
Appendix C.

Statistical Methodology

THE SCREENING PHASE AND THE MAIL LIST MODEL

The 1997 Census of Agriculture featured a pre-census screening phase that surveyed selected records, by mail or telephone, for presence or absence of agricultural activity. Records selected for screening had a low probability of qualifying as farms. All records responding to the screener and reporting no agricultural activity were removed from the census mail list. Eliminating nonfarm records from the mail list reduced respondent burden and data collection costs.

The screening phase included nearly 500,000 records. Records were selected for screening using one of the following criteria:

- 1) Records on selected agriculture specialty lists that had no other list source,
- 2) Records identified by a mail list model as having a low probability of being a farm.

A mail list model predicted the probability that an addressee on the 1997 preliminary census mail list operated a farm. The model defined groups based on combinations of characteristics such as source(s) of the mail list record, expected value of agricultural production, and geographic location. Farm proportions were estimated for these groups by calculating the proportion of 1992 census respondent records that were farms which exhibited the characteristics defined by the group. This proportion, also called the in-scope rate, provided an estimate of the probability that an addressee in the group operated a farm.

Each address record on the 1997 preliminary census mail list was assigned to a model group by matching record characteristics to model group characteristics. Records belonging to the groups with the highest farm probability were those more likely to be farms. Records with a farm probability of approximately 30 percent or less were selected for screening, along with records included on selected agriculture specialty lists as noted above.

Before screening, the preliminary census mail list consisted of 3,314,790 records. There were 478,298 records selected for screening. Of these, 125,570 records were determined to be nonfarms as a result of the screening phase and were removed. These records were removed from the final census mail list. The remaining 3,189,220 records received census report forms.

CENSUS SAMPLE DESIGN

All name and address records on the final census mail list were designated to receive a 1997 Census of Agriculture report form. Two different types of census report forms, sample and nonsample, were used to collect data. Sections 1 through 20 and 28 through 32 of the sample form were identical to sections on the nonsample census form. Sample form sections 21 through 27 contained additional questions on usage of fertilizers and chemicals, farm production expenditures, value of machinery and equipment, value of land and buildings, farm-related income, and hired workers. There were 11 regional versions of the nonsample form and 13 regional versions of the sample form with listings of crops varying by region. These different forms were used to reduce the response burden of the census, while providing reliable information on a large number of data items.

The sample form was mailed to all mail list records in Alaska, Hawaii, and Rhode Island and to a sample of records in other States selected from the final mail list. Mail list records were selected into the sample with certainty if they (1) were expected to have large total value of agricultural products sold or large acreage, (2) were multi-unit operations (i.e., separate farms producing under one company organization), (3) were in a county with less than 100 farms in 1992, or (4) had other special characteristics. Farms with special characteristics were abnormal farms, such as institutional farms, experimental and research farms, and Indian reservations. Mail list records in counties containing 100 to 199 farms in 1992 were systematically sampled at a rate of 1 in 2; records in counties containing 200 to 299 farms in 1992 were systematically sampled at a rate of 1 in 4; and records in counties containing 300 or more farms in 1992 were systematically sampled at a rate of 1 in 6. The remaining mail list records not chosen to receive the sample form received the nonsample census form. This differential sampling scheme was used to provide reliable data for the sample sections of the report form for all counties.

EDITING DATA AND IMPUTATION FOR ITEM NONRESPONSE

The census of agriculture complex edit and imputation system is an automated computerized system that performed the following functions:

- Ensured reasonable relationships between/among data items, values for various sizes of farms, combinations of commodities, and economic interactions.
- Ensured necessary consistencies were present (there were more than 70 distinct consistency requirements).
- Ensured climatic, geographic, legal, and physical constraints were met.

The system performed these and similar functions for more than 900 data key codes for sample records and approximately 850 data key codes for nonsample records.

For the 1997 Census of Agriculture, as in previous censuses, all reported data were keyed and then edited by computer. The edits were used to determine whether the reports met the minimum criteria to be counted as farms in the census. The complex edit and imputation system provided the basis for deciding to accept, impute (supply), delete, or alter the reported value for each data record item.

Whenever possible, edit imputations, deletions, and changes were based on component or related data on the respondent's report form. For some items, such as operator characteristics, data for that record from the previous census were used when available. Values for other missing or unacceptable reported data items were calculated based on reported quantities and known fixed price parameters.

When these and similar methods were not available and values had to be supplied, the imputation process used information reported for another farm operation in a geographically adjacent area with characteristics similar to those of the farm operation with incomplete data. For example, a farm operation that reported acres of corn harvested, but did not report quantity of corn harvested, was assigned the same bushels of corn per acre harvested as that of the last nearby farm with similar characteristics that reported acceptable yields during that particular execution of the computer edit. The imputation for missing items in each section of the report form was conducted separately; thus, assigned values for one operation could come from more than one respondent.

Prior to the imputation operation, a set of default values and relationships was assigned to the possible imputation variables. The relationships and values varied depending on the item being imputed. For example, different default values were assigned for several Standard Industrial Classifications and total value of sales categories when imputing hired farm labor expenses. These values and item relationships for the possible imputation variables were stored in the computer in a series of matrices.

Each execution of the computer edit consisted of records from only one State sorted by reported State and county. For a given execution of the edit, the stored entries in the various matrices were retained in memory only until a succeeding record having acceptable characteristics for the same sections of the report form was processed by the

computer. Then the acceptable responses of the succeeding operation replaced those previously stored. When a record processed through the edit had unreported or unacceptable data, the record was assigned the last acceptable ratio or response from an operation with a similar set of characteristics. Once each execution of the computer edit for a State was completed, the possible imputation variables were reset to the default values and relationships for subsequent executions. An edit run usually consisted of 10,000 or more records.

After the initial computer edit, all keyed reports not meeting the census farm definition were reviewed to ensure that the data had been keyed correctly. Edit referrals were generated for 17 percent of the reports included as farms; they were reviewed for keying accuracy and to ensure that the computer edit actions were correct. If the results of the computer edit were not acceptable, corrections were made and the record re-edited.

CENSUS ESTIMATION

The 1997 Census of Agriculture used two types of statistical estimation procedures to account for whole farm nonresponse and sample data collection. The procedures were necessary because some farm operators did not respond to the census despite numerous attempts to contact them, and estimates for certain data items were based on a sample of farm operators rather than a full enumeration.

Whole Farm Nonresponse Estimation

Whole farm nonresponse to the census occurred when a response was never received for a record. If the record was a large farm, as defined by value of production or acreage, or a unique farm operation, intensive telephone or personal followup was conducted during census processing to obtain a response. If these attempts failed, either the NASS survey database, the census historic database, or other more current sources were used to impute data for the record.

During mail list development, the State Statistical Offices (SSOs), in an effort to reduce respondent burden, identified records that participated in multiple NASS surveys and/or situations where there were special reporting relationships between an enumerator and a respondent. These records were referred to as tagged records. The SSOs had full responsibility for the data collection for these records, including imputation of data for the record if a response was not obtainable.

Whole farm nonresponse that occurred within the remaining universe of records was accounted for by a statistical weighting procedure. The weights of the responding farms were adjusted to account for farms that did not respond. The information needed for this process was obtained from the 1997 Nonresponse Survey. The SSOs conducted the nonresponse survey using computer-assisted telephone interviewing (Blaise-CATI) or personal enumeration when telephone contact was not possible. Alaska and Rhode

Island were not eligible for the survey because all nonrespondents were subject to extensive followup. In these cases, data were collected by telephone or other methods. The nonresponse survey collected information from a sample of census nonrespondents to determine farm status and estimate the proportion of farms in the nonresponse universe. The information was then used to estimate the number of nonresponding farm operations by State and county.

The 1997 Nonresponse Survey consisted of a stratified systematic sample of the nonresponse records within each State. The sample was selected near the end of the census follow-up operations. Five strata were defined to be homogeneous on probability of farm status and were based on screener status, total value produced, and list source(s) of the mail list record.

Based on survey results, estimates of the proportion of census nonrespondents operating farms were made for each stratum in the State. The estimates were applied to the total number of census nonrespondents in that stratum, providing a State estimate of the number of census nonrespondents that operated farms. The number of census nonrespondents that operated farms was then derived for each county by stratum. This estimation procedure assumed that the distribution of farms in a stratum by county was the same for census nonrespondents as for census respondents.

Within each stratum in a county, a noninteger nonresponse weight was calculated and assigned to each eligible respondent farm record. Census respondent farms that were designated as large farms or tagged records or as farms that exhibited “rare” commodities were ineligible to represent nonrespondent farms and were excluded from the nonresponse weighting procedure. These records were assigned nonresponse weights of 1.0.

The noninteger nonresponse weight is the ratio of the sum of the estimated number of nonrespondent farms from the nonresponse survey and the number of eligible census respondent farms, divided by the number of eligible census respondent farms. Stratum controls were established to ensure that this weight never exceeded 2.0. For the published tabulations of the complete count items, the noninteger nonresponse weight was randomly rounded to an integer weight of either 1 or 2 for each record. For the sample count items, the noninteger nonresponse weight was used in the calculation of the final sample weight.

Table A quantifies the effect of the nonresponse estimation procedure on selected census data items. The percentages in this table are percents of the census values contributed by nonresponse estimation. These indicate the potential for bias in published figures resulting from nonresponse to the census. The estimates provided in this table do not reflect the effect of item nonresponse to individual census data items. The effect of this item nonresponse is discussed in the “Census Nonsampling Error” section.

Sample Estimation

Sample data estimation determined the population totals that would have resulted from a complete census for the items in sections 21 through 27 of the sample form. The estimates were obtained from a weighting procedure that assigned a weight to each respondent record containing sample items. For any given county, a sample item total was estimated by multiplying the data items for each farm in the county by the corresponding sample weight and summing over all sample records.

Each respondent sample farm was assigned a sample weight for use in producing estimates for all sample items. For example, if the weight given to a sample farm had the value 6, all sample data items reported by that farm were multiplied by 6.

The noninteger sample weight is calculated for each respondent sample farm by multiplying the noninteger nonrespondent weight by the sampling factor. For published tabulations of the sample count items, the noninteger sample weight was randomly rounded to an integer weight for each record. For certainty farms, the sampling factor equals 1 so the sample weight is just equal to the nonresponse weight. Sampling factor calculation for non-certainty farms is described below.

Within a county, the weighting procedure for non-certainty farms was performed in three steps using three variables. The first variable contained eight 1997 total value of agricultural production (TVP) groups. The second and third variables, Standard Industrial Classification (SIC) code and farm acreage, contained two groups. The three sets of groups were:

TVP	SIC	Acres
\$1 to \$999	01, 08 All crops	1 to 69
\$1,000 to \$2,499	02 All livestock	70 or more
\$2,500 to \$4,999		
\$5,000 to \$9,999		
\$10,000 to \$24,999		
\$25,000 to \$49,999		
\$50,000 to \$99,999		
\$100,000 or more		

The first step in the estimation procedure classified the sample records into 32 mutually exclusive initial strata formed by the three variable groups. The total and sample farm counts were expanded to account for nonresponse. Each cell containing sample farm records was assigned an initial sample factor equal to the ratio of the total farm count to the sample farm count. This factor was approximately equal to the inverse of the probability of selecting a farm for the census sample.

The second step in the estimation procedure combined, when necessary, the 32 initial strata to increase the reliability of the weighting procedure. Any stratum that contained less than 10 sample farms or had a factor greater than twice the mail sample rate was collapsed with another stratum. The mail sample rate was either 2, 4, or 6,

depending on whether the county had a 1 in 2, 1 in 4, or 1 in 6 sample selection rate. The collapsing occurred within the 32 initial strata according to a specified collapsing pattern. After the collapsing process was completed, new total farm counts and sample farm counts were computed from each final strata and used to calculate final sample factors.

The final step calculated the noninteger sample weight as the product of the final sampling factor and the noninteger nonresponse weight. As described previously, the noninteger sample weight for each record is randomly rounded to an integer weight which is used in published tabulations. For example, if the final weight for a farm was 7.2, then the record would be rounded to either 7 or 8.

CENSUS SAMPLING ERROR

The sample for the 1997 Census of Agriculture was only one of a large number of possible samples of the same size that could have been selected using the same sample design. In this context, "sample" refers to the sample for both the nonresponse survey and the selection of farms to receive sample forms.

The standard error, or sampling error, of a survey estimate is a measure of the variation among the estimates from all possible samples. It is a measure of precision - that is, how well an estimate from a particular sample approximates the true population parameter. The percent relative standard error of an estimate is defined as the standard error of the estimate divided by the value of the estimate, then multiplied by 100. The true population parameter can be defined or conceptualized several different ways. One way is to think of the true population parameter as the average result of all possible samples (selected using a given sample design). A second way is to think of the true population parameter as the figure obtained from carrying out a complete enumeration of the population.

If all possible samples were selected, each of the samples surveyed under essentially the same conditions, and an estimate and its standard error calculated from each sample, then:

1. Approximately 90 percent of the intervals from 1.65 standard errors below the estimate to 1.65 standard errors above the estimate would include the true population parameter.
2. Approximately 95 percent of the intervals from 1.96 standard errors below the estimate to 1.96 standard errors above the estimate would include the true population parameter.

The following example illustrates the computations necessary to produce a confidence statement for an estimate. Assume that the estimate of number of farms for a State is 94,382 and the relative standard error of the estimate is 0.1 percent (0.001). Multiplying 94,382 by 0.001 yields 94, the standard error; therefore, a 90-percent confidence interval is 94,227 to 94,537 (i.e., 94,382 plus or minus 1.65 x 94).

If corresponding confidence intervals were constructed for all possible samples of the same size and design, approximately 90 percent of these intervals would contain the true population parameter. Similarly, a 95-percent confidence interval is 94,198 to 94,566 (i.e., 94,382 plus or minus 1.96 x 94).

Census items were classified as either complete count or sample count items. All farm operators were asked the complete count items. Examples of complete count items were: land in farms, harvested cropland, livestock inventory and sales, crop acreage, quantities harvested and crop sales, land use, irrigation, government loans and payments, conservation acreage, type of organization, and operator characteristics.

Only a sample of farm operators were asked the sample count items. These items appeared only in sections 21 through 27 of the sample form. Sample count items were included under the following section headings: commercial fertilizers, chemicals, production expenses, farm machinery and equipment, value of land and buildings, farm-related income, and hired workers.

Variability in the estimates of complete count items was due only to the nonresponse survey estimation procedure. With regard to the estimates of sample count items, variability was due to both the nonresponse survey estimation procedure and the census sample selection and estimation procedure. Therefore, variability in the sample count item estimates tends to be larger than the variability in the complete count item estimates. Percent relative standard error is a common measure of variability.

Table B provides the generalized reliability estimates of the estimated number of farms in a county that reported complete count and sample count items. The top half of the table shows the percent relative standard errors for estimated number of farms in a county that reported a complete count item, and the bottom half relates to sample count items. These reliability estimates are derived from regression equations. Separate regression equations were used to produce each section of table B. Each regression equation was fit with the estimated number of farms in a county reporting an item as the independent variable and the relative variance of that estimate as the dependent variable for the appropriate counties in the State. To illustrate the use of this table, assume that the estimate of the number of farms reporting hogs and pigs for a particular county, as given in county table 15, is 89. Since hogs and pigs is a complete count data item, refer to the first part of table B and use the estimated percent relative standard error of the estimate from the row with farm count equal to or just less than the estimated number of farms, 89. For this example, the percent relative standard error of the estimate comes from the row for 75 farms reporting. For sample count items, follow the same procedure using the second part of table B. For counties with fewer than 100 farms in the 1992 Census of Agriculture, variability in sample count

item estimates came only from nonresponse survey estimation procedures. The estimated relative standard error for a sample count item in these counties may be obtained using the first part of table B.

Use caution when referring to the “Sample Count Item” section of table B to make inferences on counties. Some counties may have been sampled at the rate of 1 in 2 or 1 in 4, but the reliability estimates shown were computed using only data from counties sampled at the rate of 1 in 6. Therefore, the reliability estimates shown would likely be overstated (or conservative) if the county was actually sampled at a higher rate.

Table C presents the percent relative standard error of selected State data items for all farms, and table D presents the percent relative standard error of selected State data items for all farms with sales of \$10,000 or more.

Table E presents the standard error for percent change in State totals from 1992 to 1997. The general purpose of the percent change estimate is to provide a relative measure of the difference in a characteristic between censuses. The relative change for a given characteristic is defined as the ratio of the difference of the 1997 and the 1992 estimate for that characteristic to the 1992 estimate. This ratio is multiplied by 100 to obtain the percent change. The standard error of a percent change estimate is the standard error of the ratio multiplied by 100.

Table F presents the percent relative standard error for State and county totals for selected data items. The percent relative standard error of the estimate for the same item differs among counties in the State. Reasons for this are differences among counties in the (1) total number of farms, (2) number of large farms included with certainty, (3) size classifications of the farms sampled, (4) amount of nonresponse, (5) general agricultural characteristics, and (6) specific characteristic being measured.

The farm counts and related estimates displayed in tables A through F relate to unadjusted census totals. These totals are the same as the “Census total” displayed in the first column of table G (which will be discussed later in this appendix).

For most of the tables in this appendix, and also many of the tables throughout the publication, there is a footnote that reads “Data are based on a sample of farms.” The table entries that this footnote relate to are estimates of totals. To illustrate, suppose that the entry “other farm-related income” is shown with this footnote and has some number of farms given. This number given would represent an estimated total number of farms with “other farm-related income,” based on the farms that were in the sample. This number should not be interpreted as the number of farms in the sample that have “other farm-related income.”

CENSUS NONSAMPLING ERROR

The accuracy of the census counts is affected jointly by sampling errors (described in the previous section) and nonsampling errors. Extensive efforts were made to compile a complete and accurate mail list for the census, to

design an understandable report form with instructions, and to minimize processing errors through the use of quality control measures. Nonsampling errors arise from many sources, including respondent or enumerator error or incorrect data keying, editing, or imputing for missing data. These nonsampling errors are further discussed in this section. Nonsampling error due to mail list incompleteness and duplication as well as misclassification of records on the mail list is called coverage error. The section titled “Coverage Evaluation” discusses the evaluation studies conducted to measure the extent of this error in the census.

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. To reduce reporting error, 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. In addition, each respondent’s answers were checked for completeness and consistency by the complex edit and imputation system.

Item Nonresponse

As information flowed from data collection to tabulation, various types of item nonresponses were identified on the census report forms. Nonresponse to particular questions on the census report form that logically should have been present created a type of nonsampling error in both complete count and sample count data. In this case, information from a similar farm was used to impute for these missing data items. The resulting data may have been biased if the characteristics of the nonreporting respondents were different from those of reporting respondents for those items.

Processing Error

All phases of processing for each census report form were potential sources for the introduction of nonsampling error. An automated check-in recorded that the report had been returned and excluded from further followup mailings. Approximately one-third of the mail returns were reviewed to resolve questions dealing with multiple reports, respondent remarks, or no reported data. The remaining mail returns (about two-thirds) were batched and sent directly to data keying, along with some of the reviewed cases containing farm data. Keyed records were transmitted, formatted, and run through the complex edit and imputation system. About one-fifth of all forms edited were clerically reviewed for inconsistencies, omissions, or questionable values. While reviewing these forms, the edit review staff determined if the action taken by the computer edit and imputation system was correct. Edited records were tabulated to the county level. Each county was reviewed and, when necessary, individual records were corrected prior to publication.

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 operators 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 operator's absence from the farm during the data collection period, and the operator'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 as accurate an application as possible.

COVERAGE EVALUATION

Coverage Overview

The primary objectives of the census of agriculture are to accurately count U.S. farms, measure commodity production and sales, and measure demographic characteristics of farm operators. Since 1945, an evaluation of census coverage has been conducted for each census of agriculture to provide estimates of the completeness of census farm counts. These results help to identify problems and focus improvements for future censuses.

According to coverage evaluation results, the past five censuses of agriculture included an average of 92 percent of U.S. farms and 98 percent of agriculture production. Complete enumeration of agricultural operations satisfying the farm definition of \$1,000 or more in agricultural sales is complicated by the variety of arrangements under which farms are operated, the multiplicity of names used for an operation, the number of operations in which an operator participates, and the difficulty in classifying those operations just around the \$1,000 sales range. In 1997, extensive efforts were made to compile as complete and accurate a mail list as possible, while reducing the duplication and number of nonfarm operations on the list.

The 1997 coverage evaluation program was designed to measure four components of error in the census farm counts. These components include:

1. Undercount due to farms Not on the Mail List (NML)
2. Overcount due to farms Duplicated or enumerated more than once (DUP)
3. Undercount due to farms Incorrectly Classified as nonfarms (ICU)
4. Overcount due to nonfarms Incorrectly Classified as farms (ICO).

The first component, mail list undercount, is by far the largest component of coverage error. Duplication, though occurring far less frequently, can involve larger farms and have a larger impact on acreage and sales estimates. The

last two components involve the misclassification of either farms or nonfarms. Misclassification can arise from errors in either reporting or processing the data.

Table G - Coverage Estimates - illustrates the effect of coverage adjustments on census farm counts by demographic characteristics, land in farms, and total value of sales. The coverage total is defined as the net difference between undercounted and overcounted farms. The adjusted census total is the sum of the census total and the net coverage total. The relative standard error is shown for the final census coverage adjusted number. This number will be similar to the relative standard error for the census number, except when the coverage total is negative or close to zero. The coverage adjustment percentage shows the coverage total as a percentage of total census adjusted farms for that characteristic.

The 1997 Census of Agriculture is the first census to include all four components of coverage error in table G. Previous publications only included the coverage error component due to farms not on the mail list (NML). Because of this, caution should be taken when comparing coverage estimates from table G with previous years. In addition, the coverage total is a negative number for some characteristics. This means that the number of farms overcounted for this characteristic was greater than the number of farms undercounted.

Area Frame Surveys to Measure Mail List Undercoverage

Names and addresses collected in the 1997 June Agricultural Survey and 1997 Fall Area Survey were used to estimate the undercount due to farms not on the census mail list (NML). These names were matched to the census mail list, and those that did not match were contacted by telephone or person. The enumerator verified whether the operation had reported in the census, and if not, a census of agriculture report form was completed.

The percentage of farms missed in the census varies considerably by State. In general, farms not on the mail list tended to be small in acreage, production, and sales of agricultural products. Farm operations could be missed for various reasons, including the possibility that the operation started after the mail list was developed, the operation may be so small as not to appear in any agriculture-related source lists, or the operation may have been falsely classified as a nonfarm prior to mailout.

Classification Error Survey to Measure Three Types of Coverage Error

The remaining three types of coverage error were measured by the Classification Error Survey. This survey was used to estimate the number of farms counted more than once (DUP), the number of farms misclassified as nonfarms (ICU), and the number of nonfarms misclassified as farms (ICO). A sample of census of agriculture respondents was selected for reinterview to determine their farm/nonfarm status and collect information to identify

potential duplication. The farm classification from this interview was compared with the classification on the census of agriculture report form. Any differences between these two classifications were reconciled to determine the true farm status. Each operation was reviewed for duplication by matching the additional information received from the reinterview (landlords, tenants, other names, etc.) to the list of census respondents. Potential duplication was reviewed and discrepancies reconciled.

In general, the classification error rate is higher for small farms close to the \$1,000 agricultural sales requirement. This rate is also higher for farms with small acreage (less than 49 acres), higher for tenant farms than for full- or part-owner farms, and higher for farms where farming is not the operator's principal occupation.

Coverage Estimation

The adjusted census total, T, is estimated as the census farm count, C, plus undercount and minus overcount adjustments. Undercount includes 1) farms not on the mail

list (NML) and 2) farms incorrectly classified as nonfarms (ICU). Overcount includes 3) nonfarms incorrectly classified as farms (ICO) and 4) farms duplicated in the census (DUP). Altogether, the adjusted census total is:

$$T = C + (NML + ICU) - (ICO + DUP).$$

In some States, estimates of misclassification of farms owned by operators having rare demographic characteristics were based on particularly small sample sizes. Where such small sample sizes occurred, a form of small area estimation was used in which data from similar States contributed to that State's estimates. In these cases, the coverage totals are weighted totals of the direct State estimate and the direct estimate from the region. Direct estimates were used to the largest extent possible, based on the amount of survey cases available for the particular item being estimated.

Table A. **Percent of State Totals Contributed by Whole Farm Nonresponse Estimation: 1997**

Item	Percent of total	Item	Percent of total
Farms number..	9.6	Corn for grain or seed acres..	3.0
Land in farms acres..	2.6	Wheat for grain acres..	4.3
Estimated market value of land and buildings ¹ \$1,000..	4.4	Livestock and poultry inventory:	
Market value of agricultural products sold \$1,000..	2.8	Cattle and calves..... number..	3.7
Harvested cropland..... acres..	4.9	Hogs and pigs number..	.6
		Layers 20 weeks old and older..... number..	9.6

¹Data are based on a sample of farms.

Table B. **Reliability Estimates for Number of Farms in a County Reporting a Complete Count Item or Sample Count Item: 1997**

Farms	Relative standard error of estimate (percent)	Farms	Relative standard error of estimate (percent)
COMPLETE COUNT ITEM		SAMPLE COUNT ITEM	
Number of farms reporting:		Number of farms reporting:	
25	5.5	25	44.0
50	3.5	50	30.0
75	2.5	75	23.6
100	1.8	100	19.7
150 .....	.6	150	14.6
200 .....	.5	200	11.3
300 .....	.4	300	6.5
500 .....	.3	500	5.1
750 .....	.3	750	4.1
1,000.....	.2	1,000.....	3.6
1,500.....	(X)	1,500.....	(X)
2,000.....	(X)	2,000.....	(X)

Table C. Reliability Estimates of State Totals for All Farms: 1997

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

Item	Total	Relative standard error of estimate (percent)	Item	Total	Relative standard error of estimate (percent)
FARMS AND LAND IN FARMS			FARM PRODUCTION EXPENSES¹		
Farms number..	9 232	.6	Total farm production expenses farms..	9 229	.6
Land in farms acres..	34 088 692	.2	..... \$1,000..	690 403	.6
Average size of farm acres..	3 692	.6	Average per farm dollars..	74 808	.8
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD			NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)¹		
Total sales (see text) farms..	9 232	.6	All farms number..	9 229	.6
..... \$1,000..	898 527	.2	..... \$1,000..	197 249	2.1
Average per farm dollars..	97 327	.6	Average per farm dollars..	21 373	2.2
Farms by value of sales:			Farms with net gains ² number..	5 115	1.8
Less than \$1,000 (see text) farms..	1 054	1.2	..... \$1,000..	242 124	1.4
..... \$1,000..	161	2.2	Average net gain dollars..	47 336	2.2
\$1,000 to \$2,499 farms..	655	1.4	Farms with net losses number..	4 114	2.2
..... \$1,000..	1 120	1.5	..... \$1,000..	44 875	3.7
\$2,500 to \$4,999 farms..	784	1.3	Average net loss dollars..	10 908	4.3
..... \$1,000..	2 818	1.3	GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME		
\$5,000 to \$9,999 farms..	959	1.1	Government payments farms..	2 329	.7
..... \$1,000..	6 931	1.2	..... \$1,000..	16 898	1.0
\$10,000 to \$19,999 farms..	1 102	1.1	Other farm-related income ¹ farms..	2 667	3.3
..... \$1,000..	15 776	1.1	..... \$1,000..	17 148	5.8
\$20,000 to \$24,999 farms..	368	1.8	Customwork and other agricultural services farms..	635	7.7
..... \$1,000..	8 151	1.8	..... \$1,000..	5 811	8.5
\$25,000 to \$39,999 farms..	830	1.3	Gross cash rent or share payments farms..	1 134	6.1
..... \$1,000..	26 340	1.3	..... \$1,000..	7 049	5.3
\$40,000 to \$49,999 farms..	408	1.7	Forest products, excluding Christmas trees and maple products farms..	95	21.3
..... \$1,000..	18 070	1.7	..... \$1,000..	1 383	23.9
\$50,000 to \$99,999 farms..	1 172	1.0	Other farm-related income sources farms..	1 322	4.8
..... \$1,000..	83 772	1.0	..... \$1,000..	2 906	23.8
\$100,000 to \$249,999 farms..	1 180	.7	COMMODITY CREDIT CORPORATION LOANS		
..... \$1,000..	184 495	.6	Total farms..	121	2.1
\$250,000 to \$499,999 farms..	454	—	..... \$1,000..	1 293	2.9
..... \$1,000..	155 622	—			
\$500,000 or more farms..	266	—			
..... \$1,000..	395 272	—			
Sales by commodity or commodity group:					
Crops, including nursery and greenhouse crops..... farms..	3 491	.7			
..... \$1,000..	173 216	.4			
Grains farms..	1 576	.8			
..... \$1,000..	67 326	.5			
Corn for grain farms..	368	1.2			
..... \$1,000..	13 421	1.0			
Wheat farms..	645	1.0			
..... \$1,000..	20 131	.8			
Soybeans farms..	—	—			
..... \$1,000..	—	—			
Sorghum for grain farms..	9	5.1			
..... \$1,000..	133	1.7			
Barley farms..	589	1.1			
..... \$1,000..	20 364	.6			
Oats farms..	244	1.8			
..... \$1,000..	1 541	2.1			
Other grains farms..	340	1.3			
..... \$1,000..	11 737	.9			
Cotton and cottonseed farms..	—	—			
..... \$1,000..	—	—			
Tobacco farms..	—	—			
..... \$1,000..	—	—			
Hay, silage, and field seeds farms..	2 551	.8			
..... \$1,000..	53 345	.7			
Vegetables, sweet corn, and melons farms..	23	5.8			
..... \$1,000..	158	4.2			
Fruits, nuts, and berries farms..	8	11.7			
..... \$1,000..	20	24.7			
Nursery and greenhouse crops farms..	64	3.7			
..... \$1,000..	4 132	3.5			
Other crops farms..	370	1.1			
..... \$1,000..	48 235	.4			
Livestock, poultry, and their products farms..	7 238	.6			
..... \$1,000..	725 311	.2			
Poultry and poultry products farms..	169	2.4			
..... \$1,000..	237	8.8			
Dairy products farms..	71	3.2			
..... \$1,000..	9 881	1.9			
Cattle and calves farms..	6 295	.6			
..... \$1,000..	607 085	.2			
Hogs and pigs farms..	246	1.9			
..... \$1,000..	24 095	.1			
Sheep, lambs, and wool farms..	1 161	.9			
..... \$1,000..	70 781	.2			
Other livestock and livestock products (see text) farms..	1 239	1.0			
..... \$1,000..	13 232	1.3			
Value of agricultural products sold directly to individuals for human consumption (see text) farms..	376	1.6			
..... \$1,000..	849	2.8			

See footnotes at end of table.

Table C. Reliability Estimates of State Totals for All Farms: 1997—Con.

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

Item	Total	Relative standard error of estimate (percent)	Item	Total	Relative standard error of estimate (percent)
LAND IN FARMS ACCORDING TO USE			TENURE OF OPERATOR		
Total cropland farms..	7 122	.6	All operators farms..	9 232	.6
Harvested cropland farms..	2 967 899	.5	Full owners farms..	34 088 692	.2
Farms by acres harvested:	6 124	.6	Part owners farms..	7 554 279	.4
1 to 9 acres farms..	1 743 631	.4	Tenants farms..	22 896 175	.2
10 to 19 acres farms..	324	1.9	Land owned farms..	1 114	1.0
20 to 29 acres farms..	1 559	2.1	Owned land in farms farms..	3 638 238	.6
30 to 49 acres farms..	372	1.8	Land rented or leased from others farms..	4 559	.6
50 to 99 acres farms..	4 963	1.8	Rented or leased land in farms landlords..	13 496 862	.3
100 to 199 acres farms..	287	2.0	Land rented or leased to others farms..	9 405	.8
200 to 499 acres farms..	6 531	2.0		4 500	.6
500 to 999 acres farms..	582	1.4		13 173 334	.3
1,000 acres or more farms..	21 664	1.4		1 105	1.0
	929	1.1		1 263 039	1.2
Cropland:	64 674	1.2			
Pasture or grazing only farms..	1 111	1.1			
Other cropland farms..	151 536	1.1			
	1 494	.9			
	456 684	.9			
	678	.8			
	450 944	.8			
	347	—			
	585 076	—			
Total woodland farms..	792	1.1			
Pastureland and rangeland other than cropland and woodland pastured farms..	747 093	.8			
Land in house lots, ponds, roads, wasteland, etc. farms..	5 968	.6			
Irrigated land farms..	30 051 421	.2			
	4 708	.6			
	322 279	1.2			
	5 306	.6			
	1 719 463	.5			
Acres irrigated:					
1 to 9 acres farms..	348	1.8			
10 to 49 acres farms..	1 684	2.1			
50 to 99 acres farms..	1 167	1.1			
100 to 199 acres farms..	30 602	1.1			
200 to 499 acres farms..	817	1.2			
500 to 999 acres farms..	57 287	1.2			
1,000 acres or more farms..	943	1.1			
	129 416	1.2			
	1 141	1.0			
	357 028	1.0			
	535	.9			
	363 012	.8			
	355	.7			
	780 434	.7			
Harvested cropland irrigated farms..	4 603	.6			
Pasture and other land irrigated farms..	1 160 166	.4			
	2 522	.8			
	559 297	1.0			
Land under Conservation Reserve or Wetlands Reserve Programs farms..	550	1.2			
	229 607	1.6			
VALUE OF LAND AND BUILDINGS¹			OPERATOR CHARACTERISTICS		
Estimated market value of land and buildings farms..	9 229	.6	Operators by place of residence:		
Average per farm \$1,000..	7 460 223	1.6	On farm operated	6 886	.6
Average per acre dollars..	808 346	1.7	Not on farm operated	1 703	.9
	222	1.8	Not reported	643	1.0
VALUE OF MACHINERY AND EQUIPMENT¹			Operators by principal occupation:		
Estimated market value of all machinery and equipment farms..	9 229	.6	Farming	5 583	.6
Average per farm \$1,000..	564 454	1.5	Other	3 649	.8
	61 161	1.6	Operators by days worked off farm:		
AGRICULTURAL CHEMICALS¹			Any	4 722	.7
Commercial fertilizer farms..	3 340	2.5	200 days or more	2 771	.8
acres on which used..	781 543	2.1	Operators by sex:		
			Male farms..	8 331	.6
			Female farms..	31 633 410	.2
				901	1.2
				2 455 282	.8
			Average age of operator years..	54.4	.8
			FARMS BY TYPE OF ORGANIZATION		
			Individual or family (sole proprietorship) farms..	7 157	.6
			Partnership farms..	13 993 845	.4
			Corporation: farms..	963	1.0
			Family held farms..	6 006 798	.4
			More than 10 stockholders farms..	871	.9
			10 or less stockholders farms..	9 702 451	.2
			Other than family held farms..	33	2.0
			More than 10 stockholders farms..	838	1.0
			10 or less stockholders farms..	58	3.0
			Other—cooperative, estate or trust, institutional, etc. farms..	702 245	.3
				9	3.1
				49	3.5
				183	2.1
				3 683 353	.2
			HIRED FARM LABOR¹		
			Hired workers by days worked:		
			150 days or more farms..	1 920	3.2
			Less than 150 days workers..	4 416	2.2
				2 945	2.8
				8 506	3.2
			INJURIES AND DEATHS		
			Farm-related injuries:		
			Operator and family members farms..	182	1.9
			Hired workers number..	207	1.9
				128	1.5
				177	1.6
			Farm-related deaths:		
			Operator and family members farms..	1	—
			Hired workers number..	(D)	(D)
				1	—
				(D)	(D)

See footnotes at end of table.

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

²Farms with total production expenses equal to market value of agricultural products sold are included as farms with gains.

Table D. Reliability Estimates of State Totals for Farms With Sales of \$10,000 or More: 1997

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

Item	Total	Relative standard error of estimate (percent)	Item	Total	Relative standard error of estimate (percent)
FARMS AND LAND IN FARMS			FARM PRODUCTION EXPENSES¹		
Farms number..	5 780	.6	Total farm production expenses farms..	5 772	.6
Land in farms acres..	30 915 321	.2	..... \$1,000..	668 448	.6
Average size of farm acres..	5 349	.6	Average per farm dollars..	115 809	.9
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD			Livestock and poultry purchased farms..	3 322	2.2
Total sales (see text) farms..	5 780	.6	..... \$1,000..	177 828	1.1
Average per farm \$1,000..	887 498	.2	Feed for livestock and poultry farms..	4 396	1.6
..... dollars..	153 546	.6	..... \$1,000..	107 933	1.0
Farms by value of sales:			Commercially mixed formula feeds farms..	2 266	3.0
\$10,000 to \$19,999 farms..	1 102	1.0	..... \$1,000..	22 225	2.0
..... \$1,000..	15 776	1.0	Seeds, bulbs, plants, and trees farms..	2 251	2.9
\$20,000 to \$24,999 farms..	368	1.7	..... \$1,000..	9 353	2.5
..... \$1,000..	8 151	1.7	Commercial fertilizer farms..	2 621	2.5
\$25,000 to \$39,999 farms..	830	1.2	..... \$1,000..	24 024	2.2
..... \$1,000..	26 340	1.2	Agricultural chemicals farms..	2 804	2.4
\$40,000 to \$49,999 farms..	408	1.6	..... \$1,000..	11 381	3.2
..... \$1,000..	18 070	1.6	Petroleum products farms..	5 680	.7
\$50,000 to \$99,999 farms..	1 172	1.0	..... \$1,000..	36 125	1.2
..... \$1,000..	83 772	1.0	Electricity farms..	4 804	1.3
\$100,000 to \$249,999 farms..	1 180	.7	..... \$1,000..	10 603	2.1
..... \$1,000..	184 495	.6	Hired farm labor farms..	2 897	2.4
\$250,000 to \$499,999 farms..	454	—	..... \$1,000..	57 671	1.2
..... \$1,000..	155 622	—	Contract labor farms..	1 562	3.7
\$500,000 or more farms..	266	—	..... \$1,000..	7 532	2.6
..... \$1,000..	395 272	—	Repair and maintenance farms..	5 366	1.0
Sales by commodity or commodity group:			..... \$1,000..	41 926	1.8
Crops, including nursery and greenhouse crops farms..	2 610	.7	Customwork, machine hire, and rental of machinery and equipment farms..	2 009	3.2
..... \$1,000..	170 312	.4	..... \$1,000..	10 812	4.7
Grains farms..	1 445	.8	Interest farms..	3 727	1.9
..... \$1,000..	66 880	.5	..... \$1,000..	55 696	1.8
Corn for grain farms..	358	1.2	Secured by real estate farms..	2 438	2.9
..... \$1,000..	13 390	1.0	..... \$1,000..	33 309	2.3
Wheat farms..	597	1.0	Not secured by real estate farms..	2 554	2.8
..... \$1,000..	19 920	.8	..... \$1,000..	22 387	2.4
Soybeans farms..	—	—	Cash rent farms..	2 146	3.2
..... \$1,000..	—	—	..... \$1,000..	26 876	3.2
Sorghum for grain farms..	9	5.1	Property taxes farms..	5 356	1.0
..... \$1,000..	133	1.7	..... \$1,000..	16 231	1.9
Barley farms..	535	1.1	All other farm production expenses farms..	5 767	.6
..... \$1,000..	20 228	.6	..... \$1,000..	74 457	1.1
Oats farms..	221	1.8	NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)¹		
..... \$1,000..	1 486	2.1	All farms number..	5 772	.6
Other grains farms..	334	1.3	..... \$1,000..	208 184	2.0
..... \$1,000..	11 722	.9	Average per farm dollars..	36 068	2.0
Cotton and cottonseed farms..	—	—	Farms with net gains ² number..	4 175	1.7
..... \$1,000..	—	—	..... \$1,000..	240 153	1.4
Tobacco farms..	—	—	Average net gain dollars..	57 522	2.2
..... \$1,000..	—	—	Farms with net losses number..	1 597	4.1
Hay, silage, and field seeds farms..	1 796	.8	..... \$1,000..	31 969	4.7
..... \$1,000..	51 019	.7	Average net loss dollars..	20 018	6.3
Vegetables, sweet corn, and melons farms..	14	6.3	GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME		
..... (D)	(D)	14.1	Government payments farms..	1 919	.7
Fruits, nuts, and berries farms..	4	(D)	..... \$1,000..	13 653	1.0
..... \$1,000..	(D)	(D)	..... farms..	1 957	3.5
Nursery and greenhouse crops farms..	45	4.1	..... \$1,000..	13 454	5.6
..... \$1,000..	4 047	3.6	Customwork and other agricultural services farms..	5 539	8.1
Other crops farms..	358	1.1	..... \$1,000..	5 557	8.8
..... \$1,000..	48 203	.4	Gross cash rent or share payments farms..	699	7.4
Livestock, poultry, and their products farms..	5 145	.6	..... \$1,000..	4 755	7.0
..... \$1,000..	717 185	.2	Forest products, excluding Christmas trees and maple products farms..	90	22.4
Poultry and poultry products farms..	73	3.3	..... \$1,000..	1 286	25.0
..... (D)	(D)	(D)	Other farm-related income sources farms..	1 096	4.9
Dairy products farms..	69	3.2	..... \$1,000..	1 856	13.3
..... \$1,000..	(D)	(D)	COMMODITY CREDIT CORPORATION LOANS		
Cattle and calves farms..	4 868	.6	Total farms..	120	2.1
..... \$1,000..	601 353	.2	..... \$1,000..	(D)	(D)
Hogs and pigs farms..	115	2.4			
..... \$1,000..	23 885	.1			
Sheep, lambs, and wool farms..	788	1.0			
..... \$1,000..	69 955	.2			
Other livestock and livestock products (see text) farms..	731	1.0			
..... \$1,000..	11 925	1.4			
Value of agricultural products sold directly to individuals for human consumption (see text) farms..	200	2.0			
..... \$1,000..	649	3.7			

See footnotes at end of table.

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

See footnotes at end of table.

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

²Farms with total production expenses equal to market value of agricultural products sold are included as farms with gains.

Table E. Reliability Estimates of Percent Change in State Totals: 1992 to 1997

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

Item	All farms		Farms with sales of \$10,000 or more	
	Percent change from 1992 to 1997	Standard error of estimate	Percent change from 1992 to 1997	Standard error of estimate
Farms	5.9	.9	4.8	.8
Land in farms	3.7	.2	4.2	.2
Average size of farm	-2.1	.8	-5	.8
Estimated market value of land and buildings ¹ :				
Average per farm	34.4	2.8	38.8	3.1
Average per acre	39.6	2.9	40.1	3.1
Estimated market value of all machinery and equipment ¹ :				
Average per farm	13.6	2.4	9.3	2.4
Farms by size:				
1 to 9 acres	-9.8	2.2	-20.7	3.2
10 to 49 acres	16.4	2.2	42.9	5.8
50 to 179 acres	15.6	1.6	13.5	2.4
180 to 499 acres	-4.8	1.3	-4.5	1.5
500 to 999 acres	-9	1.5	-1.5	1.5
1,000 to 1,999 acres	9.7	1.6	8.5	1.6
2,000 acres or more	7.4	.6	7.5	.6
Total cropland	5.4	.9	5.0	.8
Harvested cropland	4.4	.6	5.0	.6
Irrigated land	6.8	.9	7.2	.8
Market value of agricultural products sold	13.8	.5	13.8	.5
Average per farm	4.5	.9	2.7	.9
Crops, including nursery and greenhouse crops	17.4	.7	17.1	.7
Livestock, poultry, and their products	9.0	.3	9.1	.3
Farms by value of sales:	2.9	.9	4.1	.8
Less than \$2,500	12.6	.6	12.7	.6
\$2,500 to \$4,999	8.2	.3	8.3	.3
\$5,000 to \$9,999	11.6	1.7	(X)	(X)
\$10,000 to \$24,999	8.6	2.2	(X)	(X)
\$25,000 to \$49,999	1.4	1.8	(X)	(X)
\$50,000 to \$99,999	6.1	1.5	6.1	1.5
\$100,000 to \$249,999	13.4	1.6	13.4	1.6
\$250,000 to \$499,999	-1.1	1.3	-1.1	1.2
\$500,000 or more	-1.9	.7	-1.9	.7
Total farm production expenses ¹	4.1	-	4.1	-
Average per farm	23.1	-	23.1	-
Net cash return from agricultural sales for the farm unit (see text) ¹	2.2	.8	1.9	.8
Operators by principal occupation:	-3.4	1.1	-2.0	1.2
Farming	5.9	.9	4.0	.9
Other	40.0	3.8	39.2	3.5
Operators by days worked off farm:	32.2	3.8	33.9	3.6
Any	-5	.8	-9	.7
200 days or more	17.6	1.5	28.7	1.9
Livestock and poultry:				
Cattle and calves inventory	9.1	.9	8.2	.8
Beef cows	18.7	.4	18.2	.4
Milk cows	8.1	.9	7.7	.8
Cattle and calves sold	15.5	.5	15.0	.5
Hogs and pigs inventory	-35.6	1.2	-35.8	1.3
Hogs and pigs sold	-17.7	1.6	-17.4	1.7
Sheep and lambs inventory	7.3	.9	7.6	.8
Layers and pullets 13 weeks old and older inventory (see text)	11.4	.4	11.4	.3
Broilers and other meat-type chickens sold	-21.9	1.9	-30.9	2.0
Selected crops harvested:	132.9	2.5	124.3	2.2
Corn for silage or green chop	-28.1	1.8	-41.3	1.8
Wheat for grain	277.6	3.2	292.1	3.3
Barley for grain	-23.9	.9	-22.9	1.0
Dry edible beans, excluding dry limas	-22.6	.3	-21.7	.2
Sugar beets for sugar	-13.2	1.8	-21.9	1.8
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-48.0	4.7	-69.7	3.2
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	112.5	31.9	500.0	77.2
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	139.3	49.5	(D)	(D)
Wheat for grain	-16.4	1.2	-16.8	1.2
Barley for grain	-1.1	.7	-1.6	.7
Dry edible beans, excluding dry limas	14.8	.8	14.5	.7
Sugar beets for sugar	-2.1	1.2	5.2	1.3
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	4.6	1.0	6.8	1.0
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	23.9	1.1	26.0	1.1
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-15.9	1.1	-16.6	1.0
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-10.6	.7	-10.6	.7
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-11.3	.7	-11.4	.7
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-8.4	1.6	-7.1	1.6
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-1.3	1.3	-1.2	1.3
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	21.9	1.5	21.8	1.5
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-28.4	1.0	-29.3	1.0
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-12.2	.5	-12.4	.5
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-11.4	.5	-11.6	.5
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	11.3	.9	11.3	.9
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	21.8	.6	21.8	.6
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	30.7	.7	30.5	.7

¹Data are based on a sample of farms.

Table F. Reliability Estimates for the State and County Totals: 1997

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

Geographic area	Farms		Land in farms		Average size of farm		Average market value of land and buildings per farm ¹		Estimated market value of all machinery and equipment ¹	
	Total (number)	Relative standard error of estimate (percent)	Total (acres)	Relative standard error of estimate (percent)	Total (acres)	Relative standard error of estimate (percent)	Value (dollars)	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Wyoming	9 232	.6	34 088 692	.2	3 692	.6	808 346	1.7	564 454	1.5
Albany	315	.5	1 922 304	.4	6 103	.6	1 433 289	15.9	18 437	3.9
Big Horn	495	.7	443 434	1.3	896	1.5	641 925	12.1	35 577	4.7
Campbell	531	.6	2 943 628	.5	5 544	.8	634 484	2.8	28 523	5.3
Carbon	310	.6	2 281 657	.4	7 360	.7	1 382 992	5.9	22 612	4.2
Converse	348	.6	2 515 290	.5	7 228	.8	835 703	5.0	24 623	6.2
Crook	498	.5	1 689 572	.8	3 393	.9	745 848	5.5	34 908	8.2
Fremont	983	.9	2 618 866	.4	2 664	.9	552 466	4.9	46 621	4.2
Goshen	688	.6	1 266 017	1.0	1 840	1.2	628 527	7.4	45 061	4.4
Hot Springs	147	.6	944 205	.5	6 423	.8	909 674	3.0	7 553	4.6
Johnson	315	.6	2 131 595	.5	6 767	.8	1 250 408	5.7	22 000	5.0
Laramie	615	.5	1 728 388	.5	2 810	.7	659 349	3.4	43 082	7.3
Lincoln	504	.7	408 421	1.7	810	1.8	455 288	7.4	27 369	7.3
Natrona	311	.7	2 806 707	.3	9 025	.8	1 805 973	3.3	16 744	10.7
Niobrara	278	.5	1 608 318	.7	5 785	.8	681 049	5.7	16 378	10.0
Park	588	.4	1 011 425	.6	1 720	.7	631 583	4.9	37 199	4.2
Platte	461	.4	1 284 836	.7	2 787	.8	644 756	8.6	37 993	8.7
Sheridan	568	.6	1 608 206	.7	2 831	.9	1 018 597	6.7	27 494	7.5
Sublette	275	.5	591 779	1.0	2 152	1.2	1 373 773	4.8	19 080	6.1
Sweetwater	160	.9	1 420 993	.4	8 881	1.0	773 453	4.7	6 245	4.8
Teton	104	.8	52 370	2.6	504	2.7	444 314	12.0	4 402	8.8
Uinta	300	.6	940 013	.6	3 133	.9	751 742	7.0	15 046	7.5
Washakie	205	.4	450 036	1.3	2 195	1.3	886 848	4.7	17 326	3.2
Weston	233	.6	1 420 632	.6	6 097	.9	741 082	4.0	10 182	6.9
Geographic area	Average market value of all machinery and equipment per farm ¹		Market value of agricultural products sold		Average market value of agricultural products sold per farm		Farm production expenses ¹			
	Value (dollars)	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Value (dollars)	Relative standard error of estimate (percent)	Total farm production expenses			
							Farms		Value	
							Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Wyoming	61 161	1.6	898 527	.2	97 327	.6	9 229	.6	690 403	.6
Albany	58 530	4.0	34 209	.4	108 598	.6	315	.9	25 541	2.4
Big Horn	72 018	4.7	43 416	.7	87 710	1.0	494	.9	31 663	4.2
Campbell	53 817	5.3	34 924	.6	65 770	.8	530	.8	28 699	3.7
Carbon	72 706	4.3	43 444	.4	140 141	.7	311	.9	32 195	2.2
Converse	70 552	6.3	26 785	.8	76 968	1.0	349	.9	20 494	2.6
Crook	69 957	8.2	31 546	.7	63 345	.9	499	.8	26 505	4.0
Fremont	47 476	4.3	61 497	.7	62 560	1.1	982	1.0	46 220	2.9
Goshen	65 400	4.5	130 856	.3	190 197	.7	689	.7	103 033	1.1
Hot Springs	51 732	4.9	9 560	1.3	65 035	1.5	146	1.6	7 648	4.1
Johnson	69 842	5.0	27 819	.6	88 314	.8	315	.8	21 822	3.4
Laramie	70 166	7.3	95 959	.2	156 031	.5	614	.7	72 800	1.5
Lincoln	54 303	7.4	22 969	1.2	45 574	1.4	504	.9	16 798	6.2
Natrona	53 841	10.8	26 788	.5	86 135	.8	311	1.1	20 563	2.8
Niobrara	58 912	10.0	27 766	.7	99 876	.9	278	.9	20 493	5.3
Park	63 372	4.3	65 553	.3	111 485	.5	587	.6	49 193	1.4
Platte	82 413	8.7	68 242	.3	148 031	.5	461	.7	58 086	1.3
Sheridan	48 404	7.5	38 387	.7	67 582	.9	568	.7	30 650	3.5
Sublette	69 383	6.2	27 208	.7	98 937	.9	275	1.0	19 067	3.0
Sweetwater	39 032	5.1	6 963	1.9	43 517	2.1	160	1.6	5 700	3.4
Teton	42 737	9.1	4 654	2.4	44 749	2.5	103	2.1	3 652	6.4
Uinta	50 155	7.6	22 325	.8	74 417	1.0	300	1.1	14 752	3.5
Washakie	84 516	3.4	28 741	.5	140 201	.7	205	1.0	20 754	1.5
Weston	43 701	7.0	18 918	.7	81 191	.9	233	1.2	14 073	3.6
Geographic area	Farm production expenses ¹ —Con.									
	Livestock and poultry purchased				Feed for livestock and poultry				Seeds, bulbs, plants, and trees	
	Farms		Value		Farms		Value		Farms	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Wyoming	4 279	2.2	180 847	1.1	6 125	1.6	110 332	1.0	2 665	2.9
Albany	161	9.7	8 265	3.0	258	4.3	3 444	12.4	19	31.8
Big Horn	210	14.5	2 933	13.2	288	9.8	2 739	8.6	200	8.3
Campbell	329	6.8	5 263	9.7	394	5.4	5 737	4.2	105	13.9
Carbon	135	9.4	5 755	8.1	199	6.8	5 209	3.2	37	23.1
Converse	195	9.5	3 486	10.5	265	6.4	3 160	5.3	92	16.9
Crook	224	9.7	4 730	13.9	409	4.2	3 926	9.2	154	13.5
Fremont	433	7.8	8 998	5.2	653	5.4	5 694	6.2	312	10.9
Goshen	347	7.7	47 961	1.6	414	5.9	19 216	1.3	396	6.1
Hot Springs	71	8.6	1 378	8.0	91	7.0	1 185	3.9	40	13.5

See footnotes at end of table.

Table F. Reliability Estimates for the State and County Totals: 1997—Con.

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

Geographic area	Farm production expenses ¹ —Con.											
	Livestock and poultry purchased				Feed for livestock and poultry				Seeds, bulbs, plants, and trees			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Johnson	168	8.5	3 563	8.7	262	5.2	3 536	3.5	47	21.8	89	10.3
Laramie	211	11.4	20 823	2.5	312	8.0	18 793	1.2	192	10.7	1 033	9.2
Lincoln	187	11.3	2 774	22.4	268	9.3	2 047	8.3	189	11.3	190	14.7
Natrona	134	9.0	3 579	2.2	214	6.4	2 751	3.3	63	17.4	172	7.7
Niobrara	180	8.0	6 549	6.6	211	6.6	3 011	6.0	70	21.0	141	17.6
Park	223	10.9	10 488	4.9	354	6.4	4 241	4.7	237	7.6	1 555	3.6
Platte	203	10.6	24 217	.9	298	6.9	10 891	3.8	141	10.6	670	8.0
Sheridan	249	9.9	3 316	10.2	370	6.8	4 824	5.1	134	17.1	278	6.7
Sublette	153	8.4	3 639	4.5	204	4.6	2 280	2.7	23	21.3	65	22.6
Sweetwater	51	11.0	961	12.9	94	7.2	713	6.9	37	11.7	37	12.7
Teton	36	16.2	325	8.7	57	10.4	487	4.9	19	24.4	33	11.8
Uinta	146	11.4	3 519	2.5	222	6.1	1 741	7.9	32	26.6	32	21.6
Washakie	96	12.3	3 523	1.3	126	9.5	2 401	5.5	89	11.9	659	3.0
Weston	137	8.9	4 801	5.2	162	8.0	2 307	5.1	37	24.5	39	21.9

Geographic area	Farm production expenses ¹ —Con.											
	Commercial fertilizer				Agricultural chemicals				Petroleum products			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Wyoming	3 337	2.5	24 614	2.2	3 501	2.4	11 648	3.1	8 495	.9	38 405	1.2
Albany	113	10.8	699	8.4	78	14.3	443	44.3	269	4.1	1 397	10.7
Big Horn	319	8.0	3 148	8.9	282	8.0	1 771	4.9	473	2.8	2 688	4.1
Campbell	68	19.1	181	3.8	140	12.5	281	16.2	506	2.1	2 064	3.9
Carbon	148	10.1	1 517	4.6	81	16.1	84	7.6	293	1.5	1 773	2.8
Converse	105	15.2	255	10.0	89	13.9	181	2.3	334	2.8	1 375	4.5
Crook	71	21.7	212	14.1	237	9.4	330	13.9	471	2.5	2 076	5.1
Fremont	503	7.5	2 144	6.9	392	8.4	586	6.8	929	1.8	3 056	3.6
Goshen	323	6.7	3 329	7.1	372	6.4	1 707	6.6	639	2.2	3 403	4.0
Hot Springs	49	12.0	174	9.6	62	10.3	78	11.3	131	3.7	495	3.1
Johnson	51	16.6	235	6.4	143	9.1	145	6.9	280	4.0	1 555	6.1
Laramie	181	9.2	1 868	6.6	224	8.9	1 300	13.6	558	3.1	3 112	5.0
Lincoln	128	14.3	416	20.4	212	11.3	209	10.8	447	3.7	1 377	7.6
Natrona	81	16.2	378	16.8	55	16.5	41	2.8	278	3.9	1 480	5.7
Niobrara	22	37.4	73	13.3	87	17.7	72	11.8	269	2.6	1 134	6.3
Park	358	6.2	4 774	3.2	324	7.5	1 833	5.7	512	3.5	2 678	3.0
Platte	177	10.6	1 217	8.5	164	11.6	600	13.9	416	3.6	2 010	4.9
Sheridan	163	14.2	592	7.6	229	11.5	490	5.3	519	3.4	1 953	4.9
Sublette	89	11.1	399	11.0	40	17.2	72	31.3	258	3.1	1 208	5.3
Sweetwater	75	8.6	182	10.2	45	13.2	43	22.5	150	2.9	455	6.4
Teton	30	15.1	188	11.4	27	15.0	74	5.4	87	6.5	213	7.9
Uinta	160	9.2	948	23.0	49	16.6	312	41.3	276	3.5	906	4.8
Washakie	108	11.8	1 619	1.1	115	9.7	874	.4	193	3.8	1 225	2.6
Weston	15	—	66	—	54	18.7	122	18.2	207	4.1	773	5.1

Geographic area	Farm production expenses ¹ —Con.											
	Electricity				Hired farm labor				Contract labor			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Wyoming	6 686	1.4	11 374	2.0	3 487	2.4	58 236	1.2	1 837	3.6	7 762	2.6
Albany	229	5.6	480	14.9	111	11.0	1 667	3.0	81	14.5	240	19.1
Big Horn	347	7.7	555	11.0	208	10.9	3 438	4.4	90	19.2	633	8.0
Campbell	396	5.8	487	4.2	195	10.9	1 584	7.9	82	14.0	361	7.0
Carbon	229	6.0	401	3.9	147	9.4	4 389	3.9	96	13.1	450	5.3
Converse	264	6.1	414	12.1	128	9.9	1 941	6.4	111	13.0	323	4.3
Crook	387	6.0	423	9.8	213	10.3	2 187	12.3	113	17.9	303	15.5
Fremont	711	4.0	1 026	8.6	368	8.8	3 903	6.5	151	14.5	511	8.3
Goshen	556	3.9	1 314	5.5	274	7.0	4 557	4.6	139	14.9	401	11.3
Hot Springs	107	6.2	150	3.9	46	11.1	1 121	6.9	24	14.2	95	17.0
Johnson	228	6.3	316	4.0	103	12.4	2 240	1.9	97	14.8	525	18.6
Laramie	453	5.9	1 446	8.3	192	9.8	5 305	3.6	111	14.3	828	6.2
Lincoln	323	6.5	385	11.1	190	12.1	1 832	11.2	62	26.6	244	20.1
Natrona	229	5.5	357	8.1	120	10.6	2 869	3.3	77	13.5	302	15.7
Niobrara	208	7.6	392	16.8	116	13.1	1 244	10.8	94	16.0	222	24.6
Park	417	5.7	561	2.8	251	8.1	5 283	2.5	143	12.3	1 036	5.3
Platte	387	4.8	953	3.9	169	11.1	2 948	3.2	56	20.0	201	9.4
Sheridan	366	7.4	617	5.9	187	13.4	3 883	5.5	93	16.2	199	10.8
Sublette	161	7.0	209	9.0	111	9.9	2 849	4.2	42	18.4	213	23.2
Sweetwater	97	7.2	121	8.8	47	12.9	317	8.2	14	21.2	36	11.3

See footnotes at end of table.

Table F. Reliability Estimates for the State and County Totals: 1997—Con.

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

Geographic area	Farm production expenses ¹ —Con.											
	Electricity				Hired farm labor				Contract labor			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Teton	46	10.9	78	6.2	39	13.0	653	12.8	12	11.5	12	7.6
Uinta	196	6.4	218	13.9	116	12.5	954	9.3	53	18.2	228	11.5
Washakie	176	5.4	292	7.3	87	11.3	2 414	5.7	50	12.3	288	3.7
Weston	173	6.0	178	5.3	69	14.2	657	7.7	46	18.9	114	13.3
Farm production expenses ¹ —Con.												
Geographic area	Repair and maintenance				Customwork, machine hire, and rental of machinery and equipment				Interest			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Wyoming	7 665	1.1	44 930	1.7	2 541	3.2	11 172	4.6	4 638	2.0	58 139	1.8
Albany	267	4.4	1 587	5.5	48	19.8	314	7.1	123	11.4	2 298	6.9
Big Horn	405	5.3	3 487	13.4	219	12.5	852	22.7	230	11.2	1 951	13.2
Campbell	445	4.2	2 086	4.7	114	16.4	304	21.5	261	7.7	3 430	6.3
Carbon	272	4.0	2 279	10.6	69	15.1	472	10.0	158	9.3	2 746	2.0
Converse	328	3.1	1 636	3.5	55	22.3	294	39.9	238	7.4	2 566	10.1
Crook	453	2.7	2 296	6.2	112	16.1	425	15.7	315	7.8	3 551	7.8
Fremont	792	3.6	3 192	6.6	378	9.5	1 743	11.0	409	7.7	4 543	8.3
Goshen	607	2.9	3 615	3.6	297	8.2	1 668	16.7	440	4.9	4 980	6.3
Hot Springs	112	5.6	593	5.8	56	12.0	159	10.7	63	8.8	683	9.6
Johnson	260	4.1	1 488	4.9	85	14.2	217	10.5	185	7.5	2 510	5.9
Laramie	473	4.9	3 395	3.6	185	9.3	1 575	13.1	337	6.9	4 643	6.9
Lincoln	410	4.7	1 658	9.8	130	18.2	267	19.9	175	12.8	1 760	13.7
Natrona	273	4.5	1 549	4.6	45	18.2	191	3.8	162	8.8	2 581	7.0
Niobrara	238	5.6	1 172	11.1	67	20.3	228	26.5	169	10.2	2 332	14.3
Park	455	4.2	3 536	5.1	206	10.8	631	6.5	271	9.0	3 222	4.6
Platte	371	3.8	3 031	5.9	95	15.5	293	11.0	284	6.7	3 932	4.5
Sheridan	460	4.7	2 564	6.5	122	18.3	515	33.1	233	10.1	2 936	9.6
Sublette	240	4.0	1 431	4.6	60	17.2	234	2.8	128	10.4	1 963	8.1
Sweetwater	127	4.9	432	7.0	36	14.9	181	5.5	70	8.8	712	5.6
Teton	76	7.5	418	6.0	18	19.4	122	16.5	32	17.6	283	26.9
Uinta	249	4.8	1 139	10.0	44	20.2	183	6.6	129	10.6	1 862	10.6
Washakie	160	5.4	1 420	2.8	69	13.3	247	4.8	112	11.8	1 183	3.2
Weston	192	5.6	927	7.2	31	18.0	57	11.1	114	11.0	1 473	7.1
Farm production expenses ¹ —Con.												
Geographic area	Cash rent				Property taxes paid				All other farm production expenses			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Wyoming	2 555	3.2	27 468	3.1	8 553	.9	18 907	1.7	8 599	.8	77 014	1.1
Albany	75	14.0	885	4.1	302	2.3	708	5.3	295	2.4	3 069	4.2
Big Horn	128	18.0	1 073	6.9	455	3.7	1 061	7.7	483	2.0	4 211	3.6
Campbell	197	9.5	1 754	6.9	441	4.5	656	8.4	495	2.7	4 371	4.0
Carbon	100	14.1	1 478	9.2	285	2.9	790	2.2	298	2.2	4 795	2.9
Converse	111	13.2	1 277	5.2	323	2.8	719	7.4	341	2.3	2 717	3.7
Crook	161	14.2	1 461	13.2	456	3.4	987	10.5	475	1.4	3 347	6.1
Fremont	233	13.4	1 680	13.9	894	2.7	1 975	6.9	942	1.7	6 452	4.8
Goshen	199	10.4	2 156	16.5	648	2.2	1 562	10.3	655	2.0	5 152	4.7
Hot Springs	25	13.3	284	5.5	138	2.8	264	4.6	127	4.5	927	3.8
Johnson	115	12.5	1 307	19.3	296	2.7	956	5.9	293	3.2	3 139	3.7
Laramie	149	12.6	1 490	14.1	570	2.7	1 337	4.8	533	3.6	5 854	4.4
Lincoln	135	16.0	903	30.4	469	3.0	501	8.0	443	3.7	2 236	9.4
Natrona	94	9.6	676	8.7	283	3.2	696	4.5	300	2.2	2 942	3.9
Niobrara	80	19.3	1 032	38.4	238	5.4	454	5.6	270	1.8	2 437	9.6
Park	192	11.7	2 620	5.6	549	2.4	1 295	6.0	557	2.6	5 440	3.0
Platte	123	13.5	1 610	13.6	443	1.8	1 155	4.0	396	3.8	4 359	4.0
Sheridan	111	18.2	1 817	5.1	557	1.4	1 153	7.7	512	3.7	5 512	4.3
Sublette	85	13.4	944	22.8	267	2.1	738	6.1	269	1.9	2 821	5.3
Sweetwater	21	17.2	231	1.8	146	3.3	219	3.1	154	2.4	1 059	3.4
Teton	24	25.4	55	26.5	96	4.1	225	10.9	87	7.2	487	6.7
Uinta	71	15.5	791	8.8	289	2.6	577	10.7	271	3.9	1 342	5.0
Washakie	47	15.2	1 515	.7	190	2.9	524	2.4	191	4.8	2 570	4.8
Weston	79	13.0	429	7.7	218	3.3	355	6.5	212	3.8	1 775	5.7

See footnotes at end of table.

Table F. Reliability Estimates for the State and County Totals: 1997—Con.

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

Geographic area	Net cash return from agricultural sales for the farm unit (see text) ¹				Total cropland				Harvested cropland			
	Farms		Value		Farms		Acres		Farms		Acres	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Wyoming	9 229	.6	197 249	2.1	7 122	.6	2 967 899	.5	6 124	.6	1 743 631	.4
Albany	315	.9	8 999	8.0	200	1.2	132 771	1.1	167	1.4	89 792	.8
Big Horn	494	.9	12 970	8.1	443	.9	130 820	1.0	388	1.0	85 254	.8
Campbell	530	.8	5 366	18.0	351	1.0	157 243	1.0	284	1.2	88 264	1.1
Carbon	311	.9	10 611	6.8	235	1.1	157 724	1.0	208	1.3	103 386	.8
Converse	349	.9	5 087	12.9	198	1.5	78 593	2.1	173	1.6	39 876	1.6
Crook	499	.8	6 023	27.7	401	.8	181 329	1.2	367	.9	116 015	1.1
Fremont	982	1.0	15 685	10.1	841	.9	(D)	(D)	731	1.0	116 503	1.0
Goshen	689	.7	27 871	4.0	558	.8	288 678	1.3	496	.9	151 919	1.0
Hot Springs	146	1.6	1 538	16.7	107	1.5	35 921	1.5	97	1.7	19 195	1.7
Johnson	315	.8	4 814	10.6	189	1.4	60 860	1.7	146	1.7	35 703	1.3
Laramie	614	.7	23 890	3.5	465	.7	(D)	(D)	346	.9	174 441	.7
Lincoln	504	.9	6 519	12.9	438	.9	114 598	1.7	381	1.1	84 640	1.3
Natrona	311	1.1	5 604	8.2	192	1.5	52 445	2.9	167	1.7	29 290	1.4
Niobrara	278	.9	7 514	12.2	190	1.2	91 336	1.6	167	1.3	51 127	1.4
Park	587	.6	14 598	5.4	507	.6	120 822	.8	446	.7	96 287	.6
Platte	461	.7	10 077	12.5	366	.7	169 533	1.0	305	.9	89 492	.7
Sheridan	568	.7	4 305	21.9	455	.8	128 839	1.3	404	1.0	81 567	1.1
Sublette	275	1.0	7 799	8.9	233	.9	169 253	1.2	203	1.1	112 532	1.0
Sweetwater	160	1.6	757	18.2	127	1.5	42 052	2.6	114	1.8	23 553	2.0
Teton	103	2.1	798	19.4	79	1.9	21 184	3.1	61	2.8	13 267	3.6
Uinta	300	1.1	5 596	9.4	246	1.0	108 433	1.9	215	1.2	58 043	1.2
Washakie	205	1.0	7 343	4.6	159	1.1	58 484	1.1	140	1.3	44 742	.8
Weston	233	1.2	3 484	8.9	142	1.5	95 809	1.9	118	1.8	38 743	1.8
Geographic area	Irrigated land				Livestock and poultry							
	Farms		Acres		Cattle and calves inventory				Beef cows inventory			
					Farms		Total		Farms		Total	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Wyoming	5 306	.6	1 719 463	.5	6 370	.6	1 690 264	.3	5 526	.6	862 639	.4
Albany	183	1.3	154 778	2.0	234	1.0	75 143	.6	205	1.2	37 653	.8
Big Horn	457	.8	116 335	.8	330	1.2	53 078	1.2	305	1.3	(D)	(D)
Campbell	14	5.4	4 598	1.3	410	.9	91 976	.8	370	.9	56 780	.7
Carbon	214	1.2	182 415	1.0	228	1.2	116 321	.7	196	1.3	65 690	.7
Converse	157	1.8	45 695	2.0	272	1.0	71 795	.9	245	1.1	43 896	.9
Crook	29	4.1	4 104	4.4	420	.8	87 500	1.0	387	.8	48 712	1.0
Fremont	854	.9	153 707	1.1	627	1.1	122 820	1.0	542	1.1	67 856	1.1
Goshen	418	1.1	133 643	.9	457	1.0	138 016	.7	352	1.2	40 030	1.3
Hot Springs	111	1.3	37 976	1.1	99	1.7	33 279	1.3	83	2.1	17 876	1.3
Johnson	147	1.7	45 445	1.8	255	1.0	77 869	.8	234	1.1	46 240	.8
Laramie	175	1.4	60 887	1.5	338	1.0	74 808	.6	278	1.2	(D)	(D)
Lincoln	358	1.2	89 193	1.3	316	1.3	49 736	1.7	225	1.7	26 004	1.9
Natrona	184	1.6	49 060	1.5	200	1.4	61 280	.9	181	1.6	38 484	.7
Niobrara	55	2.9	10 902	1.9	241	.8	76 142	.8	226	.9	36 195	1.0
Park	519	.6	114 051	.6	282	1.1	74 978	.5	244	1.2	33 156	.8
Platte	265	1.0	67 192	1.1	348	.7	117 895	.4	308	.9	48 754	.7
Sheridan	318	1.2	60 372	1.5	414	.9	107 428	.7	365	1.1	55 203	.9
Sublette	232	.9	174 129	2.0	202	1.1	72 279	1.2	176	1.3	39 038	1.3
Sweetwater	121	1.7	34 237	3.0	104	2.0	22 361	2.1	98	2.1	13 188	2.6
Teton	74	2.1	17 209	3.0	41	3.7	13 025	1.9	31	4.2	7 129	2.0
Uinta	243	1.0	110 464	1.9	239	1.1	55 343	1.3	205	1.3	(D)	(D)
Washakie	165	1.0	49 900	1.0	126	1.4	41 977	1.4	101	1.8	18 131	1.7
Weston	13	6.8	3 171	2.7	187	1.1	55 215	.9	169	1.3	30 251	1.2
Geographic area	Livestock and poultry—Con.											
	Milk cows inventory				Hogs and pigs inventory				Sheep and lambs inventory			
	Farms		Total		Farms		Total		Farms		Total	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Wyoming	337	1.6	6 254	1.9	296	1.7	91 135	.3	1 112	.9	713 096	.3
Albany	8	6.9	94	1.4	9	7.1	681	8.8	27	5.0	6 714	2.2
Big Horn	12	9.2	(D)	(D)	17	6.7	2 225	4.7	85	3.1	36 367	2.0
Campbell	23	5.3	36	5.9	19	5.5	194	7.4	82	2.6	59 860	.7
Carbon	6	8.9	14	3.8	16	7.8	122	19.2	49	3.8	34 198	.9
Converse	32	4.6	177	8.8	9	9.6	48	12.7	62	3.0	68 677	1.0
Crook	24	5.8	92	15.4	17	7.0	881	8.5	73	2.8	29 138	1.7
Fremont	23	6.9	211	15.3	39	5.1	224	6.8	127	2.6	40 513	1.3
Goshen	16	7.3	74	19.0	16	8.0	112	8.8	38	4.7	4 798	5.0
Hot Springs	5	10.9	6	9.0	10	8.8	111	21.9	17	6.5	(D)	(D)

See footnotes at end of table.

Table F. Reliability Estimates for the State and County Totals: 1997—Con.

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

Geographic area	Livestock and poultry—Con.											
	Milk cows inventory				Hogs and pigs inventory				Sheep and lambs inventory			
	Farms		Total		Farms		Total		Farms		Total	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Johnson	9	6.2	25	8.6	10	8.7	56	10.2	77	2.4	74 214	1.0
Laramie	9	7.5	(D)	(D)	28	4.3	75 534	.2	46	3.5	47 872	.2
Lincoln	51	4.0	2 761	3.7	8	10.8	(D)	(D)	44	4.5	29 439	1.8
Natrona	10	7.6	41	10.9	12	8.1	179	17.0	51	3.4	60 218	.6
Niobrara	16	5.3	25	6.1	2	18.1	(D)	(D)	36	3.6	16 410	1.7
Park	8	6.9	757	.1	22	5.4	466	4.4	57	2.7	56 958	.2
Platte	21	5.2	668	.2	12	7.1	(D)	(D)	28	4.7	1 954	9.5
Sheridan	18	6.7	195	2.3	12	8.7	104	11.8	52	3.8	15 702	1.9
Sublette	16	7.2	85	8.9	12	8.4	123	17.4	15	5.4	17 047	.4
Sweetwater	9	8.9	18	5.2	9	10.8	64	16.9	19	6.6	11 118	.9
Teton	4	13.4	157	19.9	1	37.3	(D)	(D)	3	22.1	(D)	(D)
Uinta	5	10.0	(D)	(D)	8	9.3	50	9.2	57	3.5	50 530	.5
Washakie	8	11.0	13	11.2	2	24.3	(D)	(D)	44	3.3	44 128	.5
Weston	4	14.1	6	18.6	6	11.7	118	15.3	23	5.7	4 887	7.4

Geographic area	Livestock and poultry—Con.							
	Layers 20 weeks old and older inventory				Broilers and other meat-type chickens sold			
	Farms		Total		Farms		Total	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Wyoming	436	1.5	10 895	3.3	17	7.8	914	18.1
Albany	20	5.9	384	7.1	—	—	—	—
Big Horn	20	7.5	439	7.8	—	—	—	—
Campbell	31	5.1	643	5.8	4	15.0	81	18.9
Carbon	8	11.5	202	10.1	—	—	—	—
Converse	19	6.0	415	6.3	—	—	—	—
Crook	20	6.6	394	7.0	2	17.6	(D)	(D)
Fremont	54	4.3	1 030	5.4	1	44.8	(D)	(D)
Goshen	29	5.2	1 119	16.0	3	18.3	(D)	(D)
Hot Springs	10	9.1	186	10.6	—	—	—	—
Johnson	13	6.3	321	7.7	—	—	—	—
Laramie	29	4.5	544	4.7	1	31.2	(D)	(D)
Lincoln	17	6.9	1 026	21.2	1	43.3	(D)	(D)
Natrona	15	7.5	251	9.7	1	47.1	(D)	(D)
Niobrara	8	9.0	152	9.2	—	—	—	—
Park	26	5.0	636	6.2	2	13.0	(D)	(D)
Platte	22	5.3	448	7.5	—	—	—	—
Sheridan	26	5.7	1 109	14.5	—	—	—	—
Sublette	21	5.5	392	6.7	—	—	—	—
Sweetwater	6	10.3	(D)	(D)	1	32.2	(D)	(D)
Teton	1	37.3	(D)	(D)	—	—	—	—
Uinta	15	7.5	340	9.6	—	—	—	—
Washakie	12	8.6	314	8.0	1	25.3	(D)	(D)
Weston	14	7.2	434	9.4	—	—	—	—

Geographic area	Selected crops harvested											
	Corn for silage or green chop					Wheat for grain						
	Farms		Acres		Quantity		Farms		Acres		Quantity	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons, green	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels	Relative standard error of estimate (percent)
Wyoming	326	1.2	28 747	.6	554 416	.5	656	1.0	221 041	.8	6 520 663	.8
Albany	1	33.7	(D)	(D)	(D)	(D)	1	23.3	(D)	(D)	(D)	(D)
Big Horn	51	3.2	4 132	1.5	75 477	1.1	14	6.8	775	3.6	55 114	2.7
Campbell	1	28.1	(D)	(D)	(D)	(D)	62	3.0	15 316	3.3	442 904	3.7
Carbon	1	—	(D)	(D)	(D)	(D)	3	12.7	2 702	6.2	39 437	5.4
Converse	10	6.7	959	1.6	19 690	1.5	8	8.3	793	4.6	23 776	5.8
Crook	1	—	(D)	(D)	(D)	(D)	79	2.7	11 635	2.5	306 504	2.5
Fremont	53	3.1	3 852	2.5	78 802	1.9	2	—	(D)	(D)	(D)	(D)
Goshen	85	2.2	5 159	1.4	108 936	1.2	141	2.0	47 823	2.1	1 207 414	2.0
Hot Springs	3	14.3	80	24.1	880	12.8	1	—	(D)	(D)	(D)	(D)
Johnson	3	14.0	186	8.6	2 200	10.5	2	—	(D)	(D)	(D)	(D)
Laramie	16	2.5	2 315	.8	41 665	.4	215	1.3	108 069	1.0	3 513 204	1.0
Lincoln	—	—	—	—	—	—	7	12.9	422	14.7	9 030	14.0
Natrona	3	12.5	(D)	(D)	(D)	(D)	3	—	1 513	—	33 910	—
Niobrara	—	—	—	—	—	—	24	4.2	6 456	2.8	139 961	3.0
Park	23	2.9	2 283	1.2	49 534	1.0	16	3.7	999	1.4	88 232	1.4
Platte	50	2.7	5 341	1.6	82 525	1.8	36	3.4	19 325	2.0	501 105	2.0
Sheridan	8	—	2 319	—	49 325	—	26	5.5	3 260	6.0	97 511	6.5
Sublette	—	—	—	—	—	—	1	41.6	(D)	(D)	(D)	(D)
Sweetwater	—	—	—	—	—	—	—	—	—	—	—	—

See footnotes at end of table.

Table F. Reliability Estimates for the State and County Totals: 1997—Con.

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

Geographic area	Selected crops harvested										
	Corn for silage or green chop						Wheat for grain				
	Farms		Acres		Quantity		Farms		Acres		Quantity
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons, green	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels
											Relative standard error of estimate (percent)
Teton	—	—	—	—	—	—	—	—	—	—	—
Uinta	—	—	—	—	—	—	—	—	—	—	—
Washakie	15	3.8	1 095	2.6	25 350	2.4	2	16.5	(D)	(D)	(D)
Weston	2	15.7	(D)	(D)	(D)	(D)	13	6.5	1 544	7.3	40 920
											8.1
Geographic area	Selected crops harvested—Con.										
	Barley for grain						Dry edible beans, excluding dry limas				
	Farms		Acres		Quantity		Farms		Acres		Quantity
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Hundredweight
											Relative standard error of estimate (percent)
Wyoming	721	1.0	93 095	.7	7 251 158	.6	317	1.4	29 326	1.0	630 995
Albany	—	—	—	—	—	—	—	—	—	—	—
Big Horn	130	2.0	21 293	1.5	1 755 583	1.5	60	3.2	6 145	1.8	133 429
Campbell	20	4.4	1 571	1.8	50 064	1.4	—	—	—	—	—
Carbon	3	17.9	433	8.2	12 528	11.5	—	—	—	—	—
Converse	6	8.7	502	2.1	15 251	3.3	—	—	—	—	—
Crook	21	5.5	1 988	3.5	63 010	3.7	—	—	—	—	—
Fremont	97	2.5	7 549	2.0	619 188	2.1	36	4.7	2 441	4.2	55 249
Goshen	34	4.6	1 688	5.9	95 276	6.3	105	2.4	8 748	2.0	185 929
Hot Springs	7	9.8	769	9.1	65 758	10.0	4	13.1	274	12.0	7 588
Johnson	4	18.1	(D)	(D)	15 218	19.0	—	—	—	—	—
Laramie	15	5.2	916	3.4	73 882	1.1	28	3.8	3 127	2.5	66 548
Lincoln	124	2.5	11 074	2.8	581 346	2.8	—	—	—	—	—
Natrona	4	—	345	—	19 912	—	—	—	—	—	—
Niobrara	5	10.7	265	14.3	(D)	(D)	—	—	—	—	—
Park	135	1.6	23 269	.8	2 225 006	.8	59	2.3	5 945	2.0	129 462
Platte	18	3.2	2 533	.9	214 767	.6	18	4.7	1 581	4.2	29 745
Sheridan	38	3.5	3 896	2.1	199 864	1.2	—	—	—	—	—
Sublette	—	—	—	—	—	—	—	—	—	—	—
Sweetwater	6	12.5	643	14.8	57 243	15.2	—	—	—	—	—
Teton	10	10.5	1 533	10.6	102 783	8.1	—	—	—	—	—
Uinta	2	25.1	(D)	(D)	(D)	(D)	—	—	—	—	—
Washakie	42	2.1	12 587	.7	1 070 964	.7	7	—	1 065	—	23 045
Weston	—	—	—	—	—	—	—	—	—	—	—
Geographic area	Selected crops harvested—Con.										
	Sugar beets for sugar						Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)				
	Farms		Acres		Quantity		Farms		Acres		Quantity
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons, dry
											Relative standard error of estimate (percent)
Wyoming	356	1.1	63 732	.5	1 285 165	.5	5 601	.6	1 239 340	.4	2 295 272
Albany	—	—	—	—	—	—	165	1.4	89 864	.8	104 241
Big Horn	89	2.4	15 740	1.2	331 383	1.1	341	1.1	29 877	1.4	92 862
Campbell	—	—	—	—	—	—	271	1.2	70 062	1.1	60 668
Carbon	1	—	(D)	(D)	(D)	(D)	202	1.3	98 618	.8	159 538
Converse	—	—	—	—	—	—	168	1.7	36 832	1.6	77 337
Crook	—	—	—	—	—	—	358	.9	102 603	1.2	110 477
Fremont	26	4.3	3 836	2.6	85 837	2.4	701	1.0	93 900	1.1	264 574
Goshen	91	2.6	9 034	1.9	147 706	1.9	389	1.1	47 623	1.5	145 214
Hot Springs	1	—	(D)	(D)	(D)	(D)	91	1.9	17 320	1.7	30 430
Johnson	—	—	—	—	—	—	143	1.7	34 735	1.3	81 661
Laramie	11	2.6	(D)	(D)	(D)	(D)	221	1.3	50 924	1.0	117 398
Lincoln	—	—	—	—	—	—	364	1.1	72 203	1.4	129 081
Natrona	—	—	—	—	—	—	163	1.7	26 534	1.5	63 700
Niobrara	—	—	—	—	—	—	160	1.4	42 068	1.5	49 661
Park	74	1.6	18 100	.5	378 659	.5	400	.8	42 327	1.1	133 985
Platte	26	3.4	5 161	1.3	98 443	1.3	261	1.0	48 430	1.1	103 526
Sheridan	—	—	—	—	—	—	389	1.0	78 885	1.1	175 322
Sublette	—	—	—	—	—	—	198	1.1	112 725	1.0	131 117
Sweetwater	—	—	—	—	—	—	112	1.9	23 004	2.0	42 492
Teton	—	—	—	—	—	—	59	2.8	11 568	3.3	25 057
Uinta	—	—	—	—	—	—	215	1.2	58 375	1.2	105 483
Washakie	37	1.8	9 932	.5	211 752	.5	113	1.6	15 107	2.1	49 936
Weston	—	—	—	—	—	—	117	1.8	35 756	1.7	41 512

¹Data are based on a sample of farms.

Table G. Coverage Estimates: 1997

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

Item	Census total	Coverage total ¹	Adjusted census		Coverage adjustment (percent)
			Total	Relative standard error (percent)	
Farms	9 232	206	9 438	2.0	2.2
Land in farms	34 088 692	-283 178	33 805 514	2.0	-8
Average size of farm	3 692	-1 375	3 582	(X)	(X)
Farms by size of farm:					
Less than 10 acres	405	56	461	17.6	12.1
10 to 49 acres	1 157	95	1 252	6.1	7.6
50 to 179 acres	1 568	55	1 623	6.3	3.4
180 acres or more	6 102	-	6 102	1.8	-
Farms by value of sales:					
Less than \$2,500	1 709	132	1 841	6.5	7.2
\$2,500 to \$9,999	1 743	53	1 796	2.9	3.0
\$10,000 or more	5 780	21	5 801	2.3	.4
Market value of agricultural products sold	898 527	-8 266	890 261	1.5	-9
Farms by type of organization:					
Individual or family	7 157	191	7 348	2.4	2.6
Partnership, corporation, or other	2 075	15	2 090	1.7	.7
Farms by tenure of operator:					
Full owners	4 732	161	4 893	3.3	3.3
Part owners	3 386	21	3 407	2.2	.6
Tenants	1 114	24	1 138	5.1	2.1
Operators by place of residence:					
On farm operated	6 886	113	6 999	1.8	1.6
Not on farm operated	1 703	29	1 732	6.8	1.7
Not reported	643	64	707	10.6	9.1
Operators by principal occupation:					
Farming	5 583	-3	5 580	2.2	-1
Other	3 649	209	3 858	3.7	5.4
Operators by sex:					
Male	8 331	146	8 477	2.1	1.7
Female	901	60	961	5.9	6.2
Operators by race:					
White	9 120	200	9 320	2.0	2.1
Black and other races	112	6	118	41.5	5.1
Operators by years on present farm:					
4 years or less	1 320	95	1 415	4.5	6.7
5 years or more	6 556	69	6 625	1.8	1.0
Not reported	1 356	42	1 398	9.1	3.0

¹ See text in Appendix C regarding coverage estimates.