
Barley	farms	37	6	40.5	14.0	19.2	7.4
	acres	6,723	1,428	40.9	5.9	23.9	11.1
Oats	farms	297	45	28.3	5.4	4.2	18.7
	acres	52,833	10,581	24.0	0.8	2.2	21.0
Forage - land used for all hay and haylage, grass silage, and greenchop	farms	63,823	5,513	36.9	23.5	3.8	9.6
	acres	4,445,285	346,292	36.0	14.1	5.8	16.1
Land in vegetables (see text)	farms	2,177	595	57.2	17.7	18.2	21.2
	acres	98,815	8,787	29.4	3.1	7.5	18.9
Potatoes	farms	461	120	56.4	16.8	19.5	20.1
	acres	14,670	212	5.3	2.1	0.3	2.9
Tomatoes in the open	farms	870	292	59.2	19.4	18.2	21.6
	acres	902	198	54.6	18.2	17.0	19.4
Sweet corn (see text)	farms	281	64	52.7	13.9	19.9	18.8
	acres	3,292	196	10.5	1.8	0.7	8.1
Lettuce	farms	247	89	59.1	15.6	28.7	14.8
	acres	649	36	14.8	3.4	2.7	8.7
Land in orchards (see text)	farms	8,286	1,117	54.0	18.3	16.3	19.4
	acres	194,781	17,979	41.5	6.5	10.2	24.8
Apples	farms	737	77	59.3	20.5	17.4	21.5
	acres	624	48	55.5	15.2	18.4	21.9
Grapes (including muscadine) (see text)	farms	1,378	143	59.5	15.1	23.7	20.7
	acres	11,546	534	54.2	4.3	13.5	36.3
Oranges	farms	364	40	62.9	14.0	20.9	28.0
	acres	(D)	(D)	(D)	(D)	(D)	(D)
Almonds	farms	35	14	40.0	12.0	10.1	18.0
	acres	(D)	(D)	(D)	(D)	(D)	(D)
Land in berries	farms	1,583	186	57.9	21.7	15.6	20.6
	acres	3,259	415	53.0	16.2	13.5	23.2

[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	230,662	4.7
Land in farms ... acres	125,471,325	5.9
Farms by size:		
1 to 9 acres ... farms	24,486	5.7
acres	124,041	5.4
10 to 49 acres ... farms	81,719	4.6
acres	1,928,704	4.8
50 to 69 acres ... farms	16,781	5.2
acres	967,578	5.2
70 to 99 acres ... farms	16,368	5.2
acres	1,357,139	5.2
100 to 139 acres ... farms	16,542	5.0
acres	1,903,124	5.1
140 to 179 acres ... farms	12,251	6.3
acres	1,935,564	6.2
180 to 219 acres ... farms	8,177	8.6
acres	1,619,508	8.6
220 to 259 acres ... farms	5,632	5.8
acres	1,341,125	5.9
260 to 499 acres ... farms	18,118	7.0
acres	6,453,735	7.0
500 to 999 acres ... farms	12,674	6.0
acres	8,781,004	5.9
1,000 to 1,999 acres ... farms	7,939	6.0
acres	10,961,232	6.1
2,000 acres or more ... farms	9,975	7.3
acres	88,098,571	6.6
Irrigated land use:		
Harvested cropland ... farms	15,582	9.0
acres	3,126,982	7.7
Pastureland and other land ... farms	4,849	6.6
acres	638,456	18.4
Market value of agricultural products sold ... $1,000	32,166,561	3.0
Farms by value of sales:		
Less than $1,000 ... farms	75,579	8.3
$1,000	8,162	10.6
$1,000 to $2,499 ... farms	30,294	4.8
$1,000	49,708	4.9
$2,500 to $4,999 ... farms	27,619	5.6
$1,000	98,085	5.6
$5,000 to $9,999 ... farms	27,684	5.7
$1,000	194,298	5.6
$10,000 to $19,999 ... farms	22,343	4.1
$1,000	312,438	4.0
$20,000 to $24,999 ... farms	6,407	4.1
$1,000	141,547	4.1
$25,000 to $39,999 ... farms	10,729	3.9
$1,000	335,389	3.9
$40,000 to $49,999 ... farms	3,917	3.3
$1,000	173,408	3.2
$50,000 to $99,999 ... farms	8,785	5.9
$1,000	608,505	5.7
$100,000 to $249,999 ... farms	7,194	10.7
$1,000	1,091,839	10.8
$250,000 to $499,999 ... farms	3,383	11.9
$1,000	1,177,741	11.6
$500,000 to $999,999 ... farms	2,639	13.3
$1,000	1,829,022	13.4
$1,000,000 or more ... farms	4,089	6.5
$1,000	26,146,421	2.1
Farms by legal status for tax purposes:		
Family or individual ... farms	205,473	4.7
acres	73,252,405	7.0
Partnership ... farms	13,566	5.3
acres	32,352,815	5.5
Corporation:		
Family held ... farms	7,344	3.7
acres	14,766,773	6.0
Other than family held ... farms	1,486	5.2
acres	2,747,461	6.6
Other - estate or trust, prison farm, grazing association, American Indian Reservation, etc ... farms	2,793	7.5
acres	2,351,871	5.7
Tenure:		
Full owners ... farms	179,127	4.4
acres	50,187,898	4.7
Part owners ... farms	40,540	5.3
acres	58,794,545	6.7
Tenants ... farms	10,995	8.3
acres	16,488,882	8.3
Producers characteristics by- [1] (see text)		
Sex of operator:		
Male ... farms	208,863	5.1
acres	119,815,650	6.0
Female ... farms	143,585	2.4
acres	59,133,549	4.3
Primary occupation:		
Farming ... farms	153,043	3.9
Other ... farms	249,833	4.1

Item	Total	Coefficient of variation (percent)
Producers characteristics by- [1] (see text) - Con.		
Hispanic, Latino, or Spanish origin ... farms	28,269	10.2
acres	10,128,859	13.0
Race:		
American Indian or Alaska Native ... farms	2,705	4.4
acres	825,480	9.3
Asian ... farms	1,748	6.4
acres	181,705	7.2
Black or African American ... farms	7,235	5.4
acres	855,704	22.7
Native Hawaiian or Other Pacific Islander ... farms	306	7.9
acres	66,608	46.1
White ... farms	221,037	4.7
acres	124,062,222	5.9
More than one race reported ... farms	3,067	6.1
acres	1,000,462	16.6
Military service:		
Never served or only on active duty for training in the Reserves or National Guard (see text) ... producers	360,624	3.9
Active duty now or in the past (see text) ... producers	42,252	5.0
All producers by age group [1]:		
Under 25 years ... farms	5,549	9.1
25 to 34 years ... farms	19,351	16.8
35 to 44 years ... farms	42,184	4.9
45 to 54 years ... farms	63,194	4.5
55 to 64 years ... farms	105,668	4.9
65 to 74 years ... farms	103,310	3.9
75 years and over ... farms	63,620	3.7
Net cash farm income of operations:		
Farms with gains of- [2]		
Less than $1,000 ... farms	6,312	6.4
$1,000	3,019	5.7
$1,000 to $4,999 ... farms	14,311	6.9
$1,000	39,064	6.9
$5,000 to $9,999 ... farms	8,254	7.1
$1,000	59,637	6.8
$10,000 to $24,999 ... farms	10,278	5.1
$1,000	166,302	4.9
$25,000 to $49,999 ... farms	6,070	5.9
$1,000	215,619	6.1
$50,000 or more ... farms	14,365	7.4
$1,000	11,188,014	3.1
Farms with losses of-		
Less than $1,000 ... farms	8,652	6.2
$1,000	4,523	5.5
$1,000 to $4,999 ... farms	41,039	5.0
$1,000	121,468	4.9
$5,000 to $9,999 ... farms	37,774	4.7
$1,000	276,040	4.7
$10,000 to $24,999 ... farms	48,786	4.4
$1,000	777,670	4.4
$25,000 to $49,999 ... farms	20,098	5.6
$1,000	694,111	5.8
$50,000 or more ... farms	14,723	4.7
$1,000	2,451,499	4.6
Livestock and poultry:		
Cattle and calves inventory ... farms	131,815	4.1
number	12,543,300	2.7
Beef cows inventory ... farms	117,838	4.0
number	4,360,026	3.3
Milk cows inventory ... farms	479	2.8
number	639,506	1.0
Hog and pigs inventory ... farms	5,837	28.0
number	1,188,820	10.4
Layers inventory ... farms	30,288	5.3
number	24,478,507	23.9
Broilers sold ... farms	2,086	34.7
number	709,585,824	9.1
Aquaculture sold ... farms	202	8.5
$1,000	72,328	3.2
Selected crops harvested:		
Corn for grain ... farms	3,714	19.0
acres	1,680,377	19.7
Durum wheat for grain ... farms	-	-
acres	-	-
Other spring wheat for grain ... farms	124	16.9
acres	9,096	19.7
Winter wheat for grain ... farms	4,008	12.9
acres	1,740,243	9.7
Sorghum for grain ... farms	2,237	35.2
acres	994,977	13.5
Soybeans for beans ... farms	385	17.6
acres	97,284	13.2
Rice ... farms	289	14.6
acres	193,438	15.5

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	4,822	18.2
acres	2,337,631	3.6
Peanuts .... farms	306	39.2
acres	118,260	19.1
Barley .... farms	37	16.8
acres	6,723	21.2
Oats .... farms	297	15.3
acres	52,833	20.0
Forage - land used for all hay and haylage, grass silage, and greenchop .... farms	63,823	8.6
acres	4,445,285	7.8
Land in vegetables (see text) .... farms	2,177	27.3
acres	98,815	8.9
Potatoes .... farms	461	26.1
acres	14,670	1.4
Tomatoes in the open .... farms	870	33.5
acres	902	22.0
Selected crops harvested: - Con.		
Land in vegetables (see text) - Con.		
Sweet corn (see text) .... farms	281	22.7
acres	3,292	6.0
Lettuce .... farms	247	35.9
acres	649	5.6
Land in orchards (see text) .... farms	8,286	13.5
acres	194,781	9.2
Apples .... farms	737	10.5
acres	624	7.6
Grapes (including muscadine) (see text) .... farms	1,378	10.4
acres	11,546	4.6
Oranges .... farms	364	11.0
acres	(D)	(D)
Almonds .... farms	35	40.3
acres	(D)	(D)
Land in berries .... farms	1,583	11.7
acres	3,259	12.7

[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						
Texas	230,662	10,786	49.0	20.4	14.3	14.3
Counties						
Anderson	1,741	142	47.7	23.1	9.8	14.8
Andrews	149	26	50.3	16.0	13.7	20.6
Angelina	838	49	52.1	26.2	13.5	12.4
Aransas	79	11	46.9	29.3	6.7	11.0
Archer	457	115	41.1	14.6	8.0	18.5
Armstrong	184	41	37.8	10.5	14.8	12.5
Atascosa	1,673	118	50.7	18.5	17.9	14.4
Austin	1,930	125	45.4	25.2	9.8	10.5
Bailey	389	73	45.1	11.7	21.2	12.1
Bandera	723	50	56.2	18.9	18.4	18.9
Bastrop	1,871	58	50.1	25.0	14.8	10.2
Baylor	229	22	47.5	10.0	8.5	29.0
Bee	743	39	47.8	23.4	11.7	12.7
Bell	2,330	134	49.5	26.4	13.0	10.1
Bexar	2,107	134	53.7	25.2	14.8	13.7
Blanco	776	47	55.1	21.0	18.9	15.1
Borden	102	9	32.5	4.4	9.3	18.8
Bosque	1,384	92	48.1	20.4	15.3	12.5
Bowie	1,267	43	45.0	21.5	9.4	14.1
Brazoria	2,538	145	54.5	32.1	10.9	11.5
Brazos	1,103	77	46.5	25.6	13.1	7.7
Brewster	205	16	53.1	9.9	8.0	35.1
Briscoe	152	10	37.3	9.3	21.5	6.6
Brooks	317	35	57.3	14.4	33.5	9.5
Brown	1,680	212	53.5	23.9	14.3	15.3
Burleson	1,528	98	42.8	25.9	8.2	8.6
Burnet	1,428	91	54.2	26.5	16.2	11.5
Caldwell	1,329	84	48.5	23.5	15.2	9.8
Calhoun	257	15	42.6	24.4	12.2	6.0
Callahan	1,050	71	51.6	18.7	13.8	19.2
Cameron	1,248	160	55.7	20.6	14.1	21.1
Camp	416	59	47.1	25.2	6.6	15.3
Carson	367	45	40.1	4.6	16.8	18.8
Cass	939	53	49.5	22.6	13.7	13.3
Castro	415	82	45.9	3.6	14.1	28.2
Chambers	491	38	52.3	25.3	15.5	11.5
Cherokee	1,411	73	49.3	23.8	12.0	13.5
Childress	334	37	45.4	7.6	17.2	20.5
Clay	881	50	42.2	18.9	8.9	14.5
Cochran	349	64	39.3	4.2	17.0	18.1
Coke	433	32	52.3	10.8	18.3	23.2
Coleman	1,071	60	47.7	8.9	11.5	27.2
Collin	2,330	109	53.2	29.4	14.3	9.5
Collingsworth	285	57	38.8	6.7	20.4	11.7
Colorado	1,702	99	43.2	19.5	11.8	12.0
Comal	888	52	55.3	25.3	20.8	9.2
Comanche	1,500	77	44.2	19.5	12.6	12.2
Concho	400	44	44.1	7.0	23.1	13.9
Cooke	2,188	109	46.1	25.0	8.7	12.4
Coryell	1,435	82	48.9	22.3	14.0	12.7
Cottle	258	19	40.3	8.6	12.5	19.2
Crane	44	9	43.2	12.6	10.4	20.2
Crockett	275	21	54.8	11.4	15.6	27.8
Crosby	440	303	43.4	1.9	20.9	20.7
Culberson	73	11	40.3	11.5	23.4	5.4
Dallam	323	32	43.9	3.5	5.6	34.8
Dallas	647	33	62.5	26.6	16.0	19.9
Dawson	518	124	34.5	5.0	16.9	12.7
Deaf Smith	663	140	46.1	7.4	15.3	23.4
Delta	433	56	48.0	21.7	7.6	18.7
Denton	2,936	164	53.6	31.7	13.3	8.6
DeWitt	1,533	36	40.0	25.4	6.9	7.7
Dickens	498	38	45.2	11.3	13.0	20.9
Dimmit	211	12	54.2	26.1	16.2	11.8
Donley	333	46	46.0	9.5	25.5	11.1
Duval	1,044	94	53.2	15.1	22.2	15.9
Eastland	1,210	69	50.1	18.4	18.1	13.6
Ector	178	20	53.7	21.0	7.9	24.8
Edwards	456	42	60.6	10.8	23.4	26.4
Ellis	2,563	106	49.9	28.5	10.2	11.2
El Paso	581	105	56.1	31.2	13.3	11.5
Erath	2,400	111	50.0	24.2	12.2	13.6
Falls	1,146	99	45.1	19.1	8.9	17.1
Fannin	2,108	148	46.6	24.5	11.3	10.8
Fayette	2,905	79	41.1	25.4	8.1	7.5
Fisher	558	90	45.2	8.3	16.3	20.6
Floyd	457	397	40.6	5.1	23.1	12.4
Foard	184	20	39.2	7.5	7.6	24.0
Fort Bend	1,233	66	50.9	24.8	12.7	13.5
Franklin	505	32	46.2	24.0	11.5	10.6
Freestone	1,291	48	48.9	26.1	10.2	12.6
Frio	592	45	54.8	19.7	18.8	16.4
Gaines	624	118	39.1	6.3	22.5	10.3

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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.						
Galveston	563	41	52.0	21.6	20.3	10.0
Garza	251	34	43.6	8.5	22.2	12.9
Gillespie	2,021	114	52.2	19.2	18.8	14.1
Glasscock	188	21	44.8	2.3	22.0	20.6
Goliad	1,092	68	46.1	21.0	13.4	11.7
Gonzales	1,870	96	40.3	22.4	8.7	9.2
Gray	287	25	48.6	14.7	22.2	11.7
Grayson	2,851	160	49.6	25.8	12.2	11.6
Gregg	403	27	59.1	26.2	12.0	20.9
Grimes	1,668	91	48.3	21.8	17.9	8.6
Guadalupe	2,369	97	49.2	26.5	13.2	9.5
Hale	779	81	41.0	7.3	19.7	14.0
Hall	407	43	42.3	6.5	16.7	19.1
Hamilton	964	86	45.4	19.6	13.4	12.4
Hansford	137	94	28.3	2.9	13.7	11.7
Hardeman	315	34	42.6	9.1	12.6	20.8
Hardin	606	45	54.0	33.9	11.8	8.3
Harris	1,531	101	55.8	26.8	16.9	12.1
Harrison	1,015	93	51.8	23.4	13.8	14.6
Hartley	224	51	44.3	5.6	27.7	11.0
Haskell	518	45	36.6	6.9	8.5	21.2
Hays	940	38	56.2	26.4	18.6	11.3
Hemphill	213	15	46.2	12.9	18.6	14.7
Henderson	1,891	98	48.7	26.2	9.2	13.2
Hidalgo	2,045	210	61.5	22.4	15.1	24.0
Hill	2,011	105	46.2	23.0	9.4	13.8
Hockley	897	146	44.3	8.3	17.4	18.6
Hood	1,109	67	52.6	30.0	12.1	10.5
Hopkins	1,873	128	45.2	26.0	9.1	10.1
Houston	1,411	92	48.2	19.8	7.2	21.2
Howard	407	49	41.2	6.3	13.8	21.1
Hudspeth	162	25	46.9	9.1	16.7	21.1
Hunt	3,504	176	48.9	29.4	10.0	9.5
Hutchinson	167	15	50.8	18.2	10.8	21.8
Irion	160	23	54.2	10.0	13.2	31.1
Jack	889	35	48.9	20.5	9.6	18.8
Jackson	825	53	44.4	14.8	12.2	17.4
Jasper	919	42	51.7	25.6	15.8	10.3
Jeff Davis	107	15	57.6	11.2	9.4	37.0
Jefferson	612	25	48.5	28.3	11.3	8.8
Jim Hogg	208	13	46.2	19.8	18.4	7.9
Jim Wells	960	102	54.5	23.4	19.5	11.5
Johnson	2,745	118	49.2	29.3	9.8	10.2
Jones	988	57	51.2	15.3	13.7	22.2
Karnes	958	89	42.1	19.2	6.4	16.4
Kaufman	2,478	141	49.5	31.2	9.1	9.1
Kendall	1,142	56	56.1	26.3	19.7	10.0
Kenedy	30	4	41.7	12.6	16.7	12.4
Kent	137	133	39.5	7.4	13.8	18.4
Kerr	987	70	58.5	16.8	20.9	20.8
Kimble	619	65	56.2	13.8	25.6	16.7
King	54	13	38.0	7.2	19.9	10.9
Kinney	190	16	55.6	11.8	32.8	10.9
Kleberg	380	27	51.7	29.5	11.2	10.9
Knox	259	196	50.0	3.0	5.2	41.8
Lamar	1,865	117	45.8	20.6	11.9	13.3
Lamb	879	174	37.3	6.7	17.9	12.7
Lampasas	1,076	145	53.5	21.7	16.1	15.6
La Salle	344	34	57.4	16.2	17.1	24.1
Lavaca	2,735	80	34.3	21.8	6.3	6.2
Lee	1,720	106	42.9	25.7	9.2	8.0
Leon	1,597	101	46.9	22.1	13.4	11.3
Liberty	1,321	84	50.4	31.1	12.2	7.0
Limestone	1,263	57	44.9	23.0	10.6	11.3
Lipscomb	283	30	45.9	8.3	21.2	16.4
Live Oak	793	48	47.3	15.7	25.0	6.6
Llano	798	57	51.0	21.5	18.5	11.1
Loving	11	(H)	(Z)	(Z)	(Z)	(Z)
Lubbock	1,286	141	55.2	12.8	22.3	20.2
Lynn	512	62	37.5	5.0	16.0	16.5
McCulloch	562	28	50.8	14.1	20.7	16.0
McLennan	3,140	142	49.7	25.8	14.3	9.6
McMullen	171	22	53.3	12.6	15.0	25.6
Madison	819	72	45.4	26.3	8.2	10.9
Marion	244	54	57.0	26.5	10.8	19.7
Martin	395	67	42.3	7.4	15.7	19.2
Mason	650	57	46.1	17.3	15.0	13.8
Matagorda	814	57	42.7	18.3	11.8	12.5
Maverick	234	38	58.5	23.6	20.5	14.5
Medina	2,204	100	51.0	23.2	16.0	11.8
Menard	374	32	52.1	13.5	17.2	21.4
Midland	349	21	58.5	28.0	18.7	11.8
Milam	2,048	138	45.4	17.4	13.9	14.1
Mills	874	113	53.2	18.0	15.9	19.2
Mitchell	459	61	46.0	10.8	21.4	13.8
Montague	1,644	70	47.3	25.8	9.6	11.9
Montgomery	1,299	51	54.1	30.3	13.7	10.0

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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.						
Moore	218	40	47.2	16.5	11.6	19.1
Morris	335	70	49.0	23.5	9.4	16.1
Motley	213	37	41.8	5.5	14.2	22.1
Nacogdoches	1,014	64	48.4	24.0	11.9	12.6
Navarro	2,213	91	47.4	27.1	9.0	11.3
Newton	426	26	54.9	25.7	10.7	18.6
Nolan	443	57	47.9	12.6	14.0	21.4
Nueces	549	157	49.3	17.1	14.1	18.2
Ochiltree	285	56	44.1	3.2	29.4	11.5
Oldham	178	24	43.6	5.8	14.4	23.4
Orange	513	45	55.0	28.1	21.7	5.3
Palo Pinto	1,147	64	50.6	26.6	15.9	8.0
Panola	744	52	47.7	28.1	9.8	9.7
Parker	4,379	235	53.8	31.1	12.9	9.9
Parmer	477	102	43.8	5.5	22.6	15.7
Pecos	249	158	48.0	9.7	9.5	28.7
Polk	594	32	48.7	25.6	13.1	10.0
Potter	243	15	49.5	14.7	9.4	25.5
Presidio	147	28	38.1	8.0	12.6	17.4
Rains	631	77	45.2	24.2	9.5	11.6
Randall	843	141	55.0	19.5	18.6	17.0
Reagan	91	10	45.2	10.3	24.8	10.1
Real	212	26	61.7	17.0	23.7	21.0
Red River	1,041	63	41.1	9.4	8.1	23.6
Reeves	150	18	52.9	11.3	16.6	24.9
Refugio	315	43	49.5	13.6	24.6	11.3
Roberts	119	21	51.8	4.1	11.3	36.3
Robertson	1,351	67	45.4	20.6	11.2	13.6
Rockwall	359	28	56.1	30.1	18.9	7.1
Runnels	1,039	81	46.5	9.1	15.3	22.1
Rusk	1,309	64	50.1	24.3	11.7	14.0
Sabine	173	15	49.5	19.1	23.9	6.5
San Augustine	227	12	49.2	28.7	8.8	11.6
San Jacinto	588	41	51.2	27.7	10.2	13.3
San Patricio	620	42	47.9	15.3	18.8	13.7
San Saba	865	56	50.6	15.0	16.7	19.0
Schleicher	353	38	51.7	6.2	26.0	19.5
Scurry	685	53	49.8	9.8	18.8	21.1
Shackelford	208	21	41.3	12.1	7.9	21.3
Shelby	799	80	46.4	25.0	10.5	10.8
Sherman	282	56	33.9	6.1	15.3	12.4
Smith	2,495	149	53.1	29.0	13.7	10.4
Somervell	320	42	52.4	27.2	12.6	12.6
Starr	1,126	137	57.6	18.2	27.3	12.2
Stephens	454	37	48.4	15.1	13.1	20.1
Sterling	70	6	50.0	13.8	16.1	20.2
Stonewall	344	37	49.2	9.6	15.8	23.8
Sutton	289	44	55.3	10.8	25.0	19.4
Swisher	441	116	37.4	6.3	18.4	12.8
Tarrant	1,000	55	56.7	29.6	17.1	9.9
Taylor	1,222	105	54.8	20.0	15.0	19.8
Terrell	60	16	42.4	4.4	33.9	4.1
Terry	669	232	43.3	5.1	24.5	13.8
Throckmorton	185	128	48.0	7.8	15.0	25.1
Titus	687	104	45.4	23.3	10.4	11.7
Tom Green	1,392	92	60.3	22.5	23.5	14.3
Travis	870	60	52.2	26.7	14.5	11.0
Trinity	444	39	46.0	27.1	8.7	10.2
Tyler	652	33	49.5	26.8	13.5	9.2
Upshur	1,373	62	50.8	30.3	9.3	11.2
Upton	101	17	46.9	12.7	22.2	12.0
Uvalde	580	38	55.2	13.7	20.7	20.9
Val Verde	333	22	59.1	18.8	20.3	20.0
Van Zandt	3,206	131	48.1	28.9	9.1	10.1
Victoria	1,412	77	46.5	21.6	11.7	13.1
Walker	1,222	28	50.4	30.1	12.2	8.2
Waller	1,545	100	47.4	26.9	11.2	9.3
Ward	52	14	50.7	7.2	9.1	34.4
Washington	2,137	116	42.9	24.3	9.9	8.7
Webb	659	182	55.5	10.9	11.7	32.9
Wharton	1,472	88	46.7	15.2	12.6	18.9
Wheeler	467	51	36.7	11.2	17.1	8.5
Wichita	632	55	50.4	21.7	9.7	19.0
Wilbarger	374	29	40.5	10.6	16.6	13.3
Willacy	345	66	53.8	16.4	12.2	25.2
Williamson	2,352	137	49.8	25.7	12.6	11.5
Wilson	2,503	105	47.5	28.7	9.6	9.2
Winkler	38	18	50.0	20.3	13.4	16.3
Wise	3,528	145	50.7	30.4	10.0	10.4
Wood	1,357	85	46.5	27.2	10.3	9.0
Yoakum	276	59	41.0	9.6	17.9	13.5
Young	873	46	49.2	21.9	9.6	17.7
Zapata	305	47	49.6	17.0	12.6	19.9
Zavala	212	44	59.6	6.7	25.6	27.3

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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)						
State Total						
Texas	125,471,325	7,392,284	30.4	2.9	9.6	17.9
Counties						
Anderson	361,026	65,699	40.3	10.5	8.0	21.8
Andrews	879,802	50,552	5.5	0.7	0.5	4.3
Angelina	77,346	5,164	35.8	10.1	12.8	12.8
Aransas	42,886	292	11.9	8.2	1.6	2.1
Archer	577,879	383,414	39.7	3.8	4.1	31.8
Armstrong	461,617	115,026	26.5	4.2	10.0	12.3
Atascosa	688,382	125,901	32.8	6.9	11.2	14.7
Austin	258,883	39,269	35.6	15.7	9.9	10.0
Bailey	529,253	58,858	38.1	5.0	20.9	12.2
Bandera	191,495	16,087	47.4	9.1	24.5	13.8
Bastrop	263,123	22,555	36.9	12.9	10.0	14.0
Baylor	555,156	37,476	30.6	5.0	5.9	19.7
Bee	437,238	121,157	32.3	5.4	9.0	17.9
Bell	496,484	67,350	24.0	6.8	9.2	8.0
Bexar	248,545	12,492	42.2	9.8	12.8	19.5
Blanco	361,697	178,783	52.3	7.5	26.5	18.2
Borden	572,829	27,304	17.9	2.7	4.5	10.7
Bosque	586,420	114,436	40.8	10.7	18.1	11.9
Bowie	256,027	29,976	44.8	5.8	10.6	28.4
Brazoria	419,260	39,158	37.5	8.8	12.5	16.2
Brazos	277,682	26,213	39.3	16.3	15.2	7.9
Brewster	2,259,266	213,724	23.3	1.2	1.7	20.4
Briscoe	585,760	660	15.0	0.9	11.0	3.1
Brooks	372,375	85,212	11.9	3.7	4.1	4.1
Brown	475,421	98,768	42.2	5.9	10.5	25.8
Burleson	300,620	32,373	37.7	12.2	12.5	13.0
Burnet	425,682	130,158	46.0	13.6	17.4	15.0
Caldwell	244,313	69,028	35.8	9.8	12.8	13.1
Calhoun	129,971	31,036	13.1	3.6	6.0	3.5
Callahan	468,449	195,699	42.9	4.0	14.1	24.9
Cameron	208,701	45,149	31.0	1.6	9.5	19.9
Camp	53,316	11,463	26.3	6.8	1.8	17.7
Carson	582,593	153,065	24.2	1.3	11.3	11.7
Cass	139,124	10,639	45.4	13.1	17.7	14.7
Castro	570,818	228,618	35.1	2.1	12.3	20.7
Chambers	199,088	30,458	27.7	2.9	7.7	17.1
Cherokee	325,551	59,323	39.3	13.7	15.5	10.0
Childress	444,942	55,813	33.0	3.9	15.5	13.6
Clay	680,467	53,867	33.5	6.9	5.8	20.8
Cochran	434,001	70,692	25.6	1.3	7.5	16.9
Coke	478,560	177,208	38.4	4.9	10.6	22.8
Coleman	758,719	106,112	43.6	4.4	10.0	29.3
Collin	197,374	25,734	25.5	5.3	4.2	16.0
Collingsworth	537,442	94,083	39.3	5.4	24.7	9.2
Colorado	452,829	117,857	39.9	6.4	8.9	24.6
Comal	107,388	8,854	61.3	1.4	59.4	0.5
Comanche	596,256	136,821	37.4	9.6	9.5	18.2
Concho	629,378	32,338	31.5	3.6	18.4	9.5
Cooke	513,278	55,824	36.2	11.7	6.4	18.1
Coryell	511,451	63,144	35.4	4.4	6.3	24.8
Cottle	569,008	60,151	13.9	3.1	2.1	8.7
Crane	291,025	126,423	15.5	2.8	2.3	10.5
Crockett	1,768,834	188,932	30.2	3.1	7.4	19.7
Crosby	576,011	149,241	27.3	0.6	9.6	17.0
Culberson	1,932,918	151,197	14.3	0.4	13.1	0.9
Dallam	961,047	108,369	35.6	1.7	2.7	31.2
Dallas	67,030	6,380	62.7	13.5	21.2	28.0
Dawson	574,896	102,134	23.4	2.2	10.8	10.4
Deaf Smith	957,798	204,527	37.6	2.2	12.6	22.8
Delta	108,877	29,198	30.7	8.3	4.4	18.0
Denton	272,184	85,862	27.9	7.5	5.3	15.1
DeWitt	411,339	77,180	33.4	13.7	9.1	10.5
Dickens	575,827	22,216	22.9	2.8	9.2	11.0
Dimmit	344,379	84,792	33.9	4.1	12.4	17.3
Donley	585,161	153,936	25.6	2.7	13.5	9.5
Duval	1,115,787	46,490	23.0	4.2	8.0	10.9
Eastland	519,189	139,357	42.2	11.6	16.6	14.0
Ector	417,245	227,737	14.1	3.2	1.4	9.6
Edwards	1,011,179	426,776	40.6	3.6	13.1	23.9
Ellis	377,200	37,876	24.7	5.2	3.1	16.4
El Paso	269,479	29,298	34.8	1.8	18.1	14.8
Erath	675,439	153,744	37.7	7.8	8.8	21.1
Falls	488,283	72,777	30.8	0.9	1.0	28.9
Fannin	417,464	54,865	37.0	13.8	7.7	15.6
Fayette	470,955	34,838	38.6	16.2	10.1	12.3
Fisher	387,119	76,361	28.2	3.7	9.5	15.0
Floyd	634,965	273,609	23.7	1.9	9.3	12.5
Foard	441,647	131,286	19.0	0.6	1.2	17.2
Fort Bend	320,377	23,615	31.2	4.5	10.3	16.4
Franklin	110,438	19,811	37.5	12.8	9.2	15.6
Freestone	372,086	33,376	35.3	7.8	5.6	22.0
Frio	566,717	67,888	38.1	3.6	30.1	4.5
Gaines	810,019	174,423	27.2	1.5	14.4	11.3

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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.						
Galveston	34,117	4,832	31.4	7.2	13.5	10.7
Garza	407,281	46,591	24.3	3.7	16.1	4.5
Gillespie	548,817	83,094	39.5	8.8	16.8	13.9
Glasscock	517,077	71,082	40.0	0.9	6.4	32.8
Goliad	416,291	33,110	42.3	5.9	12.0	24.4
Gonzales	630,773	56,175	30.6	13.2	9.4	7.9
Gray	541,538	76,818	29.6	6.4	12.2	11.0
Grayson	394,985	53,496	34.7	7.8	15.5	11.4
Gregg	26,043	5,341	60.5	12.5	6.8	41.3
Grimes	502,510	29,789	49.1	10.9	17.9	20.3
Guadalupe	291,287	23,815	37.4	14.6	11.6	11.1
Hale	575,527	62,226	21.2	2.0	8.9	10.4
Hall	359,028	29,022	29.7	3.1	12.4	14.3
Hamilton	515,913	61,798	36.2	11.4	12.9	11.9
Hansford	645,303	93,809	17.8	1.5	6.7	9.6
Hardeman	420,820	50,682	26.9	2.5	13.8	10.6
Hardin	36,858	3,065	44.6	26.1	10.1	8.3
Harris	193,556	28,267	57.9	2.7	25.7	29.6
Harrison	121,801	15,375	45.7	10.0	17.0	18.8
Hartley	935,417	38,950	22.0	3.5	10.4	8.1
Haskell	542,383	62,080	19.7	1.7	4.6	13.5
Hays	142,428	11,298	47.3	11.8	21.9	13.6
Hemphill	579,694	59,054	37.2	6.3	9.8	21.1
Henderson	263,600	60,196	38.0	13.6	10.8	13.7
Hidalgo	535,588	31,419	29.2	2.9	4.8	21.5
Hill	566,852	92,961	24.1	7.5	7.5	9.2
Hockley	546,993	159,162	31.5	2.0	12.5	17.1
Hood	124,769	28,303	50.3	17.5	10.7	22.1
Hopkins	317,431	21,153	34.0	16.7	8.8	8.5
Houston	483,598	82,508	35.3	4.1	4.4	26.8
Howard	575,487	57,992	25.0	1.1	12.9	11.0
Hudspeth	2,642,028	370,669	12.4	0.7	1.9	9.8
Hunt	355,339	27,058	34.4	13.7	12.1	8.6
Hutchinson	560,153	95,910	26.3	3.7	3.7	19.0
Irion	672,190	80,486	25.6	1.5	4.1	19.9
Jack	573,752	64,831	36.0	7.5	9.7	18.9
Jackson	353,038	82,325	33.7	4.8	15.6	13.3
Jasper	63,695	3,197	31.6	17.3	7.3	7.0
Jeff Davis	1,420,886	77,875	8.5	1.5	0.7	6.4
Jefferson	347,504	125,719	18.9	6.2	8.5	4.1
Jim Hogg	587,474	98,744	18.6	7.8	5.0	5.8
Jim Wells	398,796	47,698	31.3	4.1	18.3	9.0
Johnson	287,921	47,958	32.9	3.9	1.9	27.1
Jones	564,608	93,644	30.9	2.6	5.0	23.4
Karnes	389,854	47,937	36.2	10.6	12.8	12.7
Kaufman	280,030	150,938	42.6	17.5	8.3	16.9
Kendall	269,055	45,011	40.3	12.3	17.5	10.5
Kenedy	1,000,174	(L)	35.9	1.7	27.5	6.7
Kent	589,592	54,768	23.9	0.7	1.3	21.9
Kerr	390,194	218,789	51.1	6.8	18.0	26.3
Kimble	421,491	72,079	39.8	7.1	19.5	13.3
King	562,164	162,201	13.4	0.8	2.9	9.7
Kinney	615,924	27,181	28.3	1.9	19.4	7.0
Kleberg	470,997	3,219	4.1	0.3	0.5	3.3
Knox	544,231	146,968	11.6	0.1	0.2	11.3
Lamar	513,465	54,446	38.5	4.2	18.2	16.0
Lamb	511,619	113,897	28.9	2.2	17.9	8.9
Lampasas	448,284	236,266	45.1	2.3	3.5	39.2
La Salle	552,478	129,927	52.7	4.1	10.6	38.0
Lavaca	540,742	56,576	35.3	10.8	13.6	10.9
Lee	341,764	99,507	35.0	7.2	18.5	9.3
Leon	423,117	117,885	37.3	11.9	17.8	7.5
Liberty	234,400	71,488	27.0	6.7	3.5	16.7
Limestone	458,104	37,561	22.3	10.4	4.8	7.2
Lipscomb	554,835	157,126	43.0	5.7	21.8	15.5
Live Oak	414,029	139,526	46.5	3.4	35.0	8.1
Llano	521,757	170,836	37.3	8.1	9.7	19.5
Loving	424,193	242,880	(Z)	(Z)	(Z)	(Z)
Lubbock	465,867	148,728	29.8	1.0	13.4	15.4
Lynn	566,683	96,679	20.9	1.4	9.2	10.2
McCulloch	547,959	49,481	42.2	1.5	10.2	30.5
McLennan	552,280	91,638	38.8	11.0	11.5	16.3
McMullen	580,772	136,260	52.8	8.9	26.7	17.2
Madison	214,931	43,186	30.4	6.0	20.6	3.8
Marion	56,568	20,793	41.3	18.0	10.4	12.9
Martin	576,851	252,253	39.0	0.4	2.4	36.3
Mason	591,985	50,927	42.1	10.2	20.0	11.9
Matagorda	545,730	96,516	30.6	2.8	8.6	19.3
Maverick	329,643	266,310	35.9	7.4	24.1	4.4
Medina	634,224	28,099	44.1	7.1	15.9	21.1
Menard	574,274	50,955	28.8	3.6	13.8	11.3
Midland	560,075	59,070	32.8	4.9	9.4	18.5
Milam	492,739	33,318	23.4	5.6	8.2	9.6
Mills	378,004	49,351	46.4	11.0	14.4	21.0
Mitchell	582,475	122,693	20.7	3.8	8.9	8.0
Montague	465,118	55,821	35.4	14.9	9.8	10.8
Montgomery	100,081	30,041	48.9	16.7	18.5	13.7

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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.						
Moore	511,477	150,141	13.5	3.3	4.0	6.1
Morris	45,116	12,497	46.5	18.8	9.3	18.5
Motley	407,404	167,072	26.3	3.4	8.1	14.8
Nacogdoches	209,452	11,592	32.6	12.3	11.1	9.2
Navarro	468,616	35,944	37.0	14.0	8.3	14.8
Newton	25,609	3,090	24.1	14.5	3.9	5.7
Nolan	403,121	199,245	25.1	4.0	6.9	14.1
Nueces	530,663	45,474	9.9	1.0	2.3	6.6
Ochiltree	435,702	106,777	19.7	1.0	13.9	4.8
Oldham	896,031	108,087	20.7	3.7	4.9	12.0
Orange	49,401	18,490	35.4	18.9	7.3	9.3
Palo Pinto	608,448	27,071	37.8	13.6	12.9	11.3
Panola	142,072	93,109	41.4	19.8	11.8	9.8
Parker	341,108	14,436	37.0	13.5	11.4	12.1
Parmer	563,707	134,480	38.0	1.2	16.5	20.3
Pecos	3,013,934	705,116	16.1	0.8	0.5	14.9
Polk	82,869	4,822	37.1	15.4	12.5	9.2
Potter	581,288	147,808	22.2	1.8	4.6	15.8
Presidio	2,363,110	356,921	17.8	1.0	11.6	5.2
Rains	72,477	24,355	37.2	13.7	15.1	8.3
Randall	583,884	182,602	35.5	4.4	16.8	14.3
Reagan	744,621	50,049	10.9	1.4	2.0	7.6
Real	291,417	22,964	45.4	7.6	25.8	12.0
Red River	482,116	164,344	38.1	5.0	6.4	26.7
Reeves	830,657	144,163	16.7	0.8	1.2	14.7
Refugio	369,313	135,549	17.0	2.2	11.1	3.7
Roberts	590,457	246,605	36.4	1.5	4.8	30.2
Robertson	459,840	32,811	32.4	11.3	7.7	13.4
Rockwall	23,466	2,883	34.0	18.5	8.7	6.8
Runnels	672,612	68,158	35.5	3.0	9.4	23.1
Rusk	214,040	23,144	46.8	17.8	13.5	15.4
Sabine	25,916	1,994	40.5	7.6	28.8	4.1
San Augustine	37,406	7,855	32.6	15.1	7.1	10.4
San Jacinto	66,844	7,089	35.8	15.4	9.6	10.8
San Patricio	336,068	41,262	21.5	1.1	11.1	9.3
San Saba	722,887	56,297	43.1	8.3	19.9	14.9
Schleicher	836,691	90,712	32.8	2.1	13.4	17.3
Scurry	569,946	73,141	33.7	4.8	12.2	16.7
Shackelford	497,940	181,497	25.1	3.8	6.7	14.5
Shelby	252,770	15,670	35.4	15.9	9.9	9.5
Sherman	590,226	97,706	19.0	2.2	6.0	10.8
Smith	251,235	34,267	46.0	12.5	14.6	18.9
Somervell	99,570	34,068	39.7	13.5	15.7	10.6
Starr	468,257	219,549	36.5	5.1	18.9	12.6
Stephens	387,474	36,144	39.1	6.4	14.2	18.5
Sterling	650,960	(L)	19.8	2.1	2.7	15.0
Stonewall	476,804	202,481	37.7	4.9	6.2	26.6
Sutton	909,743	123,035	32.7	5.6	10.7	16.3
Swisher	542,277	84,590	27.1	2.8	14.0	10.3
Tarrant	199,120	20,760	60.2	16.6	16.0	27.7
Taylor	365,679	102,447	41.1	6.2	9.2	25.7
Terrell	801,358	179,814	27.2	0.9	24.3	2.0
Terry	568,831	224,475	39.4	2.2	23.2	14.1
Throckmorton	583,977	28,201	25.9	2.6	15.7	7.5
Titus	139,188	45,332	41.8	8.1	15.5	18.3
Tom Green	937,713	179,174	45.9	5.1	20.4	20.3
Travis	198,239	43,583	33.0	14.1	12.4	6.5
Trinity	67,100	9,061	35.2	13.4	11.7	10.1
Tyler	63,492	4,169	45.6	16.1	12.2	17.3
Upshur	150,383	22,409	41.8	22.5	8.2	11.1
Upton	518,980	221,212	21.6	4.1	9.6	7.9
Uvalde	993,079	80,652	27.6	3.3	6.6	17.7
Val Verde	1,417,386	52,651	30.6	2.4	21.7	6.5
Van Zandt	416,603	28,876	50.0	12.5	14.5	22.9
Victoria	526,006	47,745	25.8	5.5	10.7	9.6
Walker	194,887	35,669	32.6	12.9	9.5	10.2
Waller	211,993	19,259	24.3	9.9	6.5	7.9
Ward	441,773	11,010	32.8	0.3	1.4	31.1
Washington	374,608	39,391	39.2	14.9	12.3	12.0
Webb	2,128,507	986,729	24.2	0.7	2.2	21.2
Wharton	553,800	58,641	33.2	2.6	11.2	19.4
Wheeler	584,576	46,055	36.7	6.2	20.4	10.2
Wichita	298,639	66,508	30.1	3.6	2.3	24.3
Wilbarger	536,318	92,177	9.8	0.8	1.7	7.3
Willacy	293,861	14,604	7.3	0.5	2.4	4.4
Williamson	380,184	74,482	38.7	5.5	6.3	27.0
Wilson	393,148	23,113	40.2	14.2	12.5	13.5
Winkler	365,973	124,409	15.8	2.4	1.2	12.1
Wise	345,021	121,300	42.0	15.3	13.9	12.8
Wood	193,055	17,504	47.8	12.8	23.2	11.8
Yoakum	441,578	58,329	16.0	3.5	6.4	6.2
Young	483,160	36,613	42.6	9.5	12.7	20.4
Zapata	287,324	92,658	40.3	8.3	21.1	10.9
Zavala	740,758	229,470	40.7	1.7	4.4	34.6

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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)						
State Total						
Texas	32,166,561	960	19.0	6.8	3.2	9.0
Counties						
Anderson	190,139	10	40.9	25.8	3.7	11.4
Andrews	9,742	(Z)	7.0	3.0	0.5	3.5
Angelina	69,997	4	28.1	12.6	2.9	12.6
Aransas	2,190	1	35.8	14.0	8.7	13.2
Archer	116,409	28	41.8	21.9	5.9	13.9
Armstrong	69,350	11	16.4	10.8	3.2	2.5
Atascosa	65,106	4	33.5	10.7	7.9	15.0
Austin	57,353	20	34.2	13.3	2.9	18.1
Bailey	385,149	9	9.4	3.8	0.7	4.9
Bandera	4,630	(Z)	47.7	12.5	17.1	18.2
Bastrop	58,615	14	43.3	16.2	23.4	3.8
Baylor	53,090	11	26.5	7.0	10.4	9.1
Bee	36,323	7	18.2	4.2	0.3	13.7
Bell	90,098	24	30.1	7.0	9.5	13.7
Bexar	73,150	9	21.2	2.8	0.7	17.7
Blanco	18,207	11	47.3	21.3	17.7	8.3
Borden	27,700	2	3.6	1.4	0.6	1.6
Bosque	69,157	14	49.1	21.5	11.3	16.3
Bowie	116,782	19	49.5	20.6	14.7	14.3
Brazoria	112,182	17	34.7	6.9	10.4	17.3
Brazos	122,917	4	15.7	13.0	0.9	1.8
Brewster	23,557	15	29.7	2.3	0.6	26.9
Briscoe	54,917	(Z)	6.8	0.2	6.2	0.4
Brooks	24,206	2	7.8	1.1	5.0	1.6
Brown	41,991	5	27.6	10.0	4.3	13.3
Burleson	104,390	11	37.7	16.3	7.7	13.8
Burnet	29,942	7	38.5	14.9	13.4	10.2
Caldwell	62,658	8	28.9	18.0	4.5	6.4
Calhoun	31,973	7	24.4	3.6	9.1	11.7
Callahan	22,701	6	42.9	7.2	4.0	31.7
Cameron	128,790	13	28.7	2.6	6.9	19.2
Camp	183,019	24	17.6	6.9	(Z)	10.7
Carson	122,173	35	20.1	0.6	6.5	12.9
Cass	144,523	36	52.1	22.7	18.8	10.7
Castro	1,839,154	56	3.0	1.9	0.3	0.8
Chambers	53,224	9	39.1	4.0	4.9	30.1
Cherokee	120,896	28	39.2	20.4	8.5	10.3
Childress	26,096	2	23.4	3.1	6.1	14.2
Clay	80,929	8	37.1	11.2	3.2	22.7
Cochran	50,851	4	10.4	0.3	1.3	8.8
Coke	10,686	3	57.6	9.2	27.2	21.1
Coleman	44,586	6	43.6	14.1	13.5	16.0
Collin	98,779	11	13.1	7.0	3.6	2.5
Collingsworth	30,687	3	18.6	1.7	14.3	2.6
Colorado	103,726	29	40.5	6.3	3.6	30.7
Comal	5,888	1	40.2	20.8	14.1	5.3
Comanche	268,394	20	9.2	5.9	1.1	2.2
Concho	32,270	3	27.1	6.2	6.0	14.9
Cooke	109,452	27	42.3	15.0	7.5	19.8
Coryell	73,508	11	16.3	3.8	3.5	9.0
Cottle	25,751	4	5.4	1.0	1.1	3.4
Crane	1,501	1	2.4	1.9	0.2	0.2
Crockett	30,654	4	26.1	13.5	4.7	7.9
Crosby	54,410	5	14.4	0.5	9.7	4.3
Culberson	34,059	1	5.9	1.4	0.5	4.0
Dallam	1,086,765	38	9.7	2.2	0.5	6.9
Dallas	32,680	19	47.7	2.7	0.6	44.5
Dawson	52,552	5	22.6	1.5	4.4	16.7
Deaf Smith	1,893,692	84	6.0	5.0	0.3	0.8
Delta	19,812	4	21.9	7.4	4.3	10.2
Denton	135,467	9	25.7	11.2	9.3	5.1
DeWitt	31,438	4	29.5	14.4	7.0	8.1
Dickens	17,365	3	22.9	4.4	2.5	16.0
Dimmit	10,612	3	55.2	27.2	5.4	22.5
Donley	85,042	6	20.3	2.3	11.7	6.3
Duval	15,019	1	31.9	9.7	15.0	7.2
Eastland	36,976	4	34.8	11.5	12.5	10.8
Ector	3,822	2	22.6	9.6	3.2	9.8
Edwards	11,392	2	36.1	4.1	7.0	24.9
Ellis	78,345	8	15.2	3.1	0.9	11.1
El Paso	41,340	11	38.2	6.4	25.9	5.9
Erath	490,011	20	15.9	6.3	7.4	2.1
Falls	188,869	12	30.2	1.3	0.4	28.5
Fannin	103,695	26	25.3	10.4	8.5	6.5
Fayette	78,747	6	36.6	16.7	11.3	8.6
Fisher	51,552	3	8.1	3.0	1.3	3.7
Floyd	165,634	22	10.5	1.3	4.0	5.2
Foard	11,719	3	11.8	0.7	0.5	10.6
Fort Bend	64,849	9	40.6	13.9	15.0	11.7
Franklin	245,380	32	57.2	33.0	3.8	20.4
Freestone	122,796	19	38.4	14.1	11.5	12.8
Frio	167,847	8	14.2	9.7	0.9	3.5
Gaines	169,482	22	10.4	0.9	3.5	6.1

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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.						
Galveston	12,771	3	57.7	21.4	17.7	18.6
Garza	12,093	1	13.3	1.7	8.8	2.8
Gillespie	38,189	4	46.0	6.2	16.1	23.6
Glasscock	28,586	2	51.3	3.3	14.9	33.1
Goliad	21,984	3	40.7	7.2	11.3	22.1
Gonzales	1,002,018	116	22.8	16.7	2.5	3.7
Gray	278,342	6	3.8	0.9	(Z)	2.9
Grayson	87,097	16	31.5	15.9	6.0	9.5
Gregg	2,688	(Z)	50.6	14.0	7.8	28.7
Grimes	83,236	22	31.4	18.5	3.5	9.4
Guadalupe	94,061	7	42.5	28.5	5.6	8.5
Hale	481,675	12	3.3	1.1	1.2	1.0
Hall	19,092	1	22.0	1.5	3.4	17.0
Hamilton	100,704	3	13.8	8.0	3.5	2.4
Hansford	899,646	11	2.5	1.4	0.2	0.8
Hardeman	55,995	3	10.5	1.2	5.7	3.7
Hardin	4,637	(Z)	42.4	24.6	14.8	3.0
Harris	89,039	9	48.0	13.9	8.8	25.2
Harrison	13,020	1	39.0	19.3	10.9	8.7
Hartley	1,735,660	20	2.4	1.2	0.4	0.8
Haskell	49,659	4	17.8	1.2	1.2	15.4
Hays	29,240	2	31.3	9.7	19.6	1.9
Hemphill	146,527	16	53.8	8.0	5.7	40.2
Henderson	44,194	13	42.8	17.9	12.9	12.0
Hidalgo	386,043	24	27.1	3.1	3.2	20.8
Hill	129,941	33	27.4	8.7	7.1	11.5
Hockley	62,279	6	23.5	1.0	6.4	16.1
Hood	22,550	8	44.8	26.5	9.5	8.8
Hopkins	342,278	22	40.9	22.2	4.6	14.2
Houston	89,987	12	18.9	10.2	0.5	8.3
Howard	32,631	1	9.7	0.7	1.7	7.2
Hudspeth	64,412	7	48.5	4.9	22.3	21.4
Hunt	82,418	16	36.9	13.0	15.2	8.7
Hutchinson	62,260	8	22.9	11.4	4.9	6.6
Irion	9,915	(Z)	19.2	4.4	4.5	10.3
Jack	42,816	4	36.4	12.4	8.9	15.1
Jackson	80,290	17	21.4	3.3	9.5	8.6
Jasper	13,151	5	47.3	8.5	1.9	36.9
Jeff Davis	28,574	1	9.0	5.2	0.1	3.7
Jefferson	35,187	5	22.8	8.2	7.4	7.2
Jim Hogg	8,573	3	20.3	9.5	6.6	4.2
Jim Wells	72,616	1	4.6	1.3	0.4	2.8
Johnson	65,996	11	38.8	3.8	1.6	33.4
Jones	73,772	7	45.7	28.7	5.9	11.0
Karnes	39,691	16	40.4	24.6	7.1	8.7
Kaufman	49,371	9	50.8	26.7	13.1	11.1
Kendall	14,129	1	58.0	26.3	19.8	11.8
Kenedy	18,849	(L)	14.9	1.3	7.7	6.0
Kent	9,849	1	24.6	0.9	0.6	23.1
Kerr	11,151	5	53.5	16.2	25.8	11.5
Kimble	7,226	1	38.1	6.5	9.2	22.3
King	13,073	4	11.9	0.8	0.9	10.3
Kinney	3,788	(Z)	24.2	6.1	13.0	5.1
Kleberg	51,805	1	3.7	1.7	0.6	1.4
Knox	26,742	12	23.4	0.5	2.0	20.9
Lamar	85,538	10	35.2	2.0	20.2	13.0
Lamb	565,299	38	6.5	3.0	1.5	2.0
Lampasas	33,116	12	29.3	11.3	13.3	4.7
La Salle	7,667	2	52.1	26.3	18.2	7.6
Lavaca	66,195	10	35.0	17.1	8.9	9.0
Lee	89,196	7	17.6	12.5	3.2	1.9
Leon	233,517	28	28.3	18.4	6.1	3.8
Liberty	40,699	27	31.5	18.7	5.3	7.4
Limestone	95,644	21	52.0	8.9	2.3	40.8
Lipscomb	80,730	11	32.2	6.8	12.1	13.3
Live Oak	14,965	6	47.5	5.1	36.0	6.3
Llano	27,274	9	37.8	14.6	10.3	12.9
Loving	1,547	(H)	(Z)	(Z)	(Z)	(Z)
Lubbock	160,301	7	12.2	5.6	4.7	2.0
Lynn	46,388	4	10.6	0.6	2.7	7.2
McCulloch	19,405	5	36.2	6.0	10.8	19.3
McLennan	210,109	32	34.2	21.7	7.2	5.3
McMullen	9,466	5	51.9	12.0	18.7	21.3
Madison	185,143	3	28.2	26.8	0.8	0.6
Marion	7,161	(H)	54.5	37.8	8.7	7.9
Martin	22,746	2	26.3	5.0	8.3	13.0
Mason	50,231	5	57.9	23.7	18.3	15.8
Matagorda	157,078	61	28.2	5.1	8.2	14.9
Maverick	44,296	3	5.4	4.3	0.6	0.6
Medina	82,644	5	28.8	16.3	6.7	5.8
Menard	12,075	2	37.3	10.7	14.6	11.9
Midland	19,192	5	60.8	39.2	12.8	8.8
Milam	156,432	15	18.5	7.6	2.0	8.9
Mills	44,236	7	27.7	9.8	10.5	7.4
Mitchell	37,955	2	27.0	9.3	5.0	12.6
Montague	62,059	7	28.6	10.4	14.3	3.8
Montgomery	25,053	4	59.9	25.2	24.9	9.8

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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.						
Moore	706,879	23	2.1	1.9	0.1	0.1
Morris	55,369	21	52.6	49.6	0.8	2.1
Motley	18,727	5	13.5	2.2	2.0	9.2
Nacogdoches	578,906	68	39.9	29.3	2.1	8.5
Navarro	64,962	10	35.7	18.7	6.6	10.3
Newton	2,079	(Z)	39.7	25.8	7.6	6.4
Nolan	23,172	1	13.6	6.4	2.2	5.0
Nueces	139,951	8	4.6	0.8	0.5	3.3
Ochiltree	378,132	20	3.2	2.4	0.2	0.6
Oldham	99,756	7	12.2	6.7	2.3	3.1
Orange	4,292	4	47.7	26.8	16.1	4.8
Palo Pinto	48,564	4	28.2	12.6	5.4	10.1
Panola	96,170	18	23.0	19.2	1.7	2.2
Parker	68,496	14	35.9	19.5	10.7	5.7
Parmer	1,375,105	51	4.1	1.2	1.9	1.1
Pecos	48,942	4	18.3	2.4	1.8	14.1
Polk	10,893	1	40.1	20.1	7.6	12.4
Potter	47,431	10	23.3	3.2	5.7	14.4
Presidio	41,521	6	4.1	2.4	(Z)	1.6
Rains	31,630	5	30.1	9.2	1.2	19.7
Randall	730,108	30	6.3	1.7	0.1	4.4
Reagan	8,810	1	13.5	2.9	6.6	3.9
Real	2,647	(Z)	41.4	6.5	26.4	8.6
Red River	99,685	12	22.7	16.9	1.6	4.2
Reeves	27,790	7	61.4	4.4	3.5	53.6
Refugio	38,708	9	13.0	0.6	11.1	1.3
Roberts	23,539	12	30.5	6.7	16.6	7.2
Robertson	217,662	23	35.2	8.4	6.7	20.1
Rockwall	5,361	(Z)	14.4	7.5	4.2	2.7
Runnels	61,609	2	24.9	6.4	8.6	9.9
Rusk	105,024	2	30.3	9.5	1.2	19.7
Sabine	(D)	(Z)	(D)	(D)	(D)	(D)
San Augustine	304,692	15	53.0	13.1	1.9	38.1
San Jacinto	9,207	4	37.7	9.8	3.0	24.9
San Patricio	101,209	12	9.0	0.8	3.4	4.8
San Saba	41,512	11	41.5	6.0	12.9	22.7
Schleicher	27,188	4	34.3	4.6	15.5	14.1
Scurry	30,605	3	12.0	3.5	4.2	4.3
Shackelford	16,401	6	23.7	6.8	8.4	8.5
Shelby	625,837	79	37.5	24.7	2.5	10.2
Sherman	988,213	43	4.1	3.4	0.1	0.6
Smith	70,899	9	54.0	25.7	8.5	19.7
Somervell	7,272	5	40.9	22.9	11.4	6.7
Starr	73,015	12	17.4	0.7	12.7	4.0
Stephens	9,296	1	33.2	6.9	6.5	19.7
Sterling	11,037	(Z)	17.5	2.1	2.8	12.6
Stonewall	14,461	8	45.1	13.2	7.8	24.1
Sutton	20,407	4	34.3	7.0	11.6	15.7
Swisher	749,528	11	3.0	1.9	0.2	0.9
Tarrant	24,327	5	56.2	25.8	27.6	2.8
Taylor	20,545	3	36.3	10.1	6.3	19.9
Terrell	6,168	(Z)	8.8	2.0	5.2	1.6
Terry	100,210	25	22.3	0.8	10.5	11.1
Throckmorton	37,973	1	20.7	6.6	2.3	11.9
Titus	222,986	44	51.3	34.3	10.0	7.0
Tom Green	101,976	6	29.3	4.9	17.9	6.5
Travis	63,384	18	46.4	24.8	10.3	11.3
Trinity	8,237	2	38.4	24.1	4.7	9.6
Tyler	9,365	6	59.3	27.8	21.1	10.5
Upshur	84,679	8	68.6	41.2	9.1	18.4
Upton	10,415	3	10.9	5.1	1.5	4.4
Uvalde	90,644	15	13.6	0.6	1.2	11.7
Val Verde	15,482	5	21.1	6.0	3.9	11.2
Van Zandt	168,285	10	34.7	19.7	5.3	9.7
Victoria	72,034	9	25.6	5.6	11.6	8.4
Walker	25,399	3	35.2	11.3	11.9	12.0
Waller	106,565	20	11.7	8.9	1.2	1.6
Ward	(D)	(Z)	(D)	(D)	(D)	(D)
Washington	51,789	13	37.6	19.3	9.9	8.4
Webb	31,518	15	18.0	6.0	3.5	8.4
Wharton	393,763	47	28.2	0.5	1.8	25.9
Wheeler	123,503	5	11.8	8.2	1.2	2.4
Wichita	45,380	6	30.7	5.0	2.0	23.7
Wilbarger	42,158	11	10.5	2.4	1.6	6.6
Willacy	95,391	9	9.3	0.6	3.9	4.7
Williamson	95,687	34	42.0	6.1	5.7	30.2
Wilson	146,627	8	24.5	8.4	3.1	13.1
Winkler	1,799	(Z)	6.5	1.0	0.8	4.7
Wise	58,945	5	51.7	25.5	7.1	19.1
Wood	225,687	28	56.5	32.0	11.2	13.2
Yoakum	56,923	25	34.6	4.9	9.5	20.2
Young	29,820	4	44.8	13.5	10.7	20.6
Zapata	5,194	1	30.5	11.6	9.9	9.0
Zavala	86,838	6	14.8	2.4	2.7	9.7

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			
Texas	5,640	5,640	-
Counties			
Anderson	29	29	-
Angelina	7	7	-
Archer	3	3	-
Armstrong	1	1	-
Atascosa	69	69	-
Austin	52	52	-
Bailey	21	21	-
Bandera	19	19	-
Bastrop	47	47	-
Baylor	10	10	-
Bee	11	11	-
Bell	84	84	-
Bexar	46	46	-
Blanco	12	12	-
Borden	1	1	-
Bosque	38	38	-
Bowie	63	63	-
Brazoria	67	67	-
Brazos	13	13	-
Brewster	19	19	-
Briscoe	4	4	-
Brooks	7	7	-
Brown	51	51	-
Burleson	20	20	-
Burnet	41	41	-
Caldwell	12	12	-
Calhoun	8	8	-
Callahan	12	12	-
Cameron	24	24	-
Camp	25	25	-
Carson	7	7	-
Cass	44	44	-
Castro	4	4	-
Chambers	11	11	-
Cherokee	21	21	-
Clay	29	29	-
Cochran	3	3	-
Coke	9	9	-
Coleman	21	21	-
Collin	104	104	-
Collingsworth	9	9	-
Colorado	31	31	-
Comal	17	17	-
Comanche	25	25	-
Concho	3	3	-
Cooke	53	53	-
Coryell	42	42	-
Cottle	6	6	-
Crockett	5	5	-
Crosby	3	3	-
Dallam	1	1	-
Dallas	14	14	-
Dawson	11	11	-
Deaf Smith	14	14	-
Delta	18	18	-
Denton	56	56	-
DeWitt	25	25	-
Dickens	22	22	-
Dimmit	1	1	-
Donley	23	23	-
Duval	13	13	-
Eastland	25	25	-
Edwards	7	7	-
Ellis	86	86	-
El Paso	21	21	-
Erath	48	48	-
Falls	18	18	-
Fannin	70	70	-
Fayette	29	29	-
Fisher	18	18	-
Floyd	4	4	-
Foard	6	6	-
Fort Bend	9	9	-
Franklin	17	17	-
Freestone	23	23	-
Frio	4	4	-
Gaines	3	3	-
Galveston	15	15	-
Garza	6	6	-
Gillespie	20	20	-
Glasscock	1	1	-
Goliad	8	8	-
Gonzales	20	20	-
Gray	7	7	-
Counties - Con.			
Grayson	143	143	-
Gregg	10	10	-
Grimes	42	42	-
Guadalupe	57	57	-
Hale	45	45	-
Hall	9	9	-
Hamilton	30	30	-
Hansford	3	3	-
Hardeman	6	6	-
Hardin	5	5	-
Harris	30	30	-
Harrison	16	16	-
Hartley	7	7	-
Haskell	4	4	-
Hays	14	14	-
Hemphill	12	12	-
Henderson	42	42	-
Hidalgo	8	8	-
Hill	54	54	-
Hockley	13	13	-
Hood	43	43	-
Hopkins	72	72	-
Houston	39	39	-
Howard	6	6	-
Hudspeth	4	4	-
Hunt	88	88	-
Hutchinson	2	2	-
Irion	2	2	-
Jack	25	25	-
Jackson	11	11	-
Jasper	23	23	-
Jeff Davis	2	2	-
Jefferson	8	8	-
Jim Wells	15	15	-
Johnson	86	86	-
Jones	40	40	-
Karnes	14	14	-
Kaufman	63	63	-
Kendall	42	42	-
Kenedy	2	2	-
Kent	3	3	-
Kerr	20	20	-
Kimble	5	5	-
Kinney	5	5	-
Kleberg	4	4	-
Knox	6	6	-
Lamar	143	143	-
Lamb	19	19	-
Lampasas	19	19	-
La Salle	18	18	-
Lavaca	19	19	-
Lee	11	11	-
Leon	19	19	-
Liberty	14	14	-
Limestone	49	49	-
Lipscomb	7	7	-
Live Oak	24	24	-
Llano	24	24	-
Lubbock	35	35	-
Lynn	9	9	-
McCulloch	6	6	-
McLennan	73	73	-
McMullen	3	3	-
Madison	12	12	-
Marion	22	22	-
Martin	6	6	-
Mason	44	44	-
Matagorda	17	17	-
Medina	57	57	-
Menard	15	15	-
Midland	5	5	-
Milam	17	17	-
Mills	15	15	-
Mitchell	6	6	-
Montague	57	57	-
Montgomery	34	34	-
Moore	10	10	-
Morris	2	2	-
Nacogdoches	21	21	-
Navarro	64	64	-
Newton	10	10	-
Nolan	13	13	-
Nueces	26	26	-
Ochiltree	4	4	-
Oldham	14	14	-
Orange	26	26	-
Palo Pinto	20	20	-
Panola	14	14	-

See footnote(s) at end of table.

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

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

Geographic area	American Indian or Alaska Native farm producers		
	Total	Individually reported [1]	Other [2]
Counties - Con.			
Parker	143	143	-
Parmer	9	9	-
Polk	17	17	-
Potter	15	15	-
Presidio	6	6	-
Rains	41	41	-
Randall	21	21	-
Reagan	2	2	-
Real	6	6	-
Red River	54	54	-
Reeves	11	11	-
Refugio	5	5	-
Roberts	1	1	-
Robertson	41	41	-
Rockwall	5	5	-
Runnels	13	13	-
Rusk	26	26	-
Sabine	8	8	-
San Augustine	2	2	-
San Jacinto	7	7	-
San Patricio	5	5	-
San Saba	38	38	-
Scurry	16	16	-
Shackelford	2	2	-
Shelby	6	6	-
Sherman	3	3	-
Smith	59	59	-
Somervell	5	5	-
Starr	4	4	-
Stephens	15	15	-
Stonewall	4	4	-
Sutton	7	7	-
Swisher	39	39	-
Tarrant	17	17	-
Taylor	21	21	-
Terry	14	14	-
Throckmorton	2	2	-
Titus	25	25	-
Tom Green	19	19	-
Travis	29	29	-
Trinity	3	3	-
Tyler	11	11	-
Upshur	60	60	-
Uvalde	7	7	-
Val Verde	14	14	-
Van Zandt	136	136	-
Victoria	48	48	-
Walker	38	38	-
Waller	15	15	-
Ward	4	4	-
Washington	38	38	-
Webb	6	6	-
Wharton	20	20	-
Wheeler	24	24	-
Wichita	27	27	-
Wilbarger	15	15	-
Willacy	3	3	-
Williamson	45	45	-
Wilson	49	49	-
Wise	118	118	-
Wood	49	49	-
Yoakum	7	7	-
Young	8	8	-
Zavala	3	3	-

[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.