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# Appendix C.

## Statistical Methodology

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### 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..	11.5	Corn for grain or seed ..... acres..	7.7
Land in farms ..... acres..	8.9	Wheat for grain ..... acres..	8.0
Estimated market value of land and buildings <sup>1</sup> ..... \$1,000..	8.6	Livestock and poultry inventory:	
Market value of agricultural products sold ..... \$1,000..	5.8	Cattle and calves..... number..	7.9
Harvested cropland..... acres..	8.0	Hogs and pigs .....	3.0
		Layers 20 weeks old and older..... number..	.4

<sup>1</sup>Data 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)
<b>COMPLETE COUNT ITEM</b>			
Number of farms reporting:			
25 .....	5.9	25 .....	43.9
50 .....	4.1	50 .....	30.7
75 .....	3.2	75 .....	24.8
100 .....	2.7	100 .....	21.2
150 .....	2.1	150 .....	16.9
200 .....	1.7	200 .....	14.2
300 .....	1.1	300 .....	10.9
500 .....	.9	500 .....	7.3
750 .....	.7	750 .....	4.6
1,000.....	.6	1,000.....	2.1
1,500.....	.5	1,500.....	1.8
2,000.....	.4	2,000.....	1.5

**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)			
<b>F FARMS AND LAND IN FARMS</b>								
Farms .....	90 792	.6	FARM PRODUCTION EXPENSES <sup>1</sup>					
Land in farms .....	31 166 699	.5	Total farm production expenses .....	farms..	90 786			
Average size of farm .....	343	.8	\$1,000..	8 405 838	.4			
			Average per farm .....	dollars..	92 590	.7		
<b>M MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD</b>								
Total sales (see text) .....	90 792	.6	Livestock and poultry purchased .....	farms..	30 572	1.2		
\$1,000.	11 947 894	.3	\$1,000..	1 260 448	.6			
Average per farm .....	131 596	.7	Feed for livestock and poultry .....	farms..	46 733	.9		
Farms by value of sales:			\$1,000..	1 585 107	.5			
Less than \$1,000 (see text) .....	9 230	.9	Commercially mixed formula feeds .....	farms..	27 617	1.2		
\$1,000.	906	1.1	\$1,000..	854 175	.7			
\$1,000 to \$2,499 .....	3 961	.8	Seeds, bulbs, plants, and trees .....	farms..	68 732	.7		
\$2,500 to \$4,999 .....	6 671	.8	\$1,000..	488 961	.7			
\$5,000 to \$9,999 .....	4 577	.7	farms..	65 626	.7			
\$10,000 to \$19,999 .....	16 650	.7	\$1,000..	636 785	.8			
\$20,000 to \$24,999 .....	5 878	.7	Agricultural chemicals .....	farms..	64 489	.8		
\$25,000 to \$39,999 .....	42 406	.7	\$1,000..	521 566	.8			
\$40,000 to \$49,999 .....	7 383	.7	Petroleum products .....	farms..	84 456	.6		
\$50,000 to \$99,999 .....	107 420	.7	\$1,000..	350 799	.7			
\$100,000 to \$249,999 .....	3 124	.9	Electricity .....	farms..	73 232	.7		
\$250,000 to \$499,999 .....	69 801	.9	\$1,000..	127 679	.8			
\$500,000 or more .....	7 366	.8	Hired farm labor .....	farms..	33 016	1.1		
Crops by commodity or commodity group:			\$1,000..	316 779	.9			
Crops, including nursery and greenhouse crops .....	68 415	.6	Contract labor .....	farms..	6 152	2.8		
Grains .....	6 187 269	.5	\$1,000..	24 905	2.7			
Corn for grain .....	64 058	.6	Repair and maintenance .....	farms..	78 128	.7		
Wheat .....	6 011 171	.6	\$1,000..	504 525	.8			
Soybeans .....	56 466	.6	Customwork, machine hire, and rental of machinery and equipment .....	farms..	43 788	1.0		
Sorghum for grain .....	3 225 141	.5	\$1,000..	168 101	1.6			
Barley .....	699	1.2	farms..	55 257	.8			
Oats .....	2 936	2.0	\$1,000..	600 284	.9			
Other grains .....	56 373	.6	Secured by real estate .....	farms..	36 993	1.1		
Cotton and cottonseed .....	2 765 812	.5	\$1,000..	347 061	1.2			
Tobacco .....	32	4.8	Not secured by real estate .....	farms..	36 242	1.1		
Hay, silage, and field seeds .....	121	6.2	\$1,000..	253 223	1.0			
Vegetables, sweet corn, and melons .....	76	3.6	Cash rent .....	farms..	36 892	1.0		
Fruits, nuts, and berries .....	178	5.0	\$1,000..	866 955	1.0			
Nursery and greenhouse crops .....	5 638	.7	Property taxes .....	farms..	79 236	.7		
Other crops .....	11 024	.8	\$1,000..	242 120	.9			
Livestock, poultry, and their products .....	287	1.6	All other farm production expenses .....	farms..	85 922	.6		
Poultry and poultry products .....	5 960	2.2	\$1,000..	710 824	.7			
Dairy products .....	819	1.2	<b>NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)<sup>1</sup></b>					
Cattle and calves .....	73 208	.8	All farms .....	number..	90 786	.6		
Hogs and pigs .....	115	2.8	Average per farm .....	\$1,000..	2 969 179	.8		
Sheep, lambs, and wool .....	1 725	2.7	Average net gain .....	dollars..	32 705	1.0		
Other livestock and livestock products (see text) .....	51 843	.6	Farms with net gains <sup>2</sup> .....	number..	60 033	.8		
	5 760 625	.2	\$1,000..	3 256 653	.7			
	1 598	.9	Average net gain .....	dollars..	54 248	1.0		
	414 429	.1	Farms with net losses .....	number..	30 753	1.1		
	3 958	.8	\$1,000..	287 473	1.7			
	408 694	.6	Average net loss .....	dollars..	9 348	2.0		
	38 548	.6	<b>GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME</b>					
	1 850 796	.3	Government payments .....	farms..	67 795	.6		
	18 370	.5	\$1,000..	536 924	.6			
	3 029 972	.2	Other farm-related income <sup>1</sup> .....	farms..	39 905	1.1		
	4 598	.7	\$1,000..	260 021	2.2			
	30 214	.9	Customwork and other agricultural services .....	farms..	10 656	2.2		
	3 023	.8	\$1,000..	86 843	3.5			
	26 520	1.4	Gross cash rent or share payments .....	farms..	11 241	2.2		
	2 174	.8	\$1,000..	134 239	3.4			
	7 475	1.4	Forest products, excluding Christmas trees and maple products .....	farms..	774	8.8		
			\$1,000..	4 037	13.7			
			Other farm-related income sources .....	farms..	28 494	1.2		
			\$1,000..	34 902	1.9			
Value of agricultural products sold directly to individuals for human consumption (see text) .....	farms..		<b>COMMODITY CREDIT CORPORATION LOANS</b>					
\$1,000..			Total .....	farms..	12 999	.6		
			\$1,000..	508 209	.5			

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)		
<b>LAND IN FARMS ACCORDING TO USE</b>							
Total cropland .....	farms..	83 375	All operators .....	farms..	90 792		
	acres..	26 821 844		acres..	31 166 699		
Harvested cropland .....	farms..	74 951	Full owners .....	farms..	42 902		
	acres..	23 323 249		acres..	7 149 906		
Farms by acres harvested:			Part owners .....	farms..	32 996		
1 to 9 acres .....	farms..	4 587		acres..	19 074 894		
	acres..	22 534	Tenants .....	farms..	14 894		
10 to 19 acres .....	farms..	3 768		acres..	4 941 899		
	acres..	50 236					
20 to 29 acres .....	farms..	2 604	<b>OWNED AND RENTED LAND</b>				
	acres..	60 762	Land owned .....	farms..	76 916		
30 to 49 acres .....	farms..	4 263		acres..	16 795 890		
	acres..	161 011	Owned land in farms .....	farms..	75 898		
50 to 99 acres .....	farms..	8 807		acres..	14 354 684		
	acres..	638 400	Land rented or leased from others .....	farms..	48 208		
100 to 199 acres .....	farms..	14 539		acres..	16 988 397		
	acres..	2 100 089	Rented or leased land in farms .....	farms..	120 737		
200 to 499 acres .....	farms..	21 216		acres..	47 890		
	acres..	6 864 110	Land rented or leased to others .....	farms..	16 812 015		
500 to 999 acres .....	farms..	11 290		acres..	16 229		
	acres..	7 721 915		acres..	2 617 588		
1,000 acres or more .....	farms..	3 877					
	acres..	5 704 192					
Cropland:			<b>OPERATOR CHARACTERISTICS</b>				
Pasture or grazing only .....	farms..	28 797	Operators by place of residence:				
	acres..	2 001 198	On farm operated .....	farms..	66 661		
Other cropland .....	farms..	24 270	Not on farm operated .....	farms..	19 439		
	acres..	1 497 397	Not reported .....	farms..	4 692		
Total woodland .....	farms..	22 516	Operators by principal occupation:				
	acres..	1 315 257	Farming .....	farms..	56 256		
Pastureland and rangeland other than cropland and			Other .....	farms..	34 536		
woodland pastured .....	farms..	18 756	Operators by days worked off farm:				
	acres..	1 440 627	Any .....	farms..	45 408		
Land in house lots, ponds, roads, wasteland, etc. ....	farms..	61 890	200 days or more .....	farms..	28 673		
	acres..	1 588 971	Operators by sex:				
Irrigated land .....	farms..	957	Male .....	farms..	86 174		
	acres..	124 983	Female .....	farms..	30 335 233		
Acres irrigated:							
1 to 9 acres .....	farms..	386	Male .....	acres..	.5		
	acres..	913	Female .....	acres..	.9		
10 to 49 acres .....	farms..	111	Average age of operator .....	years..	.8		
	acres..	2 797					
50 to 99 acres .....	farms..	110	Individual or family (sole proprietorship) .....	farms..	.6		
	acres..	8 222		acres..	.5		
100 to 199 acres .....	farms..	153	Partnership .....	farms..	.9		
	acres..	21 368		acres..	.7		
200 to 499 acres .....	farms..	137	Corporation:				
	acres..	43 426	Family held .....	farms..	.9		
500 to 999 acres .....	farms..	47	More than 10 stockholders .....	farms..	.7		
	acres..	31 823	10 or less stockholders .....	farms..	3 992 642		
1,000 acres or more .....	farms..	13	Other than family held .....	farms..	104		
	acres..	16 434	More than 10 stockholders .....	farms..	5 629		
Harvested cropland irrigated .....	farms..	930	10 or less stockholders .....	farms..	395		
	acres..	123 084	Other—cooperative, estate or trust, institutional, etc. ....	farms..	126 835		
Pasture and other land irrigated .....	farms..	35					
	acres..	1 899					
Land under Conservation Reserve or Wetlands							
Reserve Programs .....	farms..	24 137	<b>FARMS BY TYPE OF ORGANIZATION</b>				
	acres..	1 707 901	Individual or family (sole proprietorship) .....	farms..	75 880		
				acres..	23 526 085		
			Partnership .....	farms..	8 231		
				acres..	3 373 783		
			Corporation:				
			Family held .....	farms..	.9		
			More than 10 stockholders .....	farms..	.7		
			10 or less stockholders .....	farms..	3 992 642		
			Other than family held .....	farms..	104		
			More than 10 stockholders .....	farms..	5 629		
			10 or less stockholders .....	farms..	331		
			Other—cooperative, estate or trust, institutional, etc. ....	farms..	553		
				acres..	147 354		
<b>VALUE OF LAND AND BUILDINGS<sup>1</sup></b>							
Estimated market value of land and buildings .....	farms..	90 786	<b>HIRE FARM LABOR<sup>1</sup></b>				
	\$1,000..	51 438 152	Hired workers by days worked:				
Average per farm .....	dollars..	566 587	150 days or more .....	farms..	10 990		
Average per acre .....	dollars..	1 697	Less than 150 days .....	workers..	20 517		
<b>VALUE OF MACHINERY AND EQUIPMENT<sup>1</sup></b>							
Estimated market value of all machinery and							
equipment .....	farms..	90 747	<b>INJURIES AND DEATHS</b>				
	\$1,000..	7 318 851	Farm-related injuries:				
Average per farm .....	dollars..	80 651	Operator and family members .....	farms..	1 131		
			Number .....	number..	1 314		
			Hired workers .....	farms..	346		
			Number .....	number..	604		
<b>AGRICULTURAL CHEMICALS<sup>1</sup></b>							
Commercial fertilizer .....	farms..	65 495	Farm-related deaths:				
	acres on which used..	14 473 220	Operator and family members .....	farms..	30		
			Number .....	number..	30		
			Hired workers .....	farms..	6		
			Number .....	number..	6		

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)
<b>F FARMS BY SIZE</b>					
1 to 9 acres .....	farms.. acres..	.7	Cattle and calves inventory..... farms.. number..	38 435 3 647 129	.6 .5
10 to 49 acres .....	farms.. acres..	.7	Beef cows ..... farms.. number..	27 452 1 029 172	.6 .6
50 to 69 acres .....	farms.. acres..	.6	Milk cows ..... farms.. number..	4 208 222 142	.8 .6
70 to 99 acres .....	farms.. acres..	.7	Cattle and calves sold ..... farms.. number..	38 548 2 881 122	.6 .3
100 to 139 acres .....	farms.. acres..	.8	\$1,000..	1 850 796	.3
140 to 179 acres .....	farms.. acres..	.8	Hogs and pigs inventory ..... farms.. number..	17 243 14 651 919	.5 .2
180 to 219 acres .....	farms.. acres..	.8	Hogs and pigs sold..... farms.. number..	18 370 27 495 818	.5 .2
220 to 259 acres .....	farms.. acres..	.8	\$1,000..	3 029 972	.2
260 to 499 acres .....	farms.. acres..	.7	Sheep and lambs of all ages inventory..... farms.. number..	4 431 265 305	.7 .8
500 to 999 acres .....	farms.. acres..	.7	Sheep and lambs sold..... farms.. number..	4 536 319 349	.7 .9
1,000 to 1,999 acres .....	farms.. acres..	.3	Horses and ponies inventory ..... farms.. number..	9 636 60 421	.6 .7
2,000 acres or more .....	farms.. acres..	—	Horses and ponies sold..... farms.. number..	2 199 9 605	.8 1.4
<b>F FARMS BY NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM</b>					
Oilseed and grain farming (1111) .....	farms.. acres..	.7	POULTRY		
Vegetable and melon farming (1112) .....	farms.. acres..	.5	Layers and pullets 13 weeks old and older inventory (see text) ..... farms.. number..	1 892 24 876 834	.9 .1
Fruit and tree nut farming (1113) .....	farms.. acres..	2.0	Layers 20 weeks old and older ..... farms.. number..	1 831 21 509 521	.9 .1
Greenhouse, nursery, and floriculture production (1114) .....	farms.. acres..	3.0	Broilers and other meat-type chickens sold..... farms.. number..	519 6 852 810	1.4 1.1
Other crop farming (1119) .....	farms.. acres..	2.3			
Beef cattle ranching and farming (112111) .....	farms.. acres..	3.0	SELECTED CROPS HARVESTED		
Cattle feedlots (112112) .....	farms.. acres..	.6	Corn for grain or seed ..... farms.. acres.. bushels..	61 860 11 595 308 1 537 482 128	.6 .5 .5
Dairy cattle and milk production (11212) .....	farms.. acres..	.5	Corn for silage or green chop ..... farms.. acres..	8 405 241 549	.7 .5
Hog and pig farming (1122) .....	farms.. acres..	.7	Wheat for grain ..... farms.. acres.. bushels..	3 993 158 719 22 123	.6 1.2 1.8
Poultry and egg production (1123) .....	farms.. acres..	.4	Oats for grain ..... farms.. acres.. bushels..	905 333 10 823 211 985	2.0 7 .7
Sheep and goat farming (1124) .....	farms.. acres..	1.2	Soybeans for beans ..... farms.. acres.. bushels..	56 436 9 944 865 445 574 589	.6 .5 .5
Animal aquaculture and other animal production (1125, 1129) .....	farms.. acres..	1.0	Potatoes, excluding sweetpotatoes ..... farms.. acres.. cwt..	109 1 468 296 675	2.9 2.4 2.2
		1.8	Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text) ..... farms.. acres..	37 711 1 575 777	.6 .6
		.7	Alfalfa hay ..... farms.. acres..	4 365 999 31 165	.6 .6
		.9	Tons, dry..	1 082 904	.6
			Tons, dry..	3 406 219	.6
				786	1.2
				12 533	2.3
				448	1.5
				2 616	2.8

<sup>1</sup>Data are based on a sample of farms.

<sup>2</sup>Farms 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)
<b>F FARMS AND LAND IN FARMS</b>					
Farms .....	67 146	.6	Total farm production expenses .....	67 253	.6
Land in farms .....	29 199 099	.5	farms.. \$1,000..	8 268 599	.4
Average size of farm .....	435	.8	Average per farm .....	122 948	.8
<b>M MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD</b>					
Total sales (see text) .....	67 146	.6	Livestock and poultry purchased .....	26 425	1.2
farms.. \$1,000..	11 881 261	.3	farms.. \$1,000..	1 251 288	.6
Average per farm .....	176 947	.7	Feed for livestock and poultry .....	38 325	.9
Farms by value of sales:			farms.. \$1,000..	1 574 248	.5
\$10,000 to \$19,999 .....	farms.. \$1,000..	.7	Commercially mixed formula feeds .....	23 094	1.3
107 420			farms.. \$1,000..	850 306	.7
\$20,000 to \$24,999 .....	farms.. \$1,000..	.9	Seeds, bulbs, plants, and trees .....	61 508	.7
3 124			farms.. \$1,000..	485 782	.7
\$25,000 to \$39,999 .....	farms.. \$1,000..	.9	Commercial fertilizer .....	58 908	.7
69 801			farms.. \$1,000..	631 760	.8
\$40,000 to \$49,999 .....	farms.. \$1,000..	.8	Agricultural chemicals .....	56 056	.8
236 214			farms.. \$1,000..	517 109	.8
\$50,000 to \$99,999 .....	farms.. \$1,000..	.8	Petroleum products .....	66 224	.7
13 735			farms.. \$1,000..	341 493	.7
\$100,000 to \$249,999 .....	farms.. \$1,000..	.8	Electricity .....	60 006	.7
994 678			farms.. \$1,000..	122 461	.8
\$250,000 to \$499,999 .....	farms.. \$1,000..	.7	Hired farm labor .....	29 501	1.1
8 404			farms.. \$1,000..	315 099	.9
\$500,000 or more .....	farms.. \$1,000..	.3	Contract labor .....	5 192	3.0
3 285 675			farms.. \$1,000..	24 207	2.7
Sales by commodity or commodity group:			Repair and maintenance .....	62 496	.7
Crops, including nursery and greenhouse crops .....	farms.. \$1,000..	.6	farms.. \$1,000..	484 715	.8
60 108			Customwork, machine hire, and rental of machinery and equipment .....	37 494	1.0
Grains .....	farms.. \$1,000..	.5	farms.. \$1,000..	164 332	1.6
58 715			Interest .....	47 288	.9
Corn for grain .....	farms.. \$1,000..	.5	farms.. \$1,000..	581 677	.9
53 276			Secured by real estate .....	30 891	1.1
Wheat .....	farms.. \$1,000..	.6	farms.. \$1,000..	331 332	1.2
651			Not secured by real estate .....	32 925	1.1
Soybeans .....	farms.. \$1,000..	.6	farms.. \$1,000..	250 345	1.0
2 867			Cash rent .....	34 801	1.0
Sorghum for grain .....	farms.. \$1,000..	.5	farms.. \$1,000..	864 539	1.0
31			Property taxes .....	57 349	.7
Barley .....	farms.. \$1,000..	4.9	farms.. \$1,000..	214 050	1.0
70			All other farm production expenses .....	67 252	.6
Oats .....	farms.. \$1,000..	3.7	farms.. \$1,000..	695 840	.7
5 328			NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT) <sup>1</sup>		
Other grains .....	farms.. \$1,000..	.7			
10 741			All farms .....	67 253	.6
Cotton and cottonseed .....	farms.. \$1,000..	.8	number.. \$1,000..	3 040 631	.8
-			Average per farm .....	45 212	1.0
Tobacco .....	farms.. \$1,000..	-	Farms with net gains <sup>2</sup> .....	54 873	.8
-			number.. \$1,000..	3 246 731	.7
Hay, silage, and field seeds .....	farms.. \$1,000..	.7	Average net gain .....	59 168	1.0
11 394			Farms with net losses .....	12 380	2.0
Vegetables, sweet corn, and melons .....	farms.. \$1,000..	1.4	number.. \$1,000..	206 099	2.2
504			Average net loss .....	16 648	3.0
Fruits, nuts, and berries .....	farms.. \$1,000..	1.9	GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME		
174					
Nursery and greenhouse crops .....	farms.. \$1,000..	2.3	Government payments .....	54 471	.6
496			farms.. \$1,000..	471 002	.5
Other crops .....	farms.. \$1,000..	3.2	Other farm-related income <sup>1</sup> .....	33 271	1.1
1 676			farms.. \$1,000..	214 817	2.3
Livestock, poultry, and their products .....	farms.. \$1,000..	.6	Customwork and other agricultural services .....	10 015	2.2
41 501			farms.. \$1,000..	85 214	3.6
Poultry and poultry products .....	farms.. \$1,000..	.2	Gross cash rent or share payments .....	6 980	2.8
1 046			farms.. \$1,000..	92 803	4.1
Dairy products .....	farms.. \$1,000..	1.0	Forest products, excluding Christmas trees and maple products .....	473	11.4
414 021			farms.. \$1,000..	2 774	16.2
Cattle and calves .....	farms.. \$1,000..	.1	Other farm-related income sources .....	25 827	1.3
3 926			farms.. \$1,000..	34 026	1.9
Hogs and pigs .....	farms.. \$1,000..	.6	Total .....	12 819	.6
17 516			farms.. \$1,000..	507 923	
Sheep, lambs, and wool .....	farms.. \$1,000..	.5			
2 958					
Other livestock and livestock products (see text) .....	farms.. \$1,000..	1.0			
27 067					
Value of agricultural products sold directly to individuals for human consumption (see text) .....	farms.. \$1,000..	1.0			
1 484					
	23 241	1.5			

See footnotes at end of table.

**Table D. Reliability Estimates of State Totals for Farms With Sales of \$10,000 or More:  
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)	
<b>LAND IN FARMS ACCORDING TO USE</b>						
Total cropland .....	farms..	.6	Farms by type of organization			
acres..		.5	Individual or family (sole proprietorship) .....	farms..	54 684 .6	
Harvested cropland .....	farms..	.6	acres..		21 847 725 .5	
acres..		.5	Partnership .....	farms..	6 545 .9	
Cropland:			acres..		3 199 484 .7	
Pasture or grazing only .....	farms..	.7	Corporation:			
acres..		.7	Family held .....	farms..	5 314 .9	
Total cropland .....	64 374	.6	More than 10 stockholders .....	farms..	3 925 095 .7	
acres..	25 709 148	.5	10 or less stockholders .....	farms..	89 3.1	
Harvested cropland .....	63 256	.6	Other than family held .....	farms..	5 225 .9	
acres..	23 075 749	.5	More than 10 stockholders .....	farms..	294 1.6	
Cropland:			10 or less stockholders .....	farms..	114 473 1.4	
Pasture or grazing only .....	farms..	.7	Other—cooperative, estate or trust, institutional, etc. ....	farms..	46 2.8	
acres..	22 196	.7	acres..		248 1.8	
Total woodland .....	1 744 036	.7			309 1.9	
acres..		.7			112 322 1.8	
Total woodland .....	farms..	.7	<b>Hired farm labor<sup>1</sup></b>			
acres..	14 942	.7	Hired workers by days worked:			
Pastureland and rangeland other than cropland and			150 days or more .....	farms..	10 182 1.9	
woodland pastured .....	farms..	.7	workers..		19 665 1.5	
acres..	13 032	.7	Less than 150 days .....	farms..	26 163 1.2	
Land in house lots, ponds, roads, wasteland, etc. ....	farms..	.6	workers..		67 141 1.6	
acres..	1 221 685	.7	<b>Injuries and deaths</b>			
Irrigated land .....	farms..	.6	Farm-related injuries:			
acres..	45 919	.6	Operator and family members .....	farms..	992 1.0	
Irrigated land .....	1 306 678	.6	number..		1 156 1.1	
acres..	813	.1	Hired workers .....	farms..	334 1.0	
Harvested cropland irrigated .....	farms..	.1	number..		581 .7	
acres..	123 536	.1	Farm-related deaths:			
Pasture and other land irrigated .....	farms..	.1	Operator and family members .....	farms..	23 —	
acres..	805	.1	number..		(D) —	
Land under Conservation Reserve or Wetlands			Hired workers .....	farms..	4 —	
Reserve Programs .....	farms..	.7	number..		(D) —	
acres..	14 427	.7				
	955 455	.8				
<b>VALUE OF LAND AND BUILDINGS<sup>1</sup></b>						
Estimated market value of land and buildings .....	farms..	.6	<b>Farms by size</b>			
\$1,000..		.6	1 to 9 acres .....		2 002 .9	
Average per farm .....	dollars..	.7	10 to 49 acres .....		2 638 .8	
Average per acre .....	dollars..	.9	50 to 69 acres .....		1 250 1.1	
	48 282 293	.6	70 to 99 acres .....		3 714 .8	
	717 920	.7	100 to 139 acres .....		4 318 .8	
	1 704	.9	140 to 179 acres .....		6 373 .8	
			180 to 219 acres .....		4 334 .8	
			220 to 259 acres .....		4 520 .8	
			260 to 499 acres .....		17 494 .7	
			500 to 999 acres .....		14 637 .7	
			1,000 to 1,999 acres .....		5 096 .3	
			2,000 acres or more .....		770 —	
<b>VALUE OF MACHINERY AND EQUIPMENT<sup>1</sup></b>						
Estimated market value of all machinery and			<b>Farms by North American industry classification system</b>			
equipment .....	farms..	.6	Oilseed and grain farming (111) .....		43 338 .7	
\$1,000..		.6	Vegetable and melon farming (1112) .....		81 3.2	
Average per farm .....	dollars..	.8	Fruit and tree nut farming (1113) .....		46 4.4	
	67 253	.6	Greenhouse, nursery, and floriculture production (1114) .....		365 1.7	
	6 829 857	.8	Other crop farming (1119) .....		1 671 1.0	
	101 555	1.1	Beef cattle ranching and farming (112111) .....		5 431 .8	
			Cattle feedlots (112112) .....		3 128 .7	
<b>AGRICULTURAL CHEMICALS<sup>1</sup></b>			Dairy cattle and milk production (11212) .....		2 654 .8	
Commercial fertilizer .....	farms..	.7	Hog and pig farming (1122) .....		8 827 .5	
acres on which used..		.7	Poultry and egg production (1123) .....		265 1.2	
	58 865	.7	Sheep and goat farming (1124) .....		185 2.4	
	14 326 972	.7	Animal aquaculture and other animal production (1125, 1129) .....		1 155 1.0	
<b>TENURE OF OPERATOR</b>						
All operators .....	farms..	.6	<b>Livestock</b>			
acres..		.5	Cattle and calves inventory .....	farms..	30 503 .6	
Full owners .....	farms..	.7	number..		3 483 198 .5	
acres..		.6	Beef cows .....	farms..	21 355 .7	
Part owners .....	farms..	.6	number..		948 135 .7	
acres..		.6	Milk cows .....	farms..	4 016 .8	
Tenants .....	farms..	.6	number..		221 584 .6	
acres..		.6	Cattle and calves sold .....	farms..	31 130 .6	
	67 146	.6	number..		2 808 143 .3	
	29 199 099	.5	\$1,000..		1 822 299 .3	
	23 050	.7	Hogs and pigs inventory .....	farms..	14 619 553 .2	
	5 483 856	.7	number..		16 440 .5	
	31 001	.6	Hogs and pigs sold .....	farms..	17 516 .5	
	18 867 959	.5	number..		27 468 666 .2	
	13 095	.7	\$1,000..		3 027 440 .2	
	4 847 284	.6	Sheep and lambs of all ages inventory .....	farms..	2 838 .8	
			number..		220 520 .9	
<b>OWNED AND RENTED LAND</b>			Sheep and lambs sold .....	farms..	2 937 .8	
Land owned .....	farms..	.6	number..		280 163 1.0	
acres..		.6	<b>Operator characteristics</b>			
Owned land in farms .....	farms..	.6	Horses and ponies inventory .....	farms..	5 404 .7	
acres..		.6	number..		32 703 .9	
Land rented or leased from others .....	farms..	.6	Horses and ponies sold .....	farms..	1 076 1.1	
acres..		.6	number..		6 409 1.9	
Rented or leased land in farms .....	landlords..	.5				
acres..		.5				
Land rented or leased to others .....	farms..	.6				
acres..		.6				
<b>OPERATOR CHARACTERISTICS</b>						
Operators by place of residence:						
On farm operated .....		.6				
Not on farm operated .....		.8				
Not reported .....		.7				
Operators by principal occupation:						
Farming .....		.6				
Other .....		.7				
Operators by days worked off farm:						
Any .....		.7				
200 days or more .....		.7				
Operators by sex:						
Male .....		.6				
Female .....		1.1				
Average age of operator .....	years..	.9				

See footnotes at end of table.

**Table D. Reliability Estimates of State Totals for Farms With Sales of \$10,000 or More:  
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)	
<b>POULTRY</b>						
Layers and pullets 13 weeks old and older inventory (see text) .....	farms.. number..	1 095 .1	Wheat for grain .....	farms.. acres.. bushels..	666 21 289 882 060	1.2 1.8 2.0
Layers 20 weeks old and older .....	farms.. number..	1 059 .1	Oats for grain .....	farms.. acres.. bushels..	10 234 205 974 13 982 570	.7 .7 .6
Broilers and other meat-type chickens sold .....	farms.. number..	325 6 804 178	Soybeans for beans .....	farms.. acres.. bushels..	53 487 9 895 952 443 766 784	.6 .5 .5
<b>SELECTED CROPS HARVESTED</b>						
Corn for grain or seed .....	farms.. acres.. bushels..	58 151 .6 .5	Potatoes, excluding sweetpotatoes .....	farms.. acres.. cwt..	76 1 454 294 075	3.3 2.5 2.2
Corn for silage or green chop .....	farms.. acres.. tons, green..	11 541 650 8 237 3 963 117	Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text) .....	farms.. acres.. tons, dry..	30 341 1 438 060 4 100 924	.7 .6 .6
			Alfalfa hay .....	farms.. acres.. tons, dry..	26 009 1 005 026 3 231 565	.7 .6 .6
			Vegetables harvested for sale (see text) .....	farms.. acres..	511 11 747	1.4 2.5
			Land in orchards .....	farms.. acres..	182 1 494	2.3 3.3

<sup>1</sup>Data are based on a sample of farms.

<sup>2</sup>Farms 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 .....	-6.0	1.1	-12.9	1.1
Land in farms .....	.6	1.0	-2.4	1.0
Average size of farm .....	5.5	1.7	12.1	1.8
Estimated market value of land and buildings <sup>1</sup> :				
Average per farm .....	dollars..	43.7	2.4	52.3
Average per acre .....	dollars..	40.0	2.3	40.6
Estimated market value of all machinery and equipment <sup>1</sup> :				
Average per farm .....	dollars..	16.9	2.1	25.1
Farms by size:				
1 to 9 acres .....		-29.2	1.0	-43.8
10 to 49 acres .....		11.9	1.5	-8.0
50 to 179 acres .....		—	1.0	-13.7
180 to 499 acres .....		-14.9	1.0	-18.1
500 to 999 acres .....		-6.3	1.1	-6.6
1,000 to 1,999 acres .....		20.6	.4	20.7
2,000 acres or more .....		57.1	—	56.8
Total cropland .....	farms..	-5.5	1.2	-11.6
	acres..	-1.4	1.0	-2.4
Harvested cropland .....	farms..	-10.8	1.1	-11.4
	acres..	2.2	1.0	2.5
Irrigated land .....	farms..	-10.0	1.4	-5.4
	acres..	8.0	1.5	7.7
Market value of agricultural products sold .....	\$1,000..	18.3	.9	18.5
Average per farm .....	dollars..	25.8	1.8	36.2
Crops, including nursery and greenhouse crops .....	\$1,000..	33.3	1.2	33.6
Livestock, poultry, and their products .....	\$1,000..	5.5	.6	5.7
Farms by value of sales:				
Less than \$2,500 .....		72.7	2.2	(X)
\$2,500 to \$4,999 .....		-3.7	1.5	(X)
\$5,000 to \$9,999 .....		-16.4	1.2	(X)
\$10,000 to \$24,999 .....		-24.0	1.0	-24.0
\$25,000 to \$49,999 .....		-22.9	1.0	-22.9
\$50,000 to \$99,999 .....		-21.8	1.3	-21.8
\$100,000 to \$249,999 .....		-12.7	1.2	-12.7
\$250,000 to \$499,999 .....		25.6	.5	25.6
\$500,000 or more .....		72.0	—	72.0
Total farm production expenses <sup>1</sup> .....	\$1,000..	8.5	1.0	8.5
Average per farm .....	dollars..	15.4	1.7	24.4
Net cash return from agricultural sales for the farm unit (see text) <sup>1</sup> .....	farms..	-6.0	1.2	-12.8
	\$1,000..	35.4	1.7	35.9
Average per farm .....	dollars..	44.0	2.6	55.8
Operators by principal occupation:				
Farming .....		-15.9	1.0	-17.7
Other .....		16.4	1.6	4.7
Operators by days worked off farm:				
Any .....		6.4	1.4	-1.0
200 days or more .....		12.1	1.5	3.7
Livestock and poultry:				
Cattle and calves inventory .....	farms..	-11.9	1.1	-15.6
	number..	-.8	.8	-.8
Beef cows .....	farms..	-8.5	1.2	-11.7
	number..	-.3	.2	1.2
Milk cows .....	farms..	-28.4	1.1	-28.7
	number..	-.14.2	1.0	1.0
Cattle and calves sold .....	farms..	-12.0	1.1	-15.5
	number..	-.10.6	.6	-.6
Hogs and pigs inventory .....	farms..	-45.8	.6	-44.5
	number..	-.3.5	.7	.7
Hogs and pigs sold .....	farms..	-46.1	.6	-44.6
	number..	-.2.5	.7	.7
Sheep and lambs inventory .....	farms..	-34.5	.9	-37.9
	number..	-.34.5	.8	.9
Layers and pullets 13 weeks old and older inventory (see text) .....	farms..	-28.1	1.1	-33.6
	number..	-.98.1	.5	.5
Broilers and other meat-type chickens sold .....	farms..	-20.4	1.7	-26.1
	number..	-.25.5	.8	.8
Selected crops harvested:				
Corn for grain or seed .....	farms..	-15.0	1.1	-13.4
	acres..	-.7.3	.9	.9
	bushels..	-.12.4	.8	.8
Corn for silage or green chop .....	farms..	-12.2	1.1	-12.2
	acres..	-.7.4	.9	.9
	tons, green..	-.2.5	.9	.9
Wheat for grain .....	farms..	-25.9	1.4	-26.5
	acres..	-.26.4	1.7	1.7
	bushels..	-.23.5	1.8	1.8
Oats for grain .....	farms..	-39.4	.8	-39.8
	acres..	-.42.4	.7	.7
	bushels..	-.38.5	.7	.7
Soybeans for beans .....	farms..	-.5.9	1.2	-5.6
	acres..	-.20.6	1.1	20.9
	bushels..	-.26.4	1.2	26.6
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text) .....	farms..	-15.8	1.1	-18.9
	acres..	-.10.6	1.1	-11.7
	tons, dry..	-.14.5	1.0	-15.3

<sup>1</sup>Data 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 <sup>1</sup>		Estimated market value of all machinery and equipment <sup>1</sup>	
	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)
Iowa .....	90 792	.6	31 166 699	.5	343	.8	566 587	.9	7 318 851	.8
Adair .....	792	.6	335 756	.9	424	1.1	380 402	4.4	53 573	3.8
Adams .....	573	.7	235 441	1.0	411	1.3	380 020	5.0	38 914	11.0
Allamakee .....	958	.6	295 778	1.0	309	1.2	296 120	5.8	65 962	5.1
Appanoose .....	797	.7	241 094	1.3	303	1.4	193 374	5.7	35 661	16.0
Audubon .....	649	.6	272 258	.9	420	1.0	650 917	5.7	56 807	8.2
Benton .....	1 210	.5	418 483	.7	346	.9	706 732	3.7	109 537	5.8
Black Hawk .....	1 002	.5	285 972	.8	285	.9	622 032	3.5	82 548	5.9
Boone .....	863	.4	328 906	.7	381	.8	770 510	3.3	83 685	7.1
Bremer .....	982	.6	238 528	.8	243	1.0	479 658	4.1	71 487	5.9
Buchanan .....	1 136	.5	336 863	.7	297	.9	513 191	4.1	87 074	5.0
Buena Vista .....	867	.5	356 751	.6	411	.8	845 515	3.9	85 969	5.1
Butler .....	1 085	.4	324 282	.6	299	.8	519 040	3.4	73 952	5.4
Calhoun .....	793	.7	336 516	.8	424	1.1	1 005 171	4.5	92 250	4.7
Carroll .....	1 102	.5	352 698	.7	320	.9	603 581	3.6	114 113	5.4
Cass .....	804	.6	331 362	.9	412	1.0	518 379	3.8	59 547	5.4
Cedar .....	965	.5	325 744	.8	338	.9	696 404	4.4	93 449	4.9
Cerro Gordo .....	822	.6	300 851	.8	366	1.0	680 433	3.6	79 209	4.6
Cherokee .....	890	.5	330 355	.8	371	.9	686 623	4.2	79 812	5.9
Chickasaw .....	926	.6	272 371	.8	294	1.0	445 954	5.0	76 356	7.5
Clarke .....	678	.7	221 848	1.4	327	1.6	251 123	6.0	29 384	8.0
Clay .....	668	.5	285 829	.8	428	.9	794 008	4.7	73 814	6.2
Clayton .....	1 638	.5	452 050	.7	276	.9	385 574	3.5	112 436	4.5
Clinton .....	1 268	.6	367 764	.8	290	1.0	495 403	3.8	90 679	6.1
Crawford .....	1 107	.7	431 726	.9	390	1.1	560 413	3.9	98 181	7.1
Dallas .....	918	.4	323 612	.7	353	.8	840 534	5.6	77 853	5.3
Davis .....	884	.6	266 508	1.1	301	1.3	253 719	4.5	34 144	6.1
Decatur .....	730	.5	261 927	1.0	359	1.1	207 685	5.3	31 420	8.5
Delaware .....	1 278	.5	326 187	.6	255	.8	450 837	3.6	116 501	4.4
Des Moines .....	650	.5	192 165	1.0	296	1.2	455 489	8.6	45 870	8.7
Dickinson .....	512	.5	201 126	.9	393	1.1	666 643	5.5	41 278	7.3
Dubuque .....	1 579	.7	336 497	.8	213	1.1	336 380	3.6	109 384	5.4
Emmet .....	519	.5	220 174	.8	424	.9	727 640	5.4	55 845	7.9
Fayette .....	1 295	.6	404 407	.7	312	.9	468 712	3.8	111 478	5.1
Floyd .....	850	.5	300 255	.7	353	.9	629 372	4.3	77 949	5.4
Franklin .....	856	.6	344 296	.7	402	.9	753 642	3.6	90 484	7.7
Fremont .....	568	.6	318 355	.8	560	1.0	721 146	4.2	52 817	6.3
Greene .....	763	.6	343 346	.8	450	1.0	852 473	4.0	71 380	6.7
Grundy .....	754	.4	321 389	.6	426	.7	966 952	3.2	92 869	5.6
Guthrie .....	847	.7	304 177	1.0	359	1.2	481 336	6.5	56 303	6.7
Hamilton .....	790	.4	348 675	.5	441	.6	948 567	4.3	95 606	5.2
Hancock .....	849	.4	334 050	.7	393	.8	828 770	3.6	90 695	5.4
Hardin .....	857	.5	339 951	.7	397	.9	776 556	3.2	81 542	5.1
Harrison .....	876	.8	392 708	.9	448	1.2	634 999	4.7	88 993	7.0
Henry .....	835	.5	244 704	.9	293	1.1	481 740	7.4	63 446	9.1
Howard .....	862	.6	269 750	.8	313	1.0	431 916	3.8	63 635	6.7
Humboldt .....	600	.6	257 411	.8	429	1.0	924 260	4.8	82 420	6.5
Ida .....	637	.9	253 306	1.1	398	1.5	657 881	4.3	56 297	6.7
Iowa .....	976	.5	331 922	.7	340	.9	472 078	3.0	71 068	6.1
Jackson .....	1 280	.6	334 824	.9	262	1.1	297 048	4.2	71 742	5.9
Jasper .....	1 204	.6	420 637	.8	349	1.0	540 222	4.3	87 580	4.3
Jefferson .....	765	.7	228 017	1.1	298	1.3	327 898	6.2	38 613	7.3
Johnson .....	1 261	.6	288 139	.9	229	1.1	415 623	4.0	70 080	4.5
Jones .....	1 029	.5	321 934	.8	313	.9	484 280	3.9	78 341	7.2
Keokuk .....	968	.7	323 028	1.0	334	1.2	523 123	4.8	72 468	5.6
Kossuth .....	1 404	.5	580 884	.6	414	.8	884 927	3.3	153 835	5.0
Lee .....	861	.6	256 685	1.1	298	1.2	381 446	5.8	61 518	8.0
Linn .....	1 480	.5	339 227	.8	229	.9	525 825	4.8	88 947	5.7
Louisa .....	593	.6	201 393	1.0	340	1.2	481 986	4.7	51 178	6.5
Lucas .....	706	.7	227 160	1.4	322	1.5	245 943	6.6	30 606	9.0
Lyon .....	1 149	.9	348 492	1.0	303	1.3	565 532	3.5	90 188	4.9
Madison .....	986	.7	316 579	1.1	321	1.3	427 050	5.0	53 905	6.8
Mahaska .....	1 022	.6	329 038	.8	322	1.0	465 895	4.3	75 193	5.0
Marion .....	971	.6	285 724	1.0	294	1.2	408 068	5.1	53 684	5.6
Marshall .....	912	.5	319 392	.8	350	1.0	662 645	4.6	74 798	5.5
Mills .....	496	.7	232 129	1.1	468	1.3	684 846	4.8	41 392	7.9
Mitchell .....	824	.6	265 173	.8	322	1.0	573 647	4.1	68 636	8.3
Monona .....	697	.7	367 651	.8	527	1.0	691 520	6.6	62 099	5.9
Monroe .....	691	.9	217 317	1.5	314	1.7	254 477	7.0	29 987	8.4
Montgomery .....	577	.5	242 650	.8	421	1.0	534 755	4.1	53 855	7.7
Muscatine .....	783	.6	219 001	1.0	280	1.2	444 479	5.1	67 350	11.6
O'Brien .....	977	.6	358 472	.8	367	1.0	795 168	4.1	106 665	6.3
Oscceola .....	649	.7	240 601	1.0	371	1.2	729 355	4.3	65 947	6.3
Page .....	845	.5	309 228	.9	366	1.1	402 409	5.0	57 962	6.6
Palo Alto .....	787	.6	327 733	.8	416	1.0	790 686	4.9	71 782	6.5
Plymouth .....	1 490	.7	512 029	.8	344	1.0	638 394	4.1	117 613	4.5
Pocahontas .....	778	.6	356 988	.8	459	1.0	990 319	3.9	99 132	4.8
Polk .....	800	.6	225 623	1.0	282	1.2	602 608	6.4	59 702	7.7
Pottawattamie .....	1 325	.6	536 704	.8	405	1.0	731 847	3.4	118 478	5.5
Poweshiek .....	934	.6	335 296	.8	359	1.0	498 409	4.6	68 520	5.6
Ringgold .....	671	.8	263 753	1.2	393	1.4	273 901	4.7	37 072	6.3
Sac .....	813	.6	344 949	.7	424	.9	840 563	3.9	82 738	6.8
Scott .....	799	.6	225 248	.9	282	1.1	852 488	4.2	81 548	5.7
Shelby .....	921	.7	342 366	.9	372	1.1	609 382	4.5	73 342	6.2
Sioux .....	1 752	.6	493 556	.7	282	.9	661 908	2.6	163 526	4.3

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	Farms		Land in farms		Average size of farm		Average market value of land and buildings per farm <sup>1</sup>		Estimated market value of all machinery and equipment <sup>1</sup>	
	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)
Story .....	946	.5	340 885	.8	360	1.0	801 353	5.2	92 918	5.5
Tama .....	1 152	.6	396 220	.8	344	1.0	608 765	3.5	88 223	5.8
Taylor .....	746	.9	291 497	1.1	391	1.4	354 123	5.5	29 838	10.8
Union .....	671	.8	225 134	1.4	336	1.6	311 057	8.7	31 682	16.6
Van Buren .....	807	.8	257 227	1.3	319	1.5	240 446	6.2	39 861	9.4
Wapello .....	781	.7	208 213	1.1	267	1.3	354 530	8.3	49 304	9.6
Warren .....	1 214	.6	299 835	1.1	247	1.2	352 257	5.9	59 963	8.6
Washington .....	1 061	.6	317 699	.9	299	1.1	545 505	5.3	87 757	6.1
Wayne .....	729	.5	286 412	.9	393	1.0	252 553	5.0	34 944	10.6
Webster .....	937	.5	412 641	.6	440	.8	1 069 561	3.1	105 212	4.5
Winnebago .....	607	.4	241 600	.7	398	.9	717 501	4.2	66 257	6.2
Winneshiek .....	1 450	.7	360 778	.9	249	1.1	321 413	3.6	88 833	4.3
Woodbury .....	1 306	.8	497 241	.9	381	1.2	506 937	3.4	102 151	5.4
Worth .....	608	.5	227 898	.9	375	1.0	639 598	4.5	60 470	5.9
Wright .....	717	.4	349 675	.6	488	.7	1 055 635	3.5	97 737	5.9
Geographic area	Average market value of all machinery and equipment per farm <sup>1</sup>		Market value of agricultural products sold		Average market value of agricultural products sold per farm		Farm production expenses <sup>1</sup>			
	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)	Number	Total farm production expenses		
								Farms		Value
Iowa .....	80 651	1.0	11 947 894	.3	131 596	.7	90 786	.6	8 405 838	.4
Adair .....	67 728	3.9	82 545	.8	104 223	1.0	791	.7	59 677	2.9
Adams .....	67 912	11.1	49 642	1.0	86 635	1.2	573	1.0	35 262	5.0
Allamakee .....	68 782	5.1	80 826	.9	84 370	1.1	959	.7	55 806	4.2
Appanoose .....	44 744	16.0	28 757	1.5	36 082	1.7	797	.9	21 014	7.1
Audubon .....	87 530	8.3	114 110	.6	175 824	.8	649	.8	86 803	2.0
Benton .....	90 602	5.9	157 977	.6	130 559	.8	1 209	.6	113 156	1.9
Black Hawk .....	82 466	6.0	127 892	.6	127 636	.8	1 001	.7	89 869	1.9
Boone .....	96 969	7.1	119 995	.6	139 045	.7	863	.6	78 305	2.3
Bremer .....	72 871	5.9	101 575	.7	103 437	.9	981	.7	68 032	2.9
Buchanan .....	76 717	5.1	137 169	.6	120 747	.8	1 135	.6	99 416	2.1
Buena Vista .....	99 272	5.1	210 089	.3	242 317	.6	866	.7	139 583	1.3
Butler .....	68 158	5.4	131 473	.5	121 174	.7	1 085	.6	92 343	2.3
Calhoun .....	116 477	4.8	140 244	.7	176 853	.9	792	.8	91 209	2.4
Carroll .....	103 551	5.5	221 458	.4	200 960	.7	1 102	.6	163 900	1.5
Cass .....	74 063	5.5	94 100	.7	117 040	.9	804	.7	69 525	2.3
Cedar .....	96 939	5.0	128 566	.7	133 229	.8	964	.7	90 267	2.3
Cerro Gordo .....	96 361	4.7	120 620	.6	146 739	.9	822	.8	85 779	2.1
Cherokee .....	90 490	6.0	145 854	.5	163 881	.7	889	.7	102 162	2.3
Chickasaw .....	82 369	7.6	122 131	.6	131 891	.9	927	.7	88 106	1.9
Clarke .....	43 340	8.0	38 534	1.1	56 835	1.3	678	.9	34 199	2.8
Clay .....	110 500	6.2	120 624	.6	180 574	.7	668	.7	78 303	2.8
Clayton .....	68 600	4.5	171 442	.6	104 665	.8	1 639	.6	123 749	1.8
Clinton .....	71 626	6.1	148 387	.7	117 025	.9	1 266	.6	112 528	2.1
Crawford .....	88 611	7.1	143 011	.7	129 188	1.0	1 108	.9	106 846	1.9
Dallas .....	84 900	5.4	117 622	.5	128 128	.7	917	.6	71 377	2.2
Davis .....	38 669	6.1	55 850	1.0	63 178	1.2	883	.8	44 889	2.9
Decatur .....	42 924	8.5	54 349	.7	74 450	.8	732	.6	39 938	3.3
Delaware .....	91 087	4.4	195 918	.5	153 300	.7	1 279	.7	137 908	1.9
Des Moines .....	70 353	8.7	69 769	.9	107 337	1.0	652	.7	49 248	5.2
Dickinson .....	80 621	7.3	72 854	.7	142 294	.9	512	.8	55 804	2.0
Dubuque .....	69 318	5.5	171 651	.7	108 709	1.0	1 578	.8	127 281	2.1
Emmet .....	107 602	7.9	91 349	.6	176 009	.8	519	.8	58 017	2.6
Fayette .....	86 084	5.2	181 137	.5	139 874	.8	1 295	.7	126 410	1.7
Floyd .....	91 489	5.4	113 534	.6	133 569	.8	852	.6	84 177	2.3
Franklin .....	105 337	7.7	180 192	.4	210 504	.7	859	.7	139 062	1.6
Fremont .....	93 152	6.4	88 185	.7	155 256	.9	567	.8	55 616	2.5
Greene .....	93 552	6.7	122 235	.7	160 203	.9	763	.8	75 837	2.4
Grundy .....	123 332	5.6	149 118	.4	197 769	.6	753	.7	103 246	1.6
Guthrie .....	66 553	6.8	95 779	.7	113 080	1.0	846	.8	71 093	2.4
Hamilton .....	121 174	5.2	227 219	.2	287 619	.4	789	.6	158 228	.9
Hancock .....	106 826	5.4	140 661	.5	165 679	.7	849	.6	98 495	1.8
Hardin .....	95 260	5.2	201 877	.4	235 563	.7	856	.7	150 236	1.2
Harrison .....	101 590	7.0	112 981	.8	128 974	1.1	876	.9	73 412	2.5
Henry .....	75 892	9.2	77 086	.8	92 319	1.0	836	.7	55 921	4.0
Howard .....	73 737	6.8	95 130	.7	110 359	.9	863	.7	67 827	3.1
Humboldt .....	137 366	6.6	100 520	.7	167 533	.9	600	.8	63 217	3.0
Ida .....	88 517	6.8	95 685	.9	150 212	1.3	636	1.1	64 029	3.0
Iowa .....	72 816	6.1	104 865	.7	107 443	.9	976	.7	71 864	2.2
Jackson .....	56 579	6.0	96 659	.8	75 515	1.0	1 280	.7	75 113	2.6
Jasper .....	72 740	4.4	153 843	.7	127 776	.9	1 204	.8	97 478	2.3
Jefferson .....	50 541	7.3	57 520	1.2	75 190	1.3	764	.8	36 332	4.5
Johnson .....	55 575	4.6	100 391	.9	79 613	1.0	1 261	.7	72 898	2.3
Jones .....	76 208	7.3	136 937	.6	133 077	.7	1 028	.6	100 511	2.2
Keokuk .....	74 786	5.7	96 734	.9	99 932	1.1	969	.9	71 065	3.2

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	Average market value of all machinery and equipment per farm <sup>1</sup>		Market value of agricultural products sold		Average market value of agricultural products sold per farm		Farm production expenses <sup>1</sup>			
	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)
Kossuth.....	109 491	5.1	242 775	.5	172 917	.7	1 405	.7	162 320	1.6
Lee.....	71 284	8.1	77 358	1.0	89 847	1.2	863	.7	56 337	3.4
Linn.....	60 099	5.7	113 460	.7	76 662	.9	1 480	.7	78 785	2.4
Louisa.....	86 449	6.6	81 296	.7	137 093	.9	592	.8	53 833	3.3
Lucas.....	43 351	9.1	29 371	1.6	41 602	1.7	706	.9	22 214	4.7
Lyon.....	78 493	4.9	198 795	.6	173 016	1.1	1 149	.8	145 807	1.7
Madison.....	54 615	6.8	73 550	.8	74 594	1.1	987	.8	58 862	2.6
Mahaska.....	73 575	5.0	156 722	.5	153 348	.8	1 022	.7	106 900	2.0
Marion.....	55 288	5.6	73 114	.9	75 298	1.1	971	.8	49 036	2.7
Marshall.....	81 835	5.5	117 640	.7	128 992	.9	914	.7	80 870	2.1
Mills.....	83 621	7.9	59 190	1.1	119 334	1.3	495	.8	34 423	4.0
Mitchell.....	84 112	8.4	160 571	.5	194 868	.8	827	.7	122 220	2.1
Monona.....	88 968	6.0	100 554	.7	144 267	1.0	698	.8	69 682	2.6
Monroe.....	43 397	8.5	39 323	1.4	56 907	1.7	691	1.0	29 882	3.4
Montgomery.....	93 498	7.8	82 602	.6	143 157	.8	576	.8	53 462	2.9
Muscatine.....	86 125	11.6	73 835	.9	94 298	1.1	782	.9	55 741	2.5
O'Brien.....	109 176	6.3	180 036	.5	184 274	.8	977	.7	123 842	1.8
Osceola.....	101 614	6.4	139 942	.5	215 627	.9	649	.8	95 705	1.5
Page.....	68 675	6.6	79 419	.8	93 986	1.0	844	.7	50 123	3.4
Palo Alto.....	91 209	6.5	155 767	.5	197 925	.7	787	.7	100 333	1.7
Plymouth.....	78 988	4.6	238 391	.5	159 994	.8	1 489	.7	173 372	1.5
Pocahontas.....	127 583	4.9	138 598	.7	178 147	.9	777	.8	79 515	2.2
Polk.....	74 442	7.8	71 221	.9	89 026	1.1	802	.8	42 541	3.5
Pottawattamie.....	89 350	5.5	190 001	.6	143 397	.9	1 326	.7	130 063	1.9
Poweshiek.....	73 440	5.6	107 375	.7	114 963	1.0	933	.8	72 216	2.7
Ringgold.....	55 249	6.4	48 665	.8	72 526	1.1	671	1.0	40 433	1.9
Sac.....	101 894	6.9	190 949	.4	234 870	.7	812	.8	133 924	1.5
Scott.....	102 191	5.8	95 104	.8	119 029	1.0	798	.9	72 368	2.6
Shelby.....	79 719	6.3	132 843	.7	144 237	1.0	920	.8	91 309	2.8
Sioux.....	93 390	4.3	507 960	.3	289 932	.6	1 751	.6	378 426	.7
Story.....	98 118	5.6	130 832	.7	138 300	.9	947	.7	84 555	2.4
Tama.....	76 516	5.9	127 816	.8	110 952	1.0	1 153	.7	91 847	2.4
Taylor.....	40 051	10.8	62 200	.8	83 378	1.2	745	1.1	43 481	3.8
Union.....	47 146	16.7	39 032	1.5	58 169	1.7	672	.9	28 838	3.9
Van Buren.....	49 516	9.4	43 027	1.5	53 318	1.7	805	1.0	31 529	3.5
Wapello.....	63 291	9.7	44 604	1.2	57 112	1.3	779	.8	31 882	6.0
Warren.....	49 352	8.6	59 615	1.1	49 106	1.2	1 215	.7	40 526	2.7
Washington.....	82 634	6.2	174 186	.5	164 171	.8	1 062	.9	120 050	2.1
Wayne.....	47 934	10.7	36 564	1.1	50 157	1.2	729	.7	26 130	4.3
Webster.....	112 406	4.6	166 258	.5	177 436	.7	936	.7	105 595	1.6
Winnebago.....	109 336	6.2	78 356	.7	129 088	.8	606	.7	53 161	3.3
Winneshiek.....	61 264	4.4	131 310	.8	90 559	1.0	1 450	.8	94 934	2.0
Woodbury.....	78 638	5.5	151 324	.7	115 869	1.1	1 308	.8	115 872	1.9
Worth.....	99 621	6.0	76 626	.8	126 030	.9	607	.7	53 185	2.9
Wright.....	136 504	6.0	175 045	.3	244 136	.5	716	.6	137 341	1.4
Farm production expenses <sup>1</sup> —Con.										
Livestock and poultry purchased						Feed for livestock and poultry			Seeds, bulbs, plants, and trees	
Geographic area	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)
Iowa.....	30 572	1.2	1 260 448	.6	46 733	.9	1 585 107	.5	68 732	.7
Adair.....	323	10.4	8 225	10.1	485	6.6	11 584	7.4	617	3.6
Adams.....	179	15.4	5 115	11.6	334	7.4	5 101	8.8	378	5.8
Allamakee.....	408	8.9	4 165	14.5	636	4.1	12 962	8.0	670	4.4
Appanoose.....	203	13.5	2 164	18.1	453	7.2	2 619	36.1	412	7.2
Audubon.....	242	10.8	17 248	4.4	399	7.0	16 411	2.6	536	3.0
Benton.....	379	10.6	14 331	4.3	592	7.2	13 392	5.1	918	2.2
Black Hawk.....	308	9.2	9 397	8.5	441	7.3	15 915	3.7	793	2.8
Boone.....	236	12.7	8 866	5.1	399	7.9	9 959	3.9	650	3.1
Bremer.....	378	9.2	7 207	11.0	540	6.6	8 964	7.5	738	3.5
Buchanan.....	495	6.8	11 338	6.1	575	6.0	16 382	4.4	908	3.2
Buena Vista.....	323	9.7	30 501	2.3	445	7.9	39 360	2.3	711	2.9
Butler.....	437	7.8	13 930	8.1	583	5.6	13 830	4.2	835	2.5
Calhoun.....	207	14.0	15 761	2.9	259	11.2	13 310	3.3	724	2.6
Carroll.....	472	7.6	47 511	2.0	626	5.6	36 116	2.0	924	2.1
Cass.....	259	11.3	13 794	4.4	451	7.1	8 163	3.2	661	3.7
Cedar.....	370	9.4	11 172	7.7	466	7.4	11 507	4.6	731	2.5
Cerro Gordo.....	198	12.8	6 982	6.3	292	9.8	11 438	5.9	648	2.0
Cherokee.....	366	8.8	19 399	5.4	541	5.7	18 179	3.6	765	2.1
Chickasaw.....	320	8.5	14 696	5.6	481	5.6	14 892	4.7	707	3.2

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 <sup>1</sup> —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)
Clarke .....	209	12.5	3 709	7.0	410	6.4	8 987	2.5	440	5.5	1 369	8.4
Clay .....	200	14.1	10 639	7.8	341	9.1	12 665	6.7	598	2.7	5 160	6.1
Clayton .....	618	7.0	10 967	8.0	1 055	3.0	30 705	3.4	1 177	2.7	6 383	4.4
Clinton .....	578	7.2	20 182	4.1	724	5.7	14 081	4.7	993	2.5	7 046	5.3
Crawford .....	427	9.1	20 794	5.8	649	5.9	14 226	5.7	853	3.5	6 349	4.0
Dallas .....	223	13.4	6 778	7.7	403	8.6	7 903	5.9	653	3.2	4 990	4.2
Davis .....	364	8.1	5 199	16.2	581	4.9	14 224	3.1	502	5.5	1 373	5.2
Decatur .....	185	13.1	6 445	4.5	426	6.6	12 860	4.2	361	7.2	1 168	14.4
Delaware .....	668	6.0	19 576	5.7	906	3.5	35 633	3.5	1 102	2.0	5 603	3.1
Des Moines .....	188	16.6	6 393	7.2	281	12.3	7 380	6.3	516	3.6	3 480	10.4
Dickinson .....	149	14.1	12 208	4.4	204	11.9	8 961	5.6	386	3.4	3 382	6.9
Dubuque .....	690	6.5	19 749	5.5	1 118	3.1	33 334	4.7	1 147	3.1	4 511	4.4
Emmet .....	152	13.3	11 182	6.0	199	11.5	9 978	5.6	422	3.8	3 492	5.6
Fayette .....	489	8.4	17 410	3.6	696	6.1	23 751	3.8	1 028	2.7	6 928	3.4
Floyd .....	285	10.6	7 799	9.8	394	8.9	6 865	6.5	654	3.1	6 001	3.1
Franklin .....	286	11.7	18 735	5.9	434	7.9	47 363	2.0	748	3.3	6 561	4.4
Fremont .....	118	17.4	10 038	8.3	211	12.6	3 521	7.7	479	3.0	4 506	4.8
Greene .....	230	12.4	10 841	3.1	303	10.8	7 668	7.4	678	2.3	6 129	7.2
Grundy .....	245	10.2	12 099	4.0	345	8.2	16 820	2.5	682	2.2	5 911	3.6
Guthrie .....	264	10.9	7 617	7.2	442	6.4	16 122	4.8	596	4.0	3 554	7.3
Hamilton .....	233	12.2	25 054	1.7	310	9.9	51 279	1.1	674	2.3	6 452	3.2
Hancock .....	242	12.1	10 074	7.4	291	10.8	18 099	4.2	742	2.4	6 737	5.5
Hardin .....	293	10.8	20 961	2.5	478	6.8	47 795	1.1	691	3.1	6 288	3.5
Harrison .....	198	14.6	7 601	8.0	355	9.6	7 747	4.7	680	3.3	5 845	4.0
Henry .....	273	12.2	4 179	9.5	426	8.1	8 957	7.9	581	4.3	4 158	7.7
Howard .....	307	11.6	7 514	9.0	476	6.9	9 724	7.8	669	3.2	5 112	4.1
Humboldt .....	126	17.3	8 393	5.2	156	15.3	6 961	7.2	533	2.4	4 618	5.0
Ida .....	218	13.5	11 717	8.7	295	10.2	7 326	5.5	503	4.6	3 706	5.0
Iowa .....	331	9.2	8 648	7.0	538	5.9	12 119	5.1	709	3.6	4 472	4.9
Jackson .....	538	7.0	14 530	9.3	832	3.6	14 583	6.1	852	3.5	3 378	6.2
Jasper .....	359	9.6	11 430	6.6	641	6.0	15 908	4.6	903	2.9	6 896	3.9
Jefferson .....	192	12.9	4 317	12.4	376	9.0	5 530	6.5	473	5.9	2 464	8.4
Johnson .....	495	6.6	7 593	7.8	703	4.5	15 765	5.3	858	3.2	4 765	3.6
Jones .....	440	8.2	19 007	4.5	593	6.0	16 681	4.5	774	2.9	5 159	4.1
Keokuk .....	303	11.6	6 770	10.4	466	7.5	13 613	7.7	715	3.3	4 332	6.8
Kossuth .....	432	9.2	22 612	5.2	521	7.8	21 772	5.9	1 218	1.7	10 750	3.5
Lee .....	282	12.1	6 134	11.4	428	8.3	10 399	11.5	561	4.6	3 499	5.5
Linn .....	339	11.0	9 544	7.1	641	6.7	8 353	11.3	1 060	2.6	5 801	4.6
Louisa .....	138	16.5	4 986	7.3	241	10.4	10 505	2.1	423	4.2	3 269	8.7
Lucas .....	227	11.3	2 200	12.3	397	6.8	2 819	8.4	398	6.1	1 196	5.9
Lyon .....	563	6.3	34 535	3.2	752	4.8	35 154	2.2	894	3.0	6 643	3.8
Madison .....	299	11.6	5 273	14.8	581	6.2	15 082	3.9	605	5.1	3 381	6.3
Mahaska .....	401	8.0	20 376	5.0	584	5.7	26 813	3.1	727	2.5	4 924	4.4
Marion .....	190	13.0	5 394	7.9	363	9.9	5 143	9.8	695	4.7	4 085	4.8
Marshall .....	275	11.0	8 121	7.2	382	8.9	8 487	4.6	645	2.8	5 529	4.2
Mills .....	126	20.7	2 432	19.8	232	13.0	2 076	9.7	392	4.6	3 001	6.1
Mitchell .....	416	7.1	20 153	5.3	469	6.7	33 967	4.2	633	4.0	5 098	5.6
Monona .....	245	13.0	11 814	7.0	374	9.6	7 886	8.9	548	3.6	6 245	5.0
Monroe .....	239	10.8	3 244	13.1	385	6.8	5 906	6.6	385	5.9	1 420	8.3
Montgomery .....	155	16.4	6 700	4.1	276	11.2	9 634	3.5	446	3.5	3 980	6.9
Muscatine .....	235	13.0	5 306	12.6	375	9.1	7 538	9.3	589	3.8	3 624	5.3
O'Brien .....	416	7.2	23 567	4.8	522	6.2	26 384	3.7	879	2.8	7 025	4.1
Oscceola .....	210	12.1	18 465	3.9	278	9.7	23 882	2.1	566	2.4	4 908	4.0
Page .....	269	10.9	5 476	7.7	440	6.5	4 808	11.7	649	3.0	4 095	6.6
Palo Alto .....	196	12.3	14 672	5.1	309	9.7	21 772	2.7	697	2.2	5 737	5.0
Plymouth .....	606	6.4	38 556	3.2	822	4.7	36 779	2.8	1 143	2.8	8 155	3.1
Pocahontas .....	189	12.6	8 444	7.1	232	11.5	11 941	4.7	736	2.1	6 411	3.8
Polk .....	172	15.8	2 463	13.7	331	9.5	2 485	13.8	571	3.6	4 150	4.7
Pottawattamie .....	413	9.5	23 830	3.8	660	6.8	11 989	4.0	1 098	2.6	9 275	4.6
Poweshiek .....	309	9.8	6 296	12.1	535	5.6	10 313	6.7	650	3.7	4 598	4.1
Ringgold .....	183	14.4	3 190	5.6	410	6.5	11 050	2.4	402	5.4	1 549	7.1
Sac .....	230	11.8	23 322	2.8	359	9.0	31 862	3.5	683	3.6	5 841	5.0
Scott .....	245	14.5	7 042	7.8	342	11.3	8 416	7.9	658	3.5	4 893	3.8
Shelby .....	393	9.4	14 183	5.4	612	5.6	13 237	6.0	829	2.2	6 316	5.2
Sioux .....	1 010	3.8	124 591	1.1	1 206	3.2	108 873	1.7	1 391	2.6	10 907	3.2
Story .....	217	13.8	9 433	8.2	340	10.1	10 195	5.7	780	2.5	6 327	4.9
Tama .....	345	10.4	7 936	6.8	578	6.6	10 133	5.6	845	3.5	6 141	4.8
Taylor .....	237	13.4	5 179	18.2	408	6.5	11 639	4.4	476	5.5	2 076	7.0
Union .....	183	14.8	3 482	13.5	382	7.1	4 003	5.8	392	5.7	1 969	10.7
Van Buren .....	265	12.8	1 950	7.7	475	6.6	5 795	16.1	520	5.0	1 720	6.7
Wapello .....	183	15.0	2 861	9.5	371	9.1	3 087	13.1	439	5.2	2 673	11.4
Warren .....	329	11.0	2 750	13.7	598	6.4	4 412	9.6	800	3.9	3 056	6.7
Washington .....	376	9.7	19 183	6.4	514	7.5	34 096	4.3	811	3.0	5 486	5.7
Wayne .....	276	11.7	2 701	15.4	448	6.5	3 062	11.4	494	5.7	1 807	9.2
Webster .....	181	14.5	9 343	2.9	289	10.4	16 493	1.6	813	2.3	7 562	3.6
Winnebago .....	107	17.9	2 562	25.1	197	12.1	3 191	13.8	483	3.0	4 559	5.5
Winneshiek .....	562	7.0	9 763	8.7	911	3.6	19 782	5.0	1 033	3.0	5 221	3.7
Woodbury .....	429	8.5	21 594	2.6	666	6.6	14 055	5.4	883	3.1	7 781	4.5
Worth .....	154	16.5	2 662	12.6	265	11.0	6 959	5.6	474	3.4	4 252	4.6
Wright .....	106	17.4	8 177	4.3	176	14.1	37 663	2.4	620	2.2	6 110	3.5

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 <sup>1</sup> —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)
Iowa .....	65 626	.7	636 785	.8	64 489	.8	521 566	.8	84 456	.6	350 799	.7
Adair .....	616	3.7	5 031	5.7	591	4.0	4 082	7.8	727	2.2	2 311	4.4
Adams .....	376	6.1	2 809	11.8	385	6.8	2 579	8.8	491	3.4	1 905	8.1
Allamakee .....	599	5.7	3 337	10.3	572	6.2	2 215	9.2	838	3.0	2 953	6.0
Appanoose .....	440	7.3	1 819	11.8	405	8.2	1 221	11.4	732	2.6	1 224	6.0
Audubon .....	495	4.1	5 723	8.3	501	4.9	5 305	6.4	608	2.0	2 915	6.5
Benton .....	800	3.4	10 094	4.7	881	3.4	9 034	6.2	1 165	1.8	5 089	4.2
Black Hawk .....	783	2.8	6 996	4.3	756	3.6	6 591	5.0	970	1.1	3 893	3.5
Boone .....	648	3.6	7 217	4.7	638	3.9	6 488	4.4	818	1.7	3 136	4.3
Bremer .....	743	3.8	5 966	5.8	726	4.0	5 099	5.2	929	1.8	3 280	5.3
Buchanan .....	888	3.2	8 031	6.1	893	3.2	7 302	5.0	1 095	1.4	4 581	3.4
Buena Vista .....	713	3.0	7 828	4.5	710	3.6	6 806	5.8	809	1.9	4 749	2.8
Butler .....	806	3.0	7 789	4.2	783	3.9	7 130	5.3	973	1.9	3 675	6.5
Calhoun .....	722	2.5	9 013	4.6	684	3.3	6 478	6.0	746	2.4	4 194	8.1
Carroll .....	902	2.5	8 042	5.6	872	3.6	7 467	6.9	1 053	2.0	5 052	3.4
Cass .....	644	3.8	5 051	5.2	627	4.6	4 858	8.9	784	1.5	2 686	6.4
Cedar .....	708	3.2	7 538	4.9	717	3.4	6 705	5.6	888	1.9	4 200	3.8
Cerro Gordo .....	608	3.1	8 026	5.7	606	4.2	6 142	7.0	746	2.1	4 253	6.6
Cherokee .....	704	2.8	6 882	5.3	700	3.4	6 008	6.7	852	1.8	3 827	5.6
Chickasaw .....	661	4.3	6 543	8.2	630	4.3	5 608	6.2	914	1.1	4 076	7.6
Clarke .....	407	5.9	1 473	6.9	429	6.0	1 301	8.8	634	2.4	1 295	6.9
Clay .....	560	3.0	6 609	7.2	532	4.1	4 751	6.0	643	1.9	3 229	4.6
Clayton .....	1 045	3.3	7 499	4.1	1 081	3.5	5 609	3.9	1 537	1.4	6 048	3.7
Clinton .....	916	3.6	9 800	5.0	965	3.4	7 207	6.4	1 177	1.9	4 730	5.1
Crawford .....	821	3.7	8 949	5.4	842	4.4	7 564	7.5	1 017	2.2	4 143	5.1
Dallas .....	575	4.3	6 018	7.9	620	4.5	5 064	5.7	866	1.7	3 113	5.2
Davis .....	543	5.1	2 457	8.1	461	5.3	1 639	9.9	810	1.8	2 154	5.9
Decatur .....	384	6.4	1 779	10.1	325	8.7	1 136	11.0	680	2.2	1 535	7.4
Delaware .....	987	2.8	8 860	4.3	982	3.1	5 767	4.5	1 210	1.4	6 250	3.8
Des Moines .....	479	5.1	5 184	10.1	476	4.9	3 098	12.0	620	2.2	2 480	10.5
Dickinson .....	368	4.5	4 444	7.6	351	6.3	3 244	7.7	492	2.3	2 123	5.3
Dubuque .....	1 075	3.3	6 845	5.2	1 034	4.0	3 395	5.2	1 430	1.9	5 829	5.0
Emmet .....	403	4.4	5 165	7.4	384	6.0	3 214	7.5	470	2.8	2 224	7.2
Fayette .....	998	2.6	10 331	5.0	967	3.8	7 712	4.2	1 208	1.8	6 059	3.8
Floyd .....	627	3.9	7 998	5.4	628	4.4	6 412	5.4	794	2.2	3 940	4.3
Franklin .....	700	3.5	9 374	5.0	658	3.9	7 521	6.6	809	2.3	4 247	4.3
Fremont .....	423	4.0	4 993	5.7	449	4.4	5 654	6.2	516	3.6	2 415	5.0
Greene .....	635	2.7	8 207	6.4	648	3.4	6 314	5.0	736	1.3	2 899	3.1
Grundy .....	623	2.9	8 124	3.8	630	3.1	8 508	2.9	728	1.4	3 592	5.2
Guthrie .....	582	3.8	4 639	7.5	587	5.0	4 173	9.9	774	2.5	2 966	5.8
Hamilton .....	640	2.7	7 782	4.2	615	3.5	7 503	4.9	761	1.0	4 703	3.4
Hancock .....	704	2.5	8 596	5.1	644	4.2	6 484	5.4	841	1.1	4 501	3.6
Hardin .....	660	3.3	7 270	4.2	660	4.2	6 768	6.0	830	1.6	4 182	3.4
Harrison .....	698	3.8	7 998	4.2	660	4.7	6 027	5.6	807	2.8	3 264	4.1
Henry .....	554	4.2	5 135	9.6	516	5.1	4 463	9.9	774	1.9	2 681	6.7
Howard .....	645	3.6	6 036	5.8	611	4.8	5 241	6.2	823	1.7	3 630	5.1
Humboldt .....	527	2.7	6 631	6.4	498	4.2	5 110	6.8	582	1.6	2 900	6.9
Ida .....	530	4.7	5 557	6.1	484	4.9	4 967	6.1	599	2.8	2 739	6.2
Iowa .....	666	3.7	6 190	5.9	669	4.2	5 199	4.3	907	2.1	3 458	3.5
Jackson .....	847	3.8	6 065	8.0	779	4.0	3 129	8.0	1 170	1.9	3 867	5.2
Jasper .....	934	2.8	8 445	4.2	908	3.5	7 432	5.8	1 132	1.9	3 932	4.3
Jefferson .....	437	6.4	2 841	8.8	402	7.4	2 541	9.5	648	3.3	1 921	5.7
Johnson .....	767	3.8	5 494	5.7	722	4.5	5 007	4.8	1 161	2.0	3 834	4.9
Jones .....	749	3.3	7 417	4.6	753	3.4	5 988	5.9	971	1.4	4 641	3.2
Keokuk .....	615	4.6	6 253	9.9	609	5.5	4 237	8.0	880	2.5	4 338	7.1
Kossuth .....	1 162	2.1	15 536	4.3	1 162	2.5	11 067	4.9	1 383	1.0	7 597	3.2
Lee .....	598	4.7	5 513	9.7	561	5.4	3 867	7.1	780	2.9	3 018	8.9
Linn .....	1 024	2.9	7 105	4.9	989	3.5	5 453	6.6	1 332	2.1	4 013	3.9
Louisa .....	385	6.0	3 987	9.2	374	6.6	3 440	7.1	502	2.9	2 252	8.9
Lucas .....	393	5.9	2 120	7.5	355	6.8	1 147	9.8	640	3.0	1 352	6.6
Lyon .....	845	3.4	7 640	5.3	864	3.7	6 226	6.2	1 103	1.7	5 106	6.4
Madison .....	608	4.9	3 545	9.1	599	5.6	3 680	6.8	914	1.8	2 436	4.4
Mahaska .....	693	3.7	6 474	4.5	709	3.5	5 476	5.1	934	2.1	3 766	4.1
Marion .....	614	4.6	4 268	5.0	571	5.5	3 753	6.6	880	3.0	2 751	4.0
Marshall .....	628	3.4	7 322	5.1	704	3.4	7 507	5.3	814	2.6	3 761	4.6
Mills .....	372	6.0	3 629	7.5	357	6.7	3 751	9.5	461	2.4	1 790	6.6
Mitchell .....	578	5.6	5 515	8.5	591	5.6	5 213	6.3	753	2.7	4 479	4.0
Monona .....	559	4.3	7 412	5.5	518	5.3	5 955	6.9	655	3.2	2 920	4.6
Monroe .....	391	6.7	1 992	12.9	370	7.0	1 276	10.2	628	3.4	1 399	6.1
Montgomery .....	428	4.6	4 390	7.5	448	5.0	3 848	11.4	499	2.4	1 924	8.5
Muscatine .....	558	4.3	5 098	7.0	580	4.9	4 119	6.4	670	3.5	2 914	7.3
O'Brien .....	824	3.2	7 790	4.7	772	3.7	6 861	5.6	976	.7	4 670	3.9
Oscceola .....	553	2.6	5 943	5.2	508	3.9	4 502	5.8	643	1.2	3 338	4.4
Page .....	629	3.5	4 912	6.4	619	3.8	4 464	6.9	784	2.1	2 385	7.0
Palo Alto .....	652	3.0	7 456	6.1	651	3.6	6 250	7.2	770	1.4	4 051	5.2
Plymouth .....	1 095	3.6	10 336	4.1	1 117	3.6	9 057	3.9	1 373	1.9	6 135	3.3
Pocahontas .....	720	2.5	8 759	4.8	672	3.1	6 212	4.8	769	1.2	3 652	4.7
Polk .....	497	4.9	4 320	5.6	545	4.1	4 196	6.3	755	2.0	2 133	5.7
Pottawattamie .....	1 111	2.8	11 717	4.4	1 048	3.5	10 464	5.9	1 234	2.0	5 087	3.5
Poweshiek .....	605	3.7	5 617	3.9	631	4.1	4 930	6.6	815	2.7	4 192	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	Farm production expenses <sup>1</sup> —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)
Ringgold .....	367	7.1	2 299	9.5	364	8.0	1 766	12.5	572	3.1	2 081	5.1
Sac .....	672	3.8	8 201	5.1	654	4.6	6 606	5.0	771	2.4	3 991	4.2
Scott .....	681	2.8	6 666	5.8	669	3.4	5 446	4.3	733	2.7	3 596	4.5
Shelby .....	805	2.2	8 480	4.7	812	2.6	7 214	5.4	868	2.1	3 877	7.9
Sioux .....	1 299	3.2	11 251	3.4	1 351	3.0	9 602	3.8	1 715	1.0	8 269	2.5
Story .....	762	3.2	9 253	5.8	709	4.4	6 485	7.5	904	1.7	3 661	5.8
Tama .....	782	3.8	9 476	5.7	801	4.2	7 348	6.7	1 043	2.5	4 263	5.8
Taylor .....	413	5.2	2 622	8.2	444	6.5	2 468	10.5	659	3.0	2 030	5.8
Union .....	399	6.2	2 227	10.1	458	7.0	2 280	10.3	560	4.6	1 341	7.0
Van Buren .....	466	6.3	2 501	13.1	451	6.1	2 275	8.9	714	3.1	1 457	6.1
Wapello .....	445	6.1	3 185	12.6	414	6.4	2 493	20.8	724	2.8	1 828	9.9
Warren .....	694	4.7	2 702	8.4	687	4.7	3 498	8.0	1 094	2.0	2 580	5.7
Washington .....	710	4.5	6 864	8.1	729	4.1	6 162	8.9	976	2.6	4 688	5.8
Wayne .....	499	6.3	2 653	7.2	392	7.9	1 790	10.9	705	1.6	1 576	5.7
Webster .....	789	2.6	10 375	3.6	730	3.6	8 279	5.2	858	2.1	4 321	4.1
Winnebago .....	460	3.8	6 727	5.5	406	5.2	4 788	8.4	561	2.4	3 127	3.9
Winneshiek .....	982	3.3	7 399	6.3	937	3.9	4 594	5.4	1 371	1.7	5 328	3.4
Woodbury .....	890	3.5	11 072	4.9	900	4.4	8 069	4.4	1 164	2.6	4 667	4.2
Worth .....	440	4.8	5 632	6.4	435	4.7	4 377	6.1	556	2.8	3 033	5.0
Wright .....	569	3.8	8 607	6.7	575	3.4	6 813	5.8	666	2.3	4 105	3.9
Geographic area	Farm production expenses <sup>1</sup> —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)
Iowa .....	73 232	.7	127 679	.8	33 016	1.1	316 779	.9	6 152	2.8	24 905	2.7
Adair .....	702	2.9	1 067	6.3	266	12.4	2 375	2.3	34	44.6	74	39.6
Adams .....	417	6.4	670	8.3	198	14.6	1 540	5.9	28	37.6	82	13.0
Allamakee .....	775	3.4	1 544	6.4	323	11.5	2 470	21.1	53	35.1	85	41.8
Appanoose .....	575	5.4	421	11.9	212	15.3	488	7.5	60	29.2	132	28.0
Audubon .....	582	2.2	1 398	6.4	289	10.0	2 496	3.4	51	32.0	134	26.4
Benton .....	983	2.9	1 761	9.6	476	8.4	4 100	12.1	51	32.7	183	12.3
Black Hawk .....	827	2.9	1 087	5.0	340	9.3	4 672	6.3	71	23.5	274	28.8
Boone .....	720	3.7	1 109	6.3	356	9.2	4 595	9.6	71	23.8	377	25.6
Bremer .....	862	2.5	1 242	5.3	413	9.1	2 397	10.9	36	33.8	117	17.5
Buchanan .....	899	3.5	1 519	4.8	549	6.2	4 442	6.1	39	27.7	81	16.9
Buena Vista .....	736	3.6	1 526	3.3	418	7.6	4 647	3.3	97	22.0	455	17.2
Butler .....	822	3.1	1 402	5.4	405	8.0	2 694	6.4	78	25.3	242	25.6
Calhoun .....	666	4.1	1 179	5.4	375	9.1	2 414	5.3	31	34.8	52	21.5
Carroll .....	982	2.4	1 978	4.0	520	6.6	3 810	7.4	128	19.6	324	18.0
Cass .....	670	3.8	936	6.2	243	12.0	2 029	10.1	47	31.2	131	24.0
Cedar .....	809	3.0	1 494	4.5	360	8.8	3 714	10.9	71	23.6	579	21.4
Cerro Gordo .....	680	3.5	1 296	6.2	326	9.1	3 980	11.2	45	26.1	310	2.9
Cherokee .....	786	2.8	1 384	5.4	419	6.9	3 379	7.7	48	28.8	210	7.3
Chickasaw .....	786	3.7	1 496	3.9	384	8.8	2 915	8.6	62	26.3	382	7.0
Clarke .....	517	5.0	574	6.3	257	11.2	1 552	5.7	63	29.3	159	16.4
Clay .....	609	2.7	1 238	6.7	306	10.6	3 252	5.9	38	41.1	360	24.6
Clayton .....	1 385	2.2	3 101	3.8	624	6.7	5 379	10.1	112	22.7	310	25.9
Clinton .....	957	3.7	1 434	5.4	521	7.9	2 853	14.4	68	28.9	242	21.8
Crawford .....	904	3.6	1 615	6.1	383	9.2	3 333	7.5	55	26.7	148	36.9
Dallas .....	611	4.8	880	5.7	319	9.9	6 423	2.6	59	29.8	1 841	11.6
Davis .....	630	4.4	776	3.4	276	11.1	1 933	6.3	73	25.0	148	27.0
Decatur .....	483	5.7	524	7.5	166	15.2	1 237	8.2	78	24.0	131	23.2
Delaware .....	1 131	2.2	3 336	10.3	545	7.4	3 265	8.0	79	22.8	260	19.6
Des Moines .....	486	5.5	730	10.3	194	13.5	1 106	13.3	37	41.5	101	32.1
Dickinson .....	412	3.9	726	7.9	182	12.5	895	5.7	22	39.9	52	9.3
Dubuque .....	1 367	2.3	2 854	3.7	558	7.9	3 961	7.0	73	27.8	123	33.7
Emmet .....	450	3.7	822	4.4	189	10.8	1 809	3.0	41	33.1	79	41.3
Fayette .....	1 087	2.4	2 524	3.6	597	6.7	5 608	6.7	126	19.9	310	23.6
Floyd .....	712	3.7	1 380	4.6	404	8.5	5 438	5.3	63	22.5	332	13.7
Franklin .....	754	3.4	1 573	5.5	393	10.0	3 601	12.4	67	28.7	177	20.2
Fremont .....	448	4.6	704	7.3	268	10.6	3 601	6.0	55	27.3	140	30.6
Greene .....	598	4.4	940	6.1	314	10.4	2 666	7.4	59	28.8	219	22.4
Grundy .....	638	3.4	1 154	3.5	307	8.0	4 105	5.5	70	21.7	447	11.0
Guthrie .....	642	4.6	1 293	5.7	264	10.8	3 649	3.1	56	27.4	101	15.0
Hamilton .....	616	3.6	1 943	3.7	356	7.8	9 304	2.2	49	23.1	252	5.7
Hancock .....	758	2.8	1 539	3.9	409	7.9	3 523	5.8	60	28.4	140	25.1
Hardin .....	684	4.0	1 708	3.4	371	8.7	6 084	2.2	59	26.0	718	4.0
Harrison .....	760	3.4	1 219	5.2	254	12.0	3 254	7.2	23	26.7	118	2.6
Henry .....	611	4.7	687	6.8	215	14.8	1 591	4.5	90	28.3	303	10.3
Howard .....	735	3.4	1 132	4.1	346	10.0	2 649	7.9	35	37.0	105	10.9
Humboldt .....	555	2.6	734	7.0	288	10.1	2 423	16.5	55	26.8	148	26.7
Ida .....	503	4.8	1 092	6.1	244	11.3	2 021	17.1	32	40.7	252	3.5
Iowa .....	784	3.1	1 223	3.9	339	9.3	1 949	12.8	125	19.6	269	27.3
Jackson .....	953	3.5	1 479	4.6	353	10.1	1 507	10.9	89	25.4	82	24.3

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 <sup>1</sup> —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)
Jasper .....	940	3.5	1 351	4.2	314	10.4	4 050	8.2	33	32.8	153	47.3
Jefferson .....	600	3.7	626	9.2	210	14.2	908	10.6	60	31.1	235	25.4
Johnson .....	957	3.4	1 245	5.8	434	8.6	2 073	9.4	101	21.6	339	20.9
Jones .....	875	2.3	1 604	3.8	309	8.6	3 428	7.0	73	23.6	368	30.6
Keokuk .....	777	3.4	1 317	5.4	225	14.0	2 354	5.6	45	39.4	97	29.0
Kossuth .....	1 238	2.1	2 479	5.5	677	6.0	4 413	6.5	110	20.7	692	15.0
Lee .....	676	3.5	1 034	6.7	280	10.6	2 677	9.1	53	37.6	217	36.5
Linn .....	1 079	3.8	1 380	7.2	385	9.7	3 000	8.3	115	20.9	172	19.3
Louisa .....	411	5.3	835	10.7	181	13.9	2 504	7.2	38	40.9	35	47.2
Lucas .....	483	5.5	392	5.1	146	16.8	420	12.5	49	31.9	122	23.2
Lyon .....	1 002	2.7	2 066	8.0	476	7.6	3 755	5.2	27	43.0	157	5.9
Madison .....	769	4.2	1 151	5.3	292	12.8	2 893	2.0	58	29.8	140	16.1
Mahaska .....	826	3.1	2 143	3.7	336	10.6	4 059	6.0	38	39.0	212	7.2
Marion .....	635	5.4	769	6.7	257	11.7	1 795	11.0	72	27.9	103	29.0
Marshall .....	754	3.5	1 074	4.8	324	9.7	3 747	4.2	54	29.5	224	9.0
Mills .....	406	4.2	631	11.5	160	16.7	720	17.9	19	44.2	46	39.2
Mitchell .....	615	5.0	1 590	3.9	331	10.0	5 783	7.0	74	25.6	619	29.5
Monona .....	600	3.7	945	7.4	245	12.3	2 243	10.1	73	22.7	236	18.3
Monroe .....	441	5.8	475	8.0	180	14.1	997	7.2	85	21.4	359	47.7
Montgomery .....	432	4.7	728	5.6	200	13.7	2 830	6.1	18	55.0	180	70.9
Muscatine .....	594	4.9	848	7.3	242	12.1	2 395	9.3	34	38.1	78	7.2
O'Brien .....	888	2.5	1 540	4.8	459	7.4	3 118	8.5	82	25.6	346	14.1
Oscceola .....	573	2.8	1 051	3.2	178	13.1	3 141	7.9	61	26.5	372	5.2
Page .....	592	3.7	903	10.1	272	10.9	2 642	13.3	40	29.4	174	26.0
Palo Alto .....	713	2.7	1 453	5.1	358	8.4	4 150	4.6	29	30.8	304	4.7
Plymouth .....	1 273	2.6	2 315	4.1	546	7.6	4 772	5.4	138	19.1	630	22.1
Pocahontas .....	704	3.0	1 029	5.1	370	8.7	2 028	4.4	69	24.0	371	9.8
Polk .....	617	3.9	608	5.9	255	10.1	2 767	4.8	47	28.8	129	19.1
Pottawattamie .....	1 091	3.5	1 945	9.4	468	9.2	4 257	7.8	59	27.4	87	15.5
Poweshiek .....	702	4.0	1 194	4.3	290	11.6	3 944	4.6	48	28.0	748	4.4
Ringgold .....	460	4.9	761	3.8	127	16.2	2 053	1.1	105	21.5	102	32.1
Sac .....	701	3.8	1 581	5.5	466	7.2	6 157	4.2	22	36.7	195	43.6
Scott .....	667	3.7	1 066	5.5	203	14.2	2 525	12.6	68	31.9	161	30.9
Shelby .....	827	2.7	1 682	5.9	357	10.3	2 193	12.5	45	26.6	114	9.6
Sioux .....	1 553	1.9	4 043	2.4	893	4.6	11 940	4.5	193	15.7	785	20.2
Story .....	727	3.9	1 231	4.8	339	9.5	4 249	5.9	57	23.3	168	20.3
Tama .....	950	3.2	1 344	4.7	297	10.3	3 548	15.9	71	29.2	189	39.5
Taylor .....	562	4.7	624	5.5	199	13.8	1 685	18.6	56	30.9	237	6.4
Union .....	417	6.7	417	8.0	155	17.9	762	8.2	46	35.2	83	28.3
Van Buren .....	592	4.7	529	6.0	231	13.7	1 884	45.5	32	41.2	39	49.5
Wapello .....	559	5.4	493	13.3	171	15.0	1 235	20.3	52	28.7	78	14.6
Warren .....	865	4.6	932	4.8	348	10.8	1 555	2.9	110	20.4	190	36.8
Washington .....	912	2.8	1 608	4.3	371	9.8	4 919	6.8	43	33.1	618	29.1
Wayne .....	509	5.6	453	7.7	195	15.8	679	21.1	51	30.6	124	33.2
Webster .....	779	3.3	1 193	5.8	312	9.8	4 673	7.0	46	29.0	477	33.1
Winnebago .....	515	3.5	1 099	16.5	249	9.8	1 345	9.5	37	28.8	193	9.4
Winneshiek .....	1 145	3.1	2 417	5.0	570	7.0	3 477	7.2	105	21.7	309	31.8
Woodbury .....	1 092	3.2	1 697	5.6	517	7.4	4 092	7.8	104	19.1	325	18.8
Worth .....	492	4.2	803	6.7	208	11.5	1 335	12.9	54	34.3	127	42.1
Wright .....	566	3.8	1 547	4.1	294	10.1	9 483	3.2	41	36.7	154	5.7
Geographic area	Farm production expenses <sup>1</sup> —Con.											
	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)
Iowa .....	78 128	.7	504 525	.8	43 788	1.0	168 101	1.6	55 257	.8	600 284	.9
Adair .....	667	3.5	3 831	8.2	388	9.5	1 151	14.8	464	7.2	4 468	8.3
Adams .....	456	4.1	3 115	11.4	218	13.7	688	16.9	286	11.2	2 500	12.8
Allamakee .....	870	2.5	5 209	8.3	488	7.6	1 569	10.8	605	5.8	5 063	11.5
Appanoose .....	632	4.4	2 854	18.0	260	12.3	310	14.9	344	9.9	1 739	14.7
Audubon .....	570	3.4	4 675	5.1	356	7.8	1 345	17.0	449	6.0	5 924	8.1
Benton .....	1 014	3.2	7 252	4.6	499	8.0	3 075	18.7	768	4.9	8 910	6.7
Black Hawk .....	908	2.0	5 474	6.0	508	6.6	1 721	11.2	610	5.3	6 053	7.5
Boone .....	799	2.3	5 093	6.1	377	9.0	1 716	16.3	480	6.6	4 286	7.5
Bremer .....	900	1.9	4 795	6.1	561	6.5	1 412	13.0	636	5.1	5 611	6.0
Buchanan .....	1 021	2.1	6 247	4.2	567	6.6	1 899	11.8	724	5.1	7 381	6.7
Buena Vista .....	793	2.7	7 149	7.5	488	6.7	1 528	10.7	561	5.9	6 972	5.7
Butler .....	892	2.7	4 770	5.5	485	7.6	1 482	10.2	671	4.9	6 749	7.3
Calhoun .....	677	3.9	5 534	8.8	418	8.7	2 523	15.7	580	5.4	6 906	7.6
Carroll .....	998	2.6	8 050	3.9	579	6.5	1 834	8.3	788	4.3	9 814	7.4
Cass .....	723	3.0	4 313	6.3	457	7.8	1 796	21.2	527	6.1	5 449	6.7
Cedar .....	767	3.5	5 603	6.3	466	7.4	2 400	20.4	576	5.5	6 840	7.5
Cerro Gordo .....	709	2.9	4 932	4.8	312	9.5	1 980	17.2	503	5.8	4 903	7.3
Cherokee .....	804	2.4	6 003	5.9	400	9.1	1 968	13.0	610	5.3	7 220	6.4
Chickasaw .....	792	3.0	5 032	6.0	451	7.5	1 762	9.5	576	6.0	5 914	5.4

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 <sup>1</sup> —Con.											
	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)
Clarke .....	559	3.9	1 963	7.2	276	9.9	2 287	5.8	395	7.4	2 751	8.7
Clay .....	630	2.5	4 805	6.9	335	8.6	1 629	8.0	447	6.7	5 476	9.5
Clayton .....	1 348	2.5	8 765	4.9	939	4.8	2 723	9.7	1 081	3.7	10 840	5.6
Clinton .....	1 113	2.2	6 457	5.6	590	7.0	2 425	21.5	789	4.9	8 268	8.4
Crawford .....	968	2.8	6 810	6.8	559	7.4	2 147	19.9	672	5.8	7 906	7.0
Dallas .....	740	3.5	5 268	8.2	357	9.1	1 571	16.1	494	6.6	4 509	7.8
Davis .....	786	2.7	3 406	12.9	390	8.9	623	16.3	530	6.1	2 824	9.7
Decatur .....	595	3.8	2 313	7.7	278	10.2	586	15.0	337	8.7	2 815	8.0
Delaware .....	1 138	1.9	9 314	5.2	688	6.0	2 344	10.7	872	4.4	11 354	6.6
Des Moines .....	530	4.8	3 145	10.0	333	9.9	993	17.0	332	7.8	3 583	13.0
Dickinson .....	448	2.3	3 326	6.2	249	9.5	1 378	14.4	301	6.9	3 541	9.1
Dubuque .....	1 385	2.3	9 438	4.3	921	4.8	2 893	16.8	970	4.6	9 876	6.5
Emmet .....	460	3.3	3 559	6.4	251	9.6	848	16.7	328	7.2	3 761	7.2
Fayette .....	1 092	2.7	8 910	4.5	679	6.4	2 027	6.3	871	4.4	9 670	6.3
Floyd .....	749	3.1	5 429	5.7	496	6.2	2 871	9.8	619	5.1	6 585	6.8
Franklin .....	755	3.3	5 763	6.5	481	7.3	2 612	20.0	572	5.3	6 986	7.4
Fremont .....	507	3.4	3 639	6.0	338	7.3	1 620	14.1	328	7.6	4 851	8.3
Greene .....	666	2.8	4 857	5.7	466	7.0	1 671	13.1	535	5.4	6 421	7.4
Grundy .....	656	3.0	5 028	5.0	440	6.7	2 542	11.3	468	5.7	7 115	5.3
Guthrie .....	684	3.5	4 787	7.0	390	8.2	1 004	12.0	522	5.3	6 357	10.4
Hamilton .....	708	2.5	6 091	4.1	358	8.8	1 626	12.3	559	4.6	9 764	5.1
Hancock .....	758	2.9	5 787	5.4	430	7.5	1 373	11.6	584	5.3	6 693	6.7
Hardin .....	766	2.4	5 373	5.2	479	7.2	2 591	7.7	565	5.7	8 482	5.5
Harrison .....	778	3.3	5 183	5.4	355	9.7	2 113	15.5	492	7.4	6 095	6.5
Henry .....	723	3.2	4 023	6.3	369	8.8	1 575	25.6	394	9.3	4 666	11.8
Howard .....	774	3.1	4 976	6.0	389	9.6	1 450	11.6	491	7.5	5 089	8.7
Humboldt .....	566	2.3	4 260	5.6	255	11.1	700	16.2	431	6.2	4 490	8.4
Ida .....	514	4.2	3 749	4.6	329	8.0	1 116	12.8	375	8.1	4 127	6.7
Iowa .....	832	3.0	5 067	5.2	523	6.6	1 530	10.6	622	5.4	6 490	7.3
Jackson .....	1 093	3.0	4 657	6.0	576	7.1	1 641	12.1	801	5.4	6 033	6.8
Jasper .....	1 057	2.5	6 237	6.0	509	8.0	2 043	14.3	694	5.5	7 099	8.1
Jefferson .....	593	4.6	2 818	9.9	267	11.8	675	14.3	379	8.7	2 928	10.2
Johnson .....	1 094	2.5	4 695	5.2	630	5.9	1 749	10.3	741	5.5	5 127	7.3
Jones .....	887	2.5	5 873	6.1	548	6.3	1 702	10.6	612	5.8	7 513	8.9
Keokuk .....	777	3.6	4 944	7.6	369	10.0	1 329	21.0	612	5.8	5 959	10.7
Kossuth .....	1 308	1.8	10 804	4.5	664	6.6	3 030	16.1	1 038	3.9	12 050	5.9
Lee .....	744	3.2	4 887	7.8	360	9.5	993	19.9	381	10.0	3 580	11.6
Linn .....	1 176	3.1	5 455	4.9	668	6.5	1 871	12.8	729	5.8	7 116	8.2
Louisa .....	504	3.2	3 092	8.4	216	12.3	1 159	18.6	353	8.0	4 428	9.9
Lucas .....	568	4.3	1 888	9.4	214	13.2	421	16.7	330	9.4	2 318	12.2
Lyon .....	1 069	2.2	7 351	5.3	576	6.9	2 056	11.2	824	4.0	9 859	6.3
Madison .....	813	3.9	4 110	7.5	447	8.8	1 281	23.7	507	7.1	4 620	12.0
Mahaska .....	785	4.1	6 237	4.8	494	7.8	1 524	11.4	673	5.2	7 457	8.5
Marion .....	824	3.7	3 600	4.9	455	8.0	1 344	9.9	528	7.0	4 509	8.8
Marshall .....	727	3.7	4 772	5.6	519	6.9	2 722	14.0	534	6.5	5 089	6.5
Mills .....	423	4.1	2 781	7.7	243	11.4	931	16.3	279	10.5	3 218	13.3
Mitchell .....	668	4.8	5 322	4.9	396	8.8	1 443	12.9	573	5.4	8 591	5.4
Monona .....	567	4.9	4 060	6.3	366	8.5	1 917	11.0	395	7.6	4 100	6.5
Monroe .....	574	4.2	2 253	8.3	338	8.7	1 794	7.3	415	6.4	2 982	9.2
Montgomery .....	455	3.8	3 415	9.9	258	11.6	1 204	10.7	363	8.3	3 743	12.0
Muscatine .....	670	2.9	3 799	7.0	325	10.9	639	15.5	469	6.2	4 448	7.6
O'Brien .....	896	2.6	6 096	5.4	614	6.1	2 113	6.9	753	4.0	8 452	6.5
Oscceola .....	568	3.4	4 054	6.6	362	7.8	1 179	13.4	432	6.0	5 917	5.9
Page .....	680	3.6	3 854	7.7	481	6.0	2 484	12.1	458	6.0	3 902	11.1
Palo Alto .....	711	2.8	5 242	5.8	401	8.2	2 436	19.2	475	6.0	7 962	7.7
Plymouth .....	1 318	2.5	9 792	4.5	756	5.9	2 861	7.0	886	4.9	10 264	5.6
Pocahontas .....	714	2.3	5 989	6.3	367	8.7	1 390	15.8	535	5.4	5 816	8.6
Polk .....	622	4.1	3 148	6.7	309	9.7	1 127	19.5	372	8.5	2 494	8.2
Pottawattamie .....	1 233	2.0	8 285	5.5	730	5.6	2 329	8.4	840	4.4	9 971	7.3
Poweshiek .....	790	3.4	6 055	7.7	335	9.4	1 123	11.8	488	7.1	5 982	8.8
Ringgold .....	549	4.0	2 523	5.5	253	11.7	1 276	8.0	396	8.1	3 930	6.4
Sac .....	719	3.3	6 025	5.1	434	8.5	2 036	14.7	573	5.6	9 537	5.0
Scott .....	683	4.1	4 510	5.4	357	9.4	1 157	16.0	443	8.2	5 162	8.9
Shelby .....	849	2.1	5 068	6.4	498	7.6	1 679	9.8	584	5.7	5 832	10.1
Sioux .....	1 591	1.8	13 496	3.8	1 024	4.7	4 831	3.7	1 233	3.6	17 879	3.4
Story .....	797	3.1	5 553	6.4	556	6.1	3 102	12.9	528	5.9	5 882	9.0
Tama .....	958	3.2	5 522	4.9	524	7.0	2 984	11.1	605	5.7	7 904	7.0
Taylor .....	646	3.6	2 216	7.7	354	9.3	997	10.6	418	8.0	3 492	11.0
Union .....	535	4.9	1 901	8.3	257	10.7	935	17.6	388	8.0	3 066	12.0
Van Buren .....	661	3.5	2 364	8.8	351	8.9	637	11.9	498	6.4	3 824	9.9
Wapello .....	666	3.4	2 320	9.5	255	13.4	739	32.0	314	11.1	2 572	13.5
Warren .....	922	3.5	3 889	6.1	417	9.9	1 278	15.3	541	7.7	3 341	9.6
Washington .....	946	2.7	6 414	5.3	502	7.8	2 064	12.2	597	6.5	6 658	8.5
Wayne .....	600	4.1	1 930	7.0	423	7.8	1 131	11.7	400	7.0	2 219	13.2
Webster .....	829	2.7	6 634	5.2	438	7.9	2 261	17.3	613	5.1	6 479	6.8
Winnebago .....	531	3.1	3 577	5.6	241	10.3	638	13.1	413	5.8	4 357	6.9
Winneshiek .....	1 305	2.0	7 825	4.8	765	5.4	2 149	7.7	881	4.6	7 675	6.9
Woodbury .....	1 086	3.1	6 931	4.6	602	6.6	2 477	7.0	707	5.6	7 091	6.8
Worth .....	521	3.9	2 960	4.8	211	12.6	569	8.6	403	6.4	4 274	10.6
Wright .....	606	2.4	5 886	6.3	312	9.2	1 620	11.0	519	5.0	11 493	3.7

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	Farm production expenses <sup>1</sup> —Con.											
	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)
Iowa .....	36 892	1.0	866 955	1.0	79 236	.7	242 120	.9	85 922	.6	710 824	.7
Adair .....	261	11.1	3 711	9.8	746	2.1	2 424	6.5	765	1.6	5 988	7.7
Adams .....	161	14.3	2 201	12.0	528	3.6	1 754	8.4	506	3.2	2 801	6.0
Allamakee .....	319	10.5	2 885	8.7	888	2.2	2 564	6.0	912	1.9	6 310	5.9
Appanoose .....	125	18.6	1 172	21.3	748	2.5	1 402	6.4	724	2.8	2 193	7.2
Audubon .....	293	7.9	9 392	6.1	588	3.0	2 140	8.3	615	2.1	6 616	8.0
Benton .....	568	6.3	15 290	6.8	1 051	2.9	3 422	5.8	1 119	2.2	9 732	5.2
Black Hawk .....	448	6.8	12 041	6.2	930	2.0	3 054	5.9	967	1.2	7 134	5.5
Boone .....	370	7.9	9 812	8.3	746	3.3	2 278	9.1	824	1.9	7 005	7.4
Bremer .....	429	7.6	9 487	6.6	874	2.8	2 372	7.3	932	1.7	5 651	9.5
Buchanan .....	521	6.8	12 124	5.9	956	3.1	3 350	7.6	1 068	1.9	8 506	4.6
Buena Vista .....	441	7.5	10 924	8.1	667	4.6	2 319	8.5	842	1.0	8 602	3.5
Butler .....	483	6.8	12 731	7.4	917	3.1	2 754	6.6	1 027	1.6	7 009	4.7
Calhoun .....	324	9.5	7 954	11.1	689	3.5	2 089	8.6	766	1.9	7 737	5.6
Carroll .....	513	7.1	13 234	7.8	921	3.4	3 054	11.3	1 082	1.3	10 793	5.0
Cass .....	397	7.8	8 033	12.1	708	3.1	2 292	6.2	755	2.3	5 702	7.3
Cedar .....	426	7.6	11 026	7.3	790	3.8	3 301	6.9	930	1.3	7 859	5.8
Cerro Gordo .....	435	5.8	14 552	6.7	653	4.1	2 412	12.3	775	1.9	7 994	3.1
Cherokee .....	502	6.6	10 892	7.5	752	3.6	2 504	7.1	837	1.7	8 959	6.4
Chickasaw .....	420	7.4	9 661	6.6	834	3.1	2 356	6.9	872	1.5	7 614	6.6
Clarke .....	179	14.2	1 131	14.8	636	2.5	1 865	9.4	640	2.2	3 783	4.1
Clay .....	347	8.8	9 343	11.4	568	4.5	1 830	6.6	655	1.4	7 319	6.4
Clayton .....	546	6.7	7 383	7.4	1 489	2.0	4 537	4.5	1 548	1.4	13 500	4.2
Clinton .....	576	6.4	17 203	7.2	1 086	3.1	3 086	6.7	1 230	1.3	7 514	5.2
Crawford .....	460	8.6	11 917	7.1	960	3.2	3 205	6.7	1 069	1.8	7 739	5.9
Dallas .....	346	8.5	7 279	9.7	789	2.9	2 717	7.4	817	2.2	7 024	5.1
Davis .....	164	13.6	1 691	12.4	836	2.0	1 881	5.8	827	2.0	4 559	3.8
Decatur .....	183	12.5	1 518	20.2	686	2.0	1 464	5.7	666	2.4	4 426	4.4
Delaware .....	452	8.6	9 490	8.6	1 094	2.9	3 766	5.4	1 246	.8	13 089	4.2
Des Moines .....	222	12.7	5 587	17.2	593	3.5	1 639	14.1	609	2.9	4 349	15.9
Dickinson .....	252	8.2	5 502	9.9	437	4.2	1 242	8.2	475	2.9	4 779	11.8
Dubuque .....	525	8.1	8 063	10.5	1 356	2.7	3 961	4.4	1 492	1.7	12 449	3.8
Emmet .....	258	8.5	5 884	9.8	451	3.8	1 673	17.7	503	.8	4 327	3.8
Fayette .....	563	6.6	12 520	9.0	1 071	3.2	3 520	4.9	1 249	1.5	9 129	4.8
Floyd .....	417	6.5	13 356	7.1	759	2.9	2 376	7.3	809	2.0	7 394	3.7
Franklin .....	478	7.1	13 699	8.1	753	3.5	2 831	7.2	850	1.2	8 019	7.7
Fremont .....	174	13.7	3 271	10.9	495	3.6	1 695	8.1	551	1.8	4 966	5.6
Greene .....	314	9.8	7 359	9.9	629	4.2	2 382	8.3	729	1.8	7 264	5.0
Grundy .....	474	5.8	18 367	5.5	582	4.5	2 211	8.0	714	2.1	7 223	3.5
Guthrie .....	286	10.4	4 453	13.1	792	2.2	2 461	7.5	790	2.1	7 917	4.0
Hamilton .....	390	7.5	13 832	6.6	645	3.8	2 131	6.6	764	1.3	10 512	3.6
Hancock .....	442	6.6	14 258	5.7	675	4.4	1 837	8.0	813	1.8	8 854	4.8
Hardin .....	447	6.7	18 378	4.4	704	4.0	2 239	8.2	831	1.4	11 397	3.1
Harrison .....	332	9.5	7 902	10.5	797	2.8	2 861	5.9	851	1.5	6 184	7.7
Henry .....	311	10.7	6 561	13.1	707	4.1	2 240	11.0	750	2.2	4 698	8.9
Howard .....	364	9.0	6 899	7.7	800	2.7	2 460	7.3	833	1.7	5 811	5.6
Humboldt .....	279	10.1	9 280	9.9	523	4.2	1 557	7.7	577	1.8	5 011	6.4
Ida .....	303	9.5	8 853	9.1	569	3.4	1 740	11.3	589	2.9	5 066	6.0
Iowa .....	368	7.4	6 380	8.5	880	2.4	2 429	4.8	921	1.9	6 442	3.5
Jackson .....	295	11.1	4 786	11.9	1 142	2.6	3 058	5.3	1 222	1.7	6 318	5.6
Jasper .....	423	8.1	10 568	7.4	1 013	3.2	3 387	5.3	1 130	1.7	8 547	4.4
Jefferson .....	214	12.6	3 578	19.5	703	2.1	1 751	9.8	696	2.6	3 199	6.0
Johnson .....	438	7.6	6 754	8.6	1 067	3.0	2 824	5.1	1 158	2.1	5 633	4.2
Jones .....	453	6.3	10 231	7.5	914	2.8	3 031	5.3	985	1.5	7 870	6.0
Keokuk .....	334	10.8	5 354	14.1	878	2.8	3 615	6.4	913	1.9	6 555	4.4
Kossuth .....	823	4.7	21 857	5.2	1 142	3.1	3 305	5.5	1 366	1.1	14 356	6.0
Lee .....	181	14.5	3 540	7.8	812	2.3	2 147	9.1	781	2.7	4 832	6.0
Linn .....	445	8.2	9 385	7.8	1 298	2.5	3 364	5.9	1 385	1.8	6 775	5.2
Louisa .....	212	11.9	6 163	12.5	548	3.3	1 895	8.0	521	2.7	5 283	4.7
Lucas .....	179	12.9	1 312	31.5	670	2.1	1 910	7.1	632	3.1	2 597	10.6
Lyon .....	596	6.3	11 885	5.5	974	3.2	2 327	7.3	1 129	1.1	11 046	4.7
Madison .....	349	10.1	2 825	11.0	929	2.1	2 298	7.1	916	2.0	6 145	5.5
Mahaska .....	331	10.1	6 461	12.3	889	3.2	3 217	6.7	979	1.7	7 762	3.6
Marion .....	300	10.4	4 481	9.5	876	2.4	2 214	5.8	907	2.5	4 826	6.0
Marshall .....	339	7.8	11 346	7.3	792	3.2	2 358	6.4	890	1.5	8 810	6.2
Mills .....	189	14.5	3 710	18.2	456	3.6	1 680	12.2	468	2.0	4 027	10.7
Mitchell .....	416	8.0	11 467	7.1	671	5.0	2 043	11.3	764	2.5	10 939	4.0
Monona .....	247	11.7	7 122	8.4	526	5.9	1 816	9.0	665	2.8	5 010	4.8
Monroe .....	164	15.7	1 405	14.6	663	2.0	1 417	5.7	659	2.4	2 963	5.0
Montgomery .....	173	14.8	3 746	15.2	506	4.4	2 180	8.6	512	2.7	4 958	6.7
Muscatine .....	359	7.7	8 208	8.3	625	4.2	1 903	8.4	717	2.6	4 825	6.4
O'Brien .....	596	5.5	14 112	7.1	774	3.4	1 977	8.3	977	.7	9 790	4.2
Oscceola .....	400	6.3	9 854	7.2	522	4.5	1 398	9.2	623	1.4	7 699	3.2
Page .....	212	10.5	2 819	12.5	777	2.2	2 285	6.6	771	1.9	4 918	8.4
Palo Alto .....	361	8.4	8 262	10.7	643	3.9	2 507	8.4	771	1.5	8 078	4.8
Plymouth .....	719	5.6	17 812	4.7	1 338	2.2	3 605	6.9	1 421	1.4	12 304	3.9
Pocahontas .....	400	7.1	9 008	8.2	634	4.1	1 778	7.3	769	1.3	6 688	7.4
Polk .....	271	8.8	6 202	10.1	691	3.5	2 079	6.1	718	2.3	4 241	7.4
Pottawattamie .....	670	5.4	17 216	5.5	1 079	3.5	4 108	6.4	1 280	1.6	9 503	4.5
Poweshiek .....	376	8.4	8 399	9.1	803	3.3	2 224	5.7	873	2.2	6 602	7.0

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 <sup>1</sup> —Con.											
	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)
Ringgold .....	167	13.7	1 959	11.9	649	2.0	1 601	6.1	593	3.3	4 293	5.0
Sac .....	468	7.6	15 268	8.0	675	4.3	2 202	8.7	794	1.2	11 100	3.8
Scott .....	393	8.4	13 951	7.6	660	4.7	2 236	8.0	748	2.3	5 541	6.1
Shelby .....	516	6.5	10 763	9.6	766	3.9	2 666	7.5	902	1.5	8 005	6.7
Sioux .....	1 029	4.3	23 250	4.2	1 527	2.2	3 732	4.0	1 727	.9	24 976	2.3
Story .....	470	6.8	8 687	8.2	788	3.4	2 918	8.9	902	1.6	7 409	6.8
Tama .....	490	7.0	13 035	7.1	984	3.0	3 015	8.1	1 083	2.2	9 011	5.4
Taylor .....	195	14.7	3 149	15.4	710	2.1	1 743	7.9	671	3.1	3 324	6.0
Union .....	231	10.8	2 166	16.7	642	2.0	1 421	7.0	642	2.7	2 786	8.3
Van Buren .....	210	12.2	1 591	17.2	774	1.8	1 861	7.5	745	2.6	3 101	14.4
Wapello .....	149	15.8	3 892	16.6	757	1.8	1 749	6.7	731	2.5	2 677	6.9
Warren .....	263	12.8	3 378	12.2	1 092	2.7	2 592	6.3	1 082	2.1	4 372	5.1
Washington .....	361	9.7	7 616	9.9	980	2.1	3 352	7.0	969	2.4	10 323	4.5
Wayne .....	200	15.0	1 539	21.9	697	2.4	1 764	7.7	685	2.3	2 703	7.3
Webster .....	447	6.7	10 259	7.6	737	4.0	2 721	9.0	935	.7	14 524	3.3
Winnebago .....	278	7.6	10 528	6.6	507	3.8	1 840	8.9	560	2.5	4 628	8.3
Winneshiek .....	464	8.1	5 936	6.4	1 317	2.1	3 517	4.7	1 353	1.6	9 542	5.1
Woodbury .....	498	7.2	13 577	6.7	1 128	2.7	3 483	6.0	1 222	2.0	8 962	4.9
Worth .....	327	8.7	9 660	8.3	561	2.9	1 947	8.8	573	2.3	4 595	6.5
Wright .....	383	7.7	22 396	5.7	582	4.4	2 383	8.8	691	1.8	10 904	2.6
Geographic area	Net cash return from agricultural sales for the farm unit (see text) <sup>1</sup>				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)
	Iowa .....	<b>90 786</b>	<b>.6</b>	<b>2 969 179</b>	<b>.8</b>	<b>83 375</b>	<b>.6</b>	<b>26 821 844</b>	<b>.5</b>	<b>74 951</b>	<b>.6</b>	<b>23 323 249</b>
Adair .....	791	.7	18 149	8.8	737	.7	283 563	.9	653	.8	214 279	1.0
Adams .....	573	1.0	11 760	11.8	529	.8	184 649	1.1	444	.9	125 377	1.2
Allamakee .....	959	.7	19 050	12.6	846	.7	179 795	1.0	712	.8	135 640	1.1
Appanoose .....	797	.9	6 166	18.1	737	.8	175 532	1.4	623	.9	98 611	1.5
Audubon .....	649	.8	19 185	9.2	607	.7	248 005	.8	543	.8	217 639	.9
Benton .....	1 209	.6	39 739	6.2	1 118	.6	375 729	.7	1 024	.6	341 149	.7
Black Hawk .....	1 001	.7	26 399	7.0	918	.6	263 418	.8	873	.6	252 852	.8
Boone .....	863	.6	33 282	5.3	790	.5	297 488	.7	756	.6	283 902	.7
Bremer .....	981	.7	23 996	7.1	887	.6	210 534	.9	822	.7	200 037	.9
Buchanan .....	1 135	.6	31 748	8.4	1 030	.6	303 756	.7	971	.6	285 548	.7
Buena Vista .....	866	.7	57 494	3.2	790	.5	326 418	.6	765	.6	315 405	.6
Butler .....	1 085	.6	33 186	5.6	1 005	.5	294 649	.7	906	.6	270 635	.7
Calhoun .....	792	.8	43 026	6.5	753	.7	317 038	.8	734	.7	306 400	.9
Carroll .....	1 102	.6	54 550	4.6	999	.6	323 889	.7	967	.6	302 918	.7
Cass .....	804	.7	19 289	8.8	739	.7	287 811	.9	677	.7	237 766	.9
Cedar .....	964	.7	26 724	7.0	881	.6	292 201	.8	812	.6	264 890	.8
Cerro Gordo .....	822	.8	28 853	5.4	769	.7	281 536	.8	694	.7	264 004	.8
Cherokee .....	889	.7	33 240	4.9	807	.6	286 850	.7	777	.6	265 149	.8
Chickasaw .....	927	.7	27 440	5.5	862	.7	242 737	.9	789	.8	223 329	.9
Clarke .....	678	.9	2 988	33.6	604	.8	151 334	1.6	505	1.0	81 284	1.6
Clay .....	668	.7	36 444	6.6	615	.6	262 903	.8	579	.7	244 994	.8
Clayton .....	1 639	.6	37 723	5.8	1 522	.6	337 115	.8	1 296	.7	273 022	.8
Clinton .....	1 266	.6	30 499	9.0	1 161	.6	325 354	.8	1 042	.7	290 935	.8
Crawford .....	1 108	.9	28 362	6.9	1 003	.8	374 638	.9	910	.9	325 709	.9
Dallas .....	917	.6	41 496	5.5	841	.5	287 666	.7	754	.6	263 751	.7
Davis .....	883	.8	13 080	8.4	813	.7	188 883	1.2	690	.9	110 732	1.4
Decatur .....	732	.6	13 733	8.5	662	.6	170 796	1.1	519	.8	88 999	1.2
Delaware .....	1 279	.7	46 861	6.3	1 194	.5	286 992	.6	1 114	.6	259 875	.6
Des Moines .....	652	.7	18 434	8.0	614	.6	155 783	1.1	556	.7	140 564	1.2
Dickinson .....	512	.8	14 708	11.3	469	.7	180 906	.9	424	.8	166 247	1.0
Dubuque .....	1 578	.8	38 006	7.8	1 435	.8	257 739	.8	1 273	.8	213 151	.8
Emmet .....	519	.8	30 576	5.4	480	.6	205 431	.8	425	.7	187 912	.8
Fayette .....	1 295	.7	45 815	5.5	1 192	.6	343 679	.7	1 085	.7	317 357	.7
Floyd .....	852	.6	25 493	6.7	785	.6	274 299	.7	724	.6	257 712	.8
Franklin .....	859	.7	37 585	6.1	799	.6	316 140	.8	751	.7	299 931	.8
Fremont .....	567	.8	30 063	5.9	549	.6	268 447	.8	495	.7	233 070	.8
Greene .....	763	.8	37 015	5.2	710	.7	316 526	.8	679	.7	297 213	.8
Grundy .....	753	.7	38 895	4.2	704	.5	298 946	.6	678	.5	289 061	.6
Guthrie .....	846	.8	20 789	9.4	755	.8	241 702	1.0	656	.9	194 659	1.1
Hamilton .....	789	.6	57 891	3.1	737	.4	329 567	.5	705	.5	317 421	.5
Hancock .....	849	.6	34 953	6.1	785	.5	315 295	.7	748	.6	304 229	.7
Hardin .....	856	.7	43 787	5.2	779	.6	314 144	.7	742	.7	299 363	.7
Harrison .....	876	.9	33 554	8.1	828	.8	342 113	.9	746	.9	302 447	.9
Henry .....	836	.7	20 744	14.5	774	.6	200 902	1.0	653	.7	166 383	1.0
Howard .....	863	.7	23 063	8.0	788	.7	241 042	.8	708	.8	216 902	.8
Humboldt .....	600	.8	32 250	6.2	559	.7	245 417	.8	547	.7	239 060	.8
Ida .....	636	1.1	23 288	7.3	571	1.1	231 131	1.2	537	1.1	205 956	1.2
Iowa .....	976	.7	27 166	4.9	905	.6	271 861	.8	742	.8	213 273	.9
Jackson .....	1 280	.7	15 065	20.1	1 157	.7	233 629	1.0	957	.8	166 492	1.0

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) <sup>1</sup>				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)
Jasper.....	1 204	.8	46 348	4.6	1 108	.7	365 523	.8	996	.8	318 965	.9
Jefferson.....	764	.8	14 273	10.5	706	.8	178 100	1.2	565	1.0	139 078	1.4
Johnson.....	1 261	.7	23 717	8.5	1 183	.6	249 275	.9	1 009	.7	202 934	1.0
Jones.....	1 028	.6	27 668	7.2	953	.5	267 164	.8	841	.6	233 100	.8
Keokuk.....	969	.9	22 957	10.7	883	.8	263 316	1.1	715	.9	193 893	1.1
Kossuth.....	1 405	.7	68 295	4.0	1 325	.5	547 880	.6	1 278	.6	528 869	.6
Lee.....	863	.7	19 440	10.6	773	.7	189 658	1.2	672	.8	156 755	1.2
Linn.....	1 480	.7	29 047	6.7	1 342	.6	291 876	.8	1 167	.6	257 566	.8
Louisa.....	592	.8	23 103	5.8	544	.7	168 229	1.1	474	.8	146 959	1.1
Lucas.....	706	.9	5 047	16.6	634	.8	156 678	1.5	513	1.0	76 807	1.7
Lyon.....	1 149	.8	50 676	4.4	1 014	.9	315 326	1.0	961	1.0	293 762	1.0
Madison.....	987	.8	18 140	11.6	912	.8	228 786	1.2	793	.9	163 603	1.2
Mahaska.....	1 022	.7	39 603	4.6	933	.7	273 633	.8	807	.8	230 111	.9
Marion.....	971	.8	19 143	7.0	887	.7	218 837	1.0	733	.8	171 369	1.1
Marshall.....	914	.7	28 952	5.6	831	.6	289 823	.8	736	.7	260 604	.9
Mills.....	495	.8	20 357	11.3	470	.8	204 717	1.1	430	.9	181 401	1.2
Mitchell.....	827	.7	30 966	9.2	737	.7	242 726	.8	700	.7	230 307	.8
Monona.....	698	.8	26 195	7.8	659	.7	316 827	.8	589	.8	276 942	.9
Monroe.....	691	1.0	6 944	21.2	644	1.0	150 876	1.7	578	1.1	83 216	1.8
Montgomery.....	576	.8	26 951	7.8	535	.6	209 389	.9	471	.8	171 618	.9
Muscatine.....	782	.9	13 171	13.8	715	.7	189 869	1.1	625	.8	169 909	1.1
O'Brien.....	977	.7	48 210	6.1	891	.7	330 094	.8	879	.7	314 232	.8
Oscceola.....	649	.8	38 731	5.6	590	.8	222 296	1.0	573	.8	214 077	1.0
Page.....	844	.7	23 845	6.3	778	.6	259 981	.9	674	.7	204 034	1.0
Palo Alto.....	787	.7	48 756	4.2	732	.6	305 714	.8	698	.7	289 010	.8
Plymouth.....	1 489	.7	51 136	4.7	1 348	.7	456 116	.7	1 235	.7	410 249	.7
Pocahontas.....	777	.8	48 444	4.6	753	.7	338 984	.8	738	.7	330 852	.8
Polk.....	802	.8	24 745	6.8	725	.7	200 801	1.0	643	.8	184 859	1.0
Pottawattamie.....	1 326	.7	49 418	5.7	1 222	.7	482 787	.8	1 129	.7	436 604	.8
Poweshiek.....	933	.8	32 851	6.6	861	.7	292 572	.9	709	.8	230 161	.9
Ringgold.....	671	1.0	6 155	16.9	628	.8	210 245	1.3	505	1.0	114 558	1.3
Sac.....	812	.8	46 651	4.8	741	.7	312 041	.7	713	.7	298 271	.7
Scott.....	798	.9	23 391	9.2	751	.7	205 650	.9	703	.8	194 545	.9
Shelby.....	920	.8	33 497	6.6	852	.7	314 868	.9	809	.8	287 342	.9
Sioux.....	1 751	.6	115 294	3.8	1 509	.6	452 956	.7	1 432	.7	432 087	.7
Story.....	947	.7	46 357	5.7	871	.6	316 839	.8	837	.7	304 609	.8
Tama.....	1 153	.7	25 410	6.6	1 066	.7	347 809	.8	940	.7	300 427	.9
Taylor.....	745	1.1	15 411	8.3	696	.9	228 964	1.1	556	1.0	147 591	1.2
Union.....	672	.9	5 916	22.6	617	.9	168 866	1.6	506	1.1	106 685	1.7
Van Buren.....	805	1.0	7 163	22.2	740	.9	171 564	1.4	622	1.0	114 335	1.6
Wapello.....	779	.8	10 823	11.3	727	.7	159 991	1.2	606	.9	118 662	1.3
Warren.....	1 215	.7	16 990	9.1	1 092	.7	219 996	1.1	953	.8	165 153	1.2
Washington.....	1 062	.9	44 860	6.3	952	.7	273 784	.9	851	.8	234 397	.9
Wayne.....	729	.7	6 886	17.5	685	.6	218 755	.9	576	.7	129 229	1.0
Webster.....	936	.7	53 525	5.0	884	.6	385 884	.6	849	.6	374 565	.6
Winnebago.....	606	.7	21 567	9.6	562	.6	226 547	.8	510	.7	214 360	.8
Winneshiek.....	1 450	.8	27 765	8.4	1 320	.7	286 614	.9	1 116	.8	230 401	.9
Woodbury.....	1 308	.8	33 362	7.4	1 181	.9	427 501	.9	1 015	.9	365 559	.9
Worth.....	607	.7	17 346	10.6	555	.6	209 352	.9	498	.7	196 909	.9
Wright.....	716	.6	30 082	7.9	664	.5	329 787	.6	641	.5	318 484	.6
Geographic area	Irrigated land				Livestock and poultry							
	Farms		Acres		Cattle and calves inventory				Beef cows inventory			
					Farms	Total	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)	Number
Iowa.....	957	1.0	124 983	1.1	38 435	.6	3 647 129	.5	27 452	.6	1 029 172	.6
Adair.....	3	15.2	(D)	(D)	507	1.0	53 168	1.3	456	1.1	23 167	1.4
Adams.....	1	32.5	(D)	(D)	359	1.2	39 603	1.3	326	1.3	16 364	1.5
Allamakee.....	4	13.5	(D)	(D)	642	.9	68 945	1.1	382	1.3	16 971	1.7
Appanoose.....	2	15.0	(D)	(D)	537	1.0	42 971	1.6	502	1.1	23 488	1.6
Audubon.....	—	—	—	—	276	1.4	32 920	1.2	206	1.7	8 875	2.0
Benton.....	11	8.8	399	18.0	514	1.1	40 399	1.0	380	1.3	10 749	1.5
Black Hawk.....	23	5.2	1 000	10.8	267	1.5	16 541	1.6	149	2.2	3 567	3.1
Boone.....	10	9.0	257	20.8	235	1.5	17 195	1.3	191	1.8	5 850	1.7
Bremer.....	7	10.8	342	13.8	405	1.3	24 501	1.8	176	2.1	3 797	2.6
Buchanan.....	5	12.8	(D)	(D)	497	1.1	28 189	1.3	244	1.7	5 479	2.3
Buena Vista.....	5	10.0	(D)	(D)	205	1.6	22 926	1.4	155	2.0	4 592	2.9
Butler.....	4	17.2	91	20.8	370	1.2	21 885	1.4	236	1.6	5 352	2.2
Calhoun.....	2	17.5	(D)	(D)	182	2.1	21 054	1.7	124	2.6	(D)	(D)
Carroll.....	7	8.4	575	11.2	389	1.2	73 296	.7	253	1.7	9 576	1.9
Cass.....	3	18.8	(D)	(D)	440	1.1	49 714	1.2	376	1.2	16 670	1.6
Cedar.....	7	7.8	(D)	(D)	395	1.2	29 787	1.5	294	1.4	9 691	1.8
Cerro Gordo.....	10	7.6	199	3.0	170	2.1	9 418	2.6	104	2.7	2 630	3.8
Cherokee.....	6	12.4	613	10.8	426	1.3	48 587	1.1	274	1.5	10 680	1.8
Chickasaw.....	—	—	—	—	39 107	1.2	216	2.0	6 333	2.8	—	—

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	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)
Clarke .....	5	13.4	383	16.4	449	1.1	40 721	1.8	422	1.2	20 128	1.8
Clay .....	9	9.6	844	19.4	176	1.9	16 987	1.4	138	2.2	(D)	(D)
Clayton .....	7	10.7	465	14.5	955	.8	83 360	1.0	489	1.2	15 905	1.7
Clinton .....	9	9.7	113	28.0	564	1.1	54 104	1.2	354	1.4	12 885	1.7
Crawford .....	5	13.9	184	16.4	608	1.1	60 675	1.1	490	1.3	19 272	1.6
Dallas .....	17	6.5	844	.9	274	1.4	16 221	1.8	222	1.6	6 380	2.3
Davis .....	5	13.0	(D)	(D)	584	1.0	47 461	1.4	491	1.1	21 370	1.6
Decatur .....	3	21.9	12	33.2	462	.9	61 623	1.0	407	1.0	23 245	1.2
Delaware .....	5	15.4	10	19.3	690	.9	70 399	.9	241	1.7	7 973	1.8
Des Moines .....	14	5.8	1 945	4.0	255	1.5	15 343	2.0	209	1.7	5 689	2.7
Dickinson .....	3	21.6	(D)	(D)	139	2.1	26 846	1.1	94	2.9	3 983	3.5
Dubuque .....	6	10.6	20	9.7	1 042	.9	112 144	.9	438	1.4	16 398	1.6
Emmet .....	2	13.4	(D)	(D)	145	1.9	18 909	1.3	97	2.5	(D)	(D)
Fayette .....	13	9.2	738	14.5	628	1.0	59 268	1.0	276	1.6	9 519	1.9
Floyd .....	12	7.2	1 924	6.7	250	1.5	15 921	2.3	156	2.0	4 153	2.6
Franklin .....	2	22.2	(D)	(D)	219	1.8	19 252	1.6	151	2.2	4 130	2.3
Fremont .....	13	6.0	1 932	4.5	222	1.5	23 564	1.3	195	1.7	(D)	(D)
Greene .....	7	8.2	1 207	4.9	246	1.6	21 041	1.7	196	1.9	5 741	2.4
Grundy .....	4	16.4	(D)	(D)	221	1.4	19 843	1.2	141	1.9	4 376	2.6
Guthrie .....	3	19.4	(D)	(D)	456	1.2	36 996	1.4	407	1.3	16 758	2.0
Hamilton .....	6	11.1	(D)	(D)	118	2.1	5 150	2.3	82	2.7	1 654	3.4
Hancock .....	8	10.6	480	10.8	190	1.7	11 616	1.8	112	2.3	2 756	3.0
Hardin .....	6	9.6	(D)	(D)	250	1.7	19 525	1.8	197	1.9	6 388	2.7
Harrison .....	59	3.5	20 699	2.5	364	1.5	33 693	1.6	291	1.8	11 727	2.2
Henry .....	2	20.2	(D)	(D)	316	1.3	18 075	1.9	259	1.5	8 399	2.2
Howard .....	2	23.5	(D)	(D)	381	1.3	30 651	1.5	174	2.1	5 118	2.8
Humboldt .....	1	—	(D)	(D)	117	2.5	11 936	2.0	58	3.8	1 463	3.6
Ida .....	2	16.8	(D)	(D)	292	1.7	33 145	1.4	235	2.0	(D)	(D)
Iowa .....	4	18.0	22	19.5	446	1.2	44 383	1.3	369	1.3	16 485	1.6
Jackson .....	9	9.1	248	12.5	873	.8	89 317	1.1	648	1.1	25 448	1.4
Jasper .....	6	15.0	(D)	(D)	514	1.2	46 016	1.3	426	1.4	16 551	1.7
Jefferson .....	5	14.0	(D)	(D)	355	1.4	20 280	1.9	307	1.6	8 591	2.1
Johnson .....	20	6.3	771	2.0	566	1.1	37 990	1.7	405	1.4	12 395	1.9
Jones .....	3	20.4	(D)	(D)	530	.9	61 039	1.0	357	1.2	15 237	1.6
Keokuk .....	—	—	—	—	413	1.4	28 601	1.8	359	1.5	13 292	1.9
Kossuth .....	8	6.5	614	5.8	308	1.4	30 431	1.1	167	2.0	4 905	2.4
Lee .....	12	7.5	939	7.2	392	1.3	26 884	1.7	310	1.6	10 265	2.1
Linn .....	23	6.3	189	11.2	616	1.0	36 790	1.1	445	1.3	10 358	1.7
Louisa .....	34	4.2	5 015	3.7	176	1.9	11 269	2.6	141	2.3	4 548	3.0
Lucas .....	1	49.9	(D)	(D)	445	1.1	40 506	1.7	417	1.2	21 117	1.8
Lyon .....	7	11.0	515	14.0	507	1.3	78 467	.9	261	2.0	9 568	2.4
Madison .....	6	14.5	46	14.0	579	1.1	44 695	1.5	523	1.2	21 791	1.6
Mahaska .....	5	14.2	(D)	(D)	436	1.2	41 421	1.3	308	1.6	10 454	2.0
Marion .....	7	11.3	55	16.9	465	1.2	30 772	1.6	387	1.4	12 969	2.1
Marshall .....	6	9.9	8	9.5	316	1.4	25 413	1.5	252	1.6	7 996	2.2
Mills .....	3	—	(D)	(D)	180	2.0	14 175	2.4	149	2.3	5 680	2.9
Mitchell .....	7	8.9	394	20.2	322	1.4	44 635	1.2	105	2.7	2 873	4.2
Monona .....	102	2.5	40 838	2.1	263	1.6	36 424	1.5	201	2.0	9 491	2.5
Monroe .....	2	24.1	(D)	(D)	418	1.3	37 088	2.2	372	1.5	17 586	2.2
Montgomery .....	2	—	(D)	(D)	275	1.3	29 357	1.2	234	1.5	10 160	1.8
Muscatine .....	41	4.3	5 924	5.7	295	1.5	19 217	1.9	232	1.8	6 417	2.3
O'Brien .....	4	14.6	(D)	(D)	274	1.6	34 064	1.3	160	2.2	6 394	2.2
Oscceola .....	7	11.0	717	14.1	188	2.0	30 926	1.6	68	3.7	2 581	6.3
Page .....	8	9.6	187	4.1	447	1.1	39 461	1.3	373	1.2	15 535	1.8
Palo Alto .....	27	5.5	4 185	6.4	182	1.7	18 843	1.8	111	2.3	2 994	3.2
Plymouth .....	9	11.5	2 262	7.1	616	1.1	79 131	1.0	427	1.4	17 884	1.9
Pocahontas .....	7	10.9	107	7.2	131	2.3	11 657	2.4	73	3.2	1 797	4.1
Polk .....	20	7.1	112	10.5	190	2.0	9 774	2.6	152	2.4	4 135	3.1
Pottawattamie .....	17	6.3	1 864	4.8	559	1.2	63 804	1.1	451	1.4	15 680	1.8
Poweshiek .....	3	21.1	3	21.1	462	1.1	40 525	1.6	392	1.3	15 515	1.8
Ringgold .....	1	35.7	(D)	(D)	407	1.2	41 973	1.6	380	1.2	21 129	1.6
Sac .....	8	10.4	590	2.3	276	1.5	39 542	1.1	184	2.0	6 398	2.2
Scott .....	11	8.7	640	2.6	292	1.6	20 483	2.0	208	1.9	5 581	3.2
Shelby .....	5	13.2	20	26.5	425	1.3	40 343	1.2	341	1.5	10 986	1.8
Sioux .....	47	3.8	7 899	4.3	677	.9	174 053	.5	187	2.0	10 700	1.7
Story .....	22	6.9	325	13.8	212	1.7	16 965	1.3	135	2.2	3 568	3.0
Tama .....	6	14.7	91	35.9	500	1.2	34 081	1.8	382	1.4	13 332	2.2
Taylor .....	—	—	—	—	425	1.2	36 730	1.5	375	1.3	17 312	1.6
Union .....	8	12.2	152	25.8	402	1.3	37 889	1.9	359	1.5	(D)	(D)
Van Buren .....	3	15.1	13	14.7	450	1.3	30 669	1.7	394	1.4	15 319	1.8
Wapello .....	5	14.6	51	16.5	387	1.3	20 975	1.9	346	1.4	9 976	2.0
Warren .....	8	12.6	255	20.6	620	1.1	39 482	1.7	556	1.2	18 329	1.8
Washington .....	2	18.1	(D)	(D)	394	1.4	25 439	1.9	285	1.7	9 423	2.1
Wayne .....	3	16.8	(D)	(D)	450	.9	42 482	1.3	399	1.0	20 902	1.4
Webster .....	9	8.4	87	3.7	208	1.8	12 870	1.6	154	2.2	3 805	2.5
Winnebago .....	3	8.4	3	8.4	120	2.3	5 994	2.7	67	3.2	1 136	4.3
Winneshiek .....	13	8.4	179	23.7	855	1.0	81 358	1.1	443	1.4	13 915	1.8
Woodbury .....	44	4.4	7 782	4.5	511	1.3	62 634	1.3	412	1.5	18 491	2.0
Worth .....	3	—	402	—	180	1.8	9 892	2.3	125	2.3	2 652	3.1
Wright .....	1	—	(D)	(D)	108	2.3	5 245	1.8	72	2.8	1 539	2.9

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)
Iowa .....	4 208	.8	222 142	.6	17 243	.5	14 651 919	.2	4 431	.7	265 305	.8
Adair .....	10	8.3	296	8.0	129	2.5	39 032	2.6	57	4.1	1 720	5.8
Adams .....	9	10.1	177	13.1	62	3.3	58 998	1.3	18	7.4	798	11.4
Allamakee .....	230	1.8	15 173	1.6	138	2.2	72 111	1.7	25	5.6	664	6.9
Appanoose .....	17	7.3	398	10.1	24	5.9	5 462	7.6	38	4.8	1 844	7.7
Audubon .....	4	16.6	190	11.5	160	1.7	168 217	.6	28	5.6	1 053	8.7
Benton .....	28	4.9	2 029	4.0	233	1.7	102 216	1.4	75	3.1	3 072	4.5
Black Hawk .....	32	4.7	1 491	4.3	200	1.6	171 797	.8	36	4.5	3 231	5.1
Boone .....	6	13.2	104	21.6	111	2.2	101 679	.9	52	3.8	1 703	6.2
Bremer .....	111	2.7	5 398	2.9	168	2.0	88 693	1.3	44	4.1	1 724	11.4
Buchanan .....	150	2.3	3 785	2.7	300	1.4	191 642	.9	63	3.8	1 356	5.8
Buena Vista .....	4	7.3	321	2.7	270	1.2	298 220	.5	39	4.3	3 162	3.9
Butler .....	44	3.5	1 827	3.2	238	1.4	178 682	.8	73	3.0	3 386	5.4
Calhoun .....	1	34.9	(D)	(D)	159	2.0	171 427	.8	43	4.6	1 546	8.3
Carroll .....	10	8.8	233	12.6	355	1.2	372 598	.5	36	4.9	2 581	7.5
Cass .....	14	7.5	363	10.3	130	2.1	64 720	1.5	43	4.3	2 317	6.6
Cedar .....	23	6.5	899	7.1	196	1.7	151 936	1.0	69	3.5	2 588	7.0
Cerro Gordo .....	12	9.1	560	9.4	141	2.0	126 766	.9	42	4.2	1 392	5.7
Cherokee .....	19	6.3	804	5.4	244	1.4	222 808	.7	31	5.1	1 598	7.9
Chickasaw .....	101	2.9	5 674	2.3	186	1.8	131 490	1.1	43	4.6	2 076	3.4
Clarke .....	18	8.0	357	7.8	53	4.5	67 224	1.0	51	4.5	2 473	19.3
Clay .....	3	13.9	(D)	(D)	133	2.0	108 489	1.1	33	5.1	3 608	8.4
Clayton .....	413	1.3	21 965	1.3	337	1.3	242 580	.8	59	3.9	1 780	5.5
Clinton .....	45	4.3	2 482	3.5	246	1.7	101 869	1.4	56	4.0	2 337	5.2
Crawford .....	16	7.2	668	7.0	230	1.8	179 383	.9	42	4.9	3 002	5.1
Dallas .....	6	11.9	98	18.9	85	2.4	56 587	1.1	42	4.0	1 164	5.0
Davis .....	83	3.5	1 834	4.3	94	3.1	123 102	.8	78	3.6	7 484	2.7
Decatur .....	12	8.4	232	17.2	40	3.8	39 037	1.4	32	5.0	1 402	12.4
Delaware .....	315	1.4	18 844	1.3	515	1.0	401 729	.6	34	4.7	1 016	7.2
Des Moines .....	11	7.2	520	9.9	70	2.9	125 030	.7	28	4.9	590	7.1
Dickinson .....	6	10.8	586	2.9	82	2.7	45 333	1.6	35	4.5	1 551	6.5
Dubuque .....	416	1.4	27 998	1.2	399	1.4	268 568	.8	36	5.5	1 221	6.9
Emmet .....	2	24.3	(D)	(D)	83	2.3	120 605	.5	19	6.2	982	7.8
Fayette .....	207	2.0	12 778	1.6	290	1.4	242 628	.6	59	3.6	4 564	5.3
Floyd .....	27	5.9	963	6.5	155	1.7	106 157	.9	25	5.5	1 028	8.2
Franklin .....	19	7.2	436	9.5	182	1.6	198 056	.6	36	5.2	2 516	12.4
Fremont .....	2	26.7	(D)	(D)	54	2.9	24 261	2.5	10	9.1	684	17.9
Greene .....	6	13.3	8	15.4	125	2.0	154 717	.6	28	5.1	937	6.9
Grundy .....	13	5.4	745	4.1	180	1.5	156 834	.7	41	3.9	2 692	4.9
Guthrie .....	9	9.9	557	6.1	120	2.5	81 536	1.5	37	4.9	924	7.4
Hamilton .....	4	13.1	340	2.7	159	1.3	448 312	.2	40	3.9	1 363	5.6
Hancock .....	8	8.4	355	8.2	186	1.5	174 621	.7	36	4.2	2 240	8.1
Hardin .....	6	12.3	161	19.2	205	1.5	395 359	.3	39	4.5	1 004	6.2
Harrison .....	7	13.8	84	15.5	74	3.5	66 383	1.2	9	10.7	467	18.9
Henry .....	8	9.4	364	8.3	129	2.0	88 271	1.2	51	3.8	2 289	5.5
Howard .....	105	2.9	4 561	2.9	187	2.0	98 979	1.4	26	6.5	1 111	9.1
Humboldt .....	7	12.8	299	15.0	108	2.4	85 721	1.2	22	5.7	3 870	1.6
Ida .....	5	12.0	(D)	(D)	149	2.5	120 684	1.1	29	6.3	2 117	11.5
Iowa .....	26	5.8	994	5.0	201	1.7	134 113	1.1	47	4.1	2 114	9.7
Jackson .....	141	2.4	7 532	2.0	232	1.8	89 234	1.6	53	4.0	2 475	7.8
Jasper .....	19	7.4	857	6.4	215	1.8	180 743	.9	91	3.3	3 546	5.7
Jefferson .....	16	8.1	524	7.5	121	2.4	72 998	1.6	42	4.8	9 646	3.9
Johnson .....	96	3.1	2 938	3.1	279	1.7	137 946	1.3	114	2.7	5 758	5.6
Jones .....	62	3.0	3 256	2.6	233	1.5	147 204	.8	49	3.9	2 552	2.6
Keokuk .....	7	12.5	203	9.7	195	2.0	144 412	1.2	60	4.0	3 071	3.9
Kossuth .....	25	5.4	1 191	4.4	306	1.3	323 029	.5	63	3.5	3 809	7.4
Lee .....	23	6.6	1 447	6.2	146	2.2	113 345	1.2	49	4.8	3 093	7.1
Linn .....	54	3.8	2 033	3.5	193	1.9	80 301	1.8	87	3.0	2 987	4.5
Louisa .....	7	11.0	193	16.0	95	2.5	90 189	.9	28	5.8	1 076	10.1
Lucas .....	14	9.5	239	13.2	55	3.8	19 082	3.9	29	5.5	3 239	3.5
Lyon .....	59	4.0	4 315	2.5	371	1.5	325 619	.7	58	4.2	5 715	4.9
Madison .....	5	17.3	12	22.8	87	3.1	40 136	1.7	49	4.8	2 121	6.1
Mahaska .....	22	5.6	1 106	5.6	259	1.5	247 819	.8	48	4.4	2 515	5.9
Marion .....	18	7.5	742	8.5	138	2.3	80 740	1.2	79	3.5	8 218	2.1
Marshall .....	8	8.3	855	2.8	139	2.1	118 159	1.0	71	3.4	3 280	3.6
Mills .....	5	16.9	85	19.9	51	4.4	17 544	4.0	21	7.6	1 056	12.6
Mitchell .....	78	3.5	2 996	3.1	259	1.5	265 686	.6	35	5.2	1 296	8.4
Monona .....	6	13.7	217	16.0	114	2.5	55 490	2.0	22	6.7	1 145	8.4
Monroe .....	18	7.5	705	7.8	48	4.4	45 184	1.5	27	6.5	1 718	12.6
Montgomery .....	7	10.8	247	14.2	79	2.7	38 330	2.1	19	6.0	681	7.6
Muscatine .....	20	6.3	1 043	5.4	141	2.3	68 777	1.8	61	4.0	1 632	4.9
O'Brien .....	18	6.7	760	5.7	280	1.4	283 000	.7	57	4.0	4 485	7.4
Oscceola .....	24	5.4	1 338	4.0	153	2.0	216 701	.6	27	5.5	3 771	3.5
Page .....	5	14.0	75	21.5	126	2.2	61 151	1.4	32	4.8	1 496	4.4
Palo Alto .....	14	6.5	362	7.0	157	1.7	199 116	.6	23	5.3	3 843	6.1
Plymouth .....	36	4.7	2 215	2.6	465	1.1	460 965	.5	68	4.0	7 202	5.0
Pocahontas .....	6	10.6	443	5.2	151	1.9	118 209	.8	27	5.4	1 567	5.6
Polk .....	3	15.9	246	6.5	64	3.3	21 780	1.7	48	4.4	2 210	8.5
Pottawattamie .....	13	8.8	314	13.4	189	2.1	87 323	1.6	53	4.5	1 795	6.1
Poweshiek .....	12	7.7	1 091	3.9	172	2.0	109 074	1.2	59	3.4	3 174	5.3

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	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)	Relative standard error of estimate (percent)	
Ringgold .....	13	8.6	242	15.2	55	3.5	181 241	.3	24	6.1	1 449	12.4
Sac .....	13	7.8	754	2.7	240	1.4	350 473	.4	51	4.1	5 411	3.7
Scott .....	24	6.4	844	7.2	152	2.1	104 705	1.3	53	4.2	1 679	5.9
Shelby .....	8	11.8	324	13.5	217	1.8	119 133	1.3	39	4.8	2 109	10.5
Sioux .....	117	2.3	14 214	1.0	688	.9	762 294	.4	102	2.7	28 917	1.2
Story .....	8	6.3	1 342	1.0	142	2.1	102 688	1.2	62	3.4	2 906	4.8
Tama .....	29	5.6	1 460	4.4	165	2.1	103 275	1.1	80	3.4	3 470	5.1
Taylor .....	7	12.1	220	7.0	83	3.1	41 037	1.6	23	6.7	1 126	13.3
Union .....	5	14.2	(D)	(D)	63	3.6	56 082	1.5	39	5.4	2 970	9.5
Van Buren .....	30	6.1	941	7.1	82	3.1	43 971	1.9	62	4.1	3 548	6.9
Wapello .....	15	8.0	439	8.7	61	3.2	34 941	1.7	23	7.2	631	8.7
Warren .....	21	6.8	494	6.3	91	3.1	42 339	1.9	61	4.2	1 790	9.2
Washington .....	50	4.5	1 272	5.9	386	1.2	436 353	.5	70	3.9	3 278	6.3
Wayne .....	16	7.4	479	8.6	49	3.6	20 808	2.2	28	4.8	1 043	5.8
Webster .....	6	10.7	292	13.5	130	1.9	149 935	.5	36	4.4	1 274	4.5
Winnebago .....	21	5.8	533	6.0	122	2.1	44 371	1.9	26	5.3	651	7.4
Winneshiek .....	332	1.6	19 617	1.4	302	1.6	125 534	1.3	58	4.1	1 991	6.7
Woodbury .....	5	17.5	109	19.8	190	2.1	103 850	1.4	48	4.7	1 991	7.1
Worth .....	12	7.3	467	6.1	103	2.3	46 325	1.9	23	5.7	937	7.1
Wright .....	5	12.4	64	19.5	94	2.1	358 616	.3	39	4.1	1 621	5.6
Geographic area	Livestock and poultry—Con.											
	Layers 20 weeks old and older inventory						Broilers and other meat-type chickens sold					
	Farms		Total		Farms		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)	Relative standard error of estimate (percent)	
Iowa .....	1 831	.9	21 509 521	.1	519	1.4	6 852 810				1.1	
Adair .....	16	7.2	(D)	(D)	9	8.0	2 085				17.2	
Adams .....	12	8.2	2 057	12.9	3	—	610 000				—	
Allamakee .....	7	12.1	413	22.2	4	18.2	(D)				(D)	
Appanoose .....	25	6.1	410	8.5	2	16.4	(D)				(D)	
Audubon .....	10	8.1	(D)	(D)	6	10.9	1 406				6.1	
Benton .....	25	5.9	(D)	(D)	15	7.0	8 173				11.0	
Black Hawk .....	18	7.2	(D)	(D)	7	10.9	2 151				24.5	
Boone .....	15	6.3	(D)	(D)	7	10.2	1 353				12.3	
Bremer .....	24	5.8	(D)	(D)	9	11.2	1 521				19.0	
Buchanan .....	43	4.1	(D)	(D)	15	7.1	118 225				9.9	
Buena Vista .....	11	7.6	(D)	(D)	7	8.2	665				9.8	
Butler .....	30	4.8	(D)	(D)	9	9.2	10 123				35.5	
Calhoun .....	13	9.6	340	13.1	5	14.0	2 115				16.8	
Carroll .....	13	8.5	600	11.1	7	11.9	2 625				13.6	
Cass .....	11	7.9	(D)	(D)	3	15.7	(D)				(D)	
Cedar .....	15	7.8	405	10.1	6	13.2	891				15.2	
Cerro Gordo .....	12	7.8	35 664	(L)	2	18.6	(D)				(D)	
Cherokee .....	6	11.5	(D)	(D)	4	15.7	1 850				24.1	
Chickasaw .....	18	7.2	782	10.8	7	13.1	(D)				(D)	
Clarke .....	17	7.1	1 146	11.2	1	50.0	(D)				(D)	
Clay .....	7	8.0	(D)	(D)	7	12.8	2 351				17.7	
Clayton .....	39	4.8	449 504	(L)	6	12.3	1 800				16.0	
Clinton .....	23	6.7	991	13.8	5	12.0	297				15.4	
Crawford .....	23	6.9	(D)	(D)	8	11.6	1 177				16.2	
Dallas .....	26	5.0	213 237	2.2	4	14.1	921				17.2	
Davis .....	43	4.6	11 442	30.5	1	34.9	(D)				(D)	
Decatur .....	19	6.5	375	7.5	3	12.4	250				11.8	
Delaware .....	25	5.8	(D)	(D)	4	12.9	265				12.7	
Des Moines .....	10	9.0	309	9.5	3	13.0	200				7.6	
Dickinson .....	4	14.7	84	18.6	1	33.0	(D)				(D)	
Dubuque .....	22	6.3	1 337	10.7	5	15.3	687				24.2	
Emmet .....	6	12.2	(D)	(D)	5	15.7	1 240				21.4	
Fayette .....	20	5.9	(D)	(D)	3	16.9	215				18.6	
Floyd .....	6	10.9	(D)	(D)	8	9.1	(D)				(D)	
Franklin .....	20	6.2	(D)	(D)	5	14.1	937				17.7	
Fremont .....	5	12.4	123	17.5	1	31.4	(D)				(D)	
Greene .....	13	7.6	908	18.6	8	9.8	1 168				21.2	
Grundy .....	14	6.6	163 891	4.2	7	8.7	2 715				10.6	
Guthrie .....	18	6.9	(D)	(D)	2	28.5	(D)				(D)	
Hamilton .....	13	6.7	12 356	18.9	2	21.9	(D)				(D)	
Hancock .....	14	7.1	(D)	(D)	2	13.7	(D)				(D)	
Hardin .....	14	7.4	(D)	(D)	5	12.1	755				24.2	
Harrison .....	12	10.1	596	14.9	5	16.2	(D)				(D)	
Henry .....	11	9.7	312	11.5	2	21.4	(D)				(D)	
Howard .....	29	6.0	1 382	12.4	5	12.5	325				14.0	
Humboldt .....	11	9.8	133 062	4.8	4	13.1	(D)				(D)	
Ida .....	15	8.9	1 201	16.3	3	21.5	(D)				(D)	
Iowa .....	12	8.4	813	16.6	5	12.7	485				18.8	
Jackson .....	25	6.3	(D)	(D)	6	13.1	1 955				17.5	

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	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)				
Jasper .....	25	5.9	(D)	(D)	7	12.8	2 681	12.9				
Jefferson .....	14	8.8	780	18.9	2	26.0	(D)	(D)				
Johnson .....	62	3.8	64 027	.5	12	9.4	10 537	23.8				
Jones .....	17	7.1	364	9.0	6	14.1	1 176	16.9				
Keokuk .....	13	7.5	(D)	(D)	4	12.6	960	19.1				
Kossuth .....	19	6.5	9 515	21.1	10	9.0	8 142	12.6				
Lee .....	19	7.5	1 428	19.4	—	—	—	—				
Linn .....	43	4.3	1 363	6.4	10	9.5	1 438	13.9				
Louisa .....	6	9.2	94	10.5	2	15.3	(D)	(D)				
Lucas .....	23	6.1	432	8.0	4	16.6	950	19.1				
Lyon .....	16	7.7	(D)	(D)	13	7.4	404 682	.3				
Madison .....	27	6.4	(D)	(D)	1	36.1	(D)	(D)				
Mahaska .....	11	9.4	(D)	(D)	2	23.6	(D)	(D)				
Marion .....	24	6.4	769	8.0	4	19.3	197	25.9				
Marshall .....	16	7.3	(D)	(D)	6	13.7	1 395	14.1				
Mills .....	9	9.8	260	17.4	2	25.1	(D)	(D)				
Mitchell .....	37	5.5	279 987	2.3	13	10.3	(D)	(D)				
Monona .....	10	9.7	193	12.6	2	16.8	(D)	(D)				
Monroe .....	8	11.4	153	14.5	—	—	—	—				
Montgomery .....	10	8.7	(D)	(D)	1	28.8	(D)	(D)				
Muscatine .....	25	6.5	1 886	12.4	7	11.0	1 250	13.9				
O'Brien .....	21	6.3	304 897	2.5	9	8.1	(D)	(D)				
Osceola .....	9	7.0	(D)	(D)	4	12.5	(D)	(D)				
Page .....	11	8.8	841	16.8	2	26.6	(D)	(D)				
Palo Alto .....	10	6.9	817 505	(L)	7	11.1	2 106	14.4				
Plymouth .....	29	6.0	7 763	2.1	4	17.1	(D)	(D)				
Pocahontas .....	9	9.0	(D)	(D)	3	18.8	(D)	(D)				
Polk .....	17	8.5	263	9.8	5	13.7	6 605	28.2				
Pottawattamie .....	30	5.5	907	7.8	9	10.4	874	15.6				
Poweshiek .....	11	9.3	(D)	(D)	4	16.9	95	18.8				
Ringgold .....	13	7.8	303	9.9	4	11.4	(D)	(D)				
Sac .....	13	8.2	96 168	6.2	5	12.1	425	23.6				
Scott .....	22	6.5	2 064	23.6	2	23.7	(D)	(D)				
Shelby .....	17	8.2	582	10.7	9	9.6	1 474	12.7				
Sioux .....	31	3.7	1 573 881	.2	23	5.2	2 472 235	.2				
Story .....	16	7.4	1 132	16.2	7	11.1	4 300	12.4				
Tama .....	34	5.6	1 107	8.1	9	11.5	1 044	16.9				
Taylor .....	19	7.2	(D)	(D)	4	13.0	(D)	(D)				
Union .....	12	9.4	148	11.1	8	10.7	(D)	(D)				
Van Buren .....	22	7.0	975	10.3	4	19.4	248	23.2				
Wapello .....	16	8.3	526	14.7	2	23.0	(D)	(D)				
Warren .....	28	6.3	620	7.8	3	21.3	(D)	(D)				
Washington .....	47	4.3	399 737	.5	11	11.3	(D)	(D)				
Wayne .....	10	8.0	230	10.5	1	46.6	(D)	(D)				
Webster .....	20	6.9	(D)	(D)	1	30.5	(D)	(D)				
Winnebago .....	8	9.6	619	18.5	2	19.0	(D)	(D)				
Winneshiek .....	36	4.9	(D)	(D)	5	12.8	475	16.1				
Woodbury .....	33	5.7	1 267	7.2	5	14.1	1 960	26.9				
Worth .....	4	15.9	(D)	(D)	5	13.5	630	17.7				
Wright .....	9	7.4	(D)	(D)	1	31.7	(D)	(D)				
Geographic area	Selected crops harvested											
	Corn for grain or seed				Corn for silage or green chop							
	Farms		Acres		Farms		Acres					
	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)	Number	Relative standard error of estimate (percent)	Bushels	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)				
Iowa .....	<b>61 860</b>	.6	<b>11 595 308</b>	.5	<b>1 537 482 128</b>	.5	<b>8 405</b>	.7	<b>241 549</b>	.5	<b>3 993 158</b>	.6
Adair .....	543	.9	93 873	1.1	10 829 372	1.1	93	2.8	2 686	3.5	38 974	3.6
Adams .....	338	1.2	54 227	1.3	6 247 399	1.3	36	4.2	1 301	4.3	16 118	4.0
Allamakee .....	584	1.0	63 619	1.2	8 273 034	1.2	275	1.6	6 831	1.9	115 394	1.7
Appanoose .....	309	1.5	27 217	1.9	3 290 397	2.0	29	5.7	754	7.4	10 057	8.4
Audubon .....	468	.9	103 274	.9	12 811 212	.9	47	3.4	1 356	4.0	19 077	3.3
Benton .....	866	.7	166 702	.8	23 422 374	.8	86	2.8	1 974	2.5	32 333	2.7
Black Hawk .....	722	.7	131 973	.8	17 572 621	.8	63	3.2	1 727	3.6	29 935	4.0
Boone .....	632	.7	140 660	.7	20 115 217	.7	28	4.5	561	5.1	10 289	7.5
Bremer .....	713	.8	105 948	.9	14 824 642	.9	114	2.7	2 371	3.0	43 121	3.4
Buchanan .....	859	.7	156 792	.8	20 690 445	.8	143	2.2	3 228	2.8	60 888	4.2
Buena Vista .....	714	.6	158 339	.6	22 268 695	.6	66	2.8	2 887	1.8	60 043	1.5
Butler .....	784	.7	139 450	.7	18 450 766	.7	83	2.5	1 927	2.7	29 828	2.5
Calhoun .....	650	.9	149 875	.9	19 749 654	.9	39	4.1	2 012	2.2	25 960	3.4
Carroll .....	883	.7	151 595	.8	19 662 164	.8	77	2.7	2 631	2.0	39 336	2.7
Cass .....	575	.8	114 895	.9	13 311 624	1.0	81	2.9	1 708	2.8	24 267	2.6
Cedar .....	690	.7	140 111	.8	19 025 852	.8	81	2.9	1 508	2.8	21 462	3.3
Cerro Gordo .....	563	.9	137 695	.9	19 318 381	.9	44	4.4	1 115	6.9	19 403	6.9
Cherokee .....	704	.7	129 500	.8	17 375 954	.8	121	2.2	4 600	1.6	79 806	1.2
Chickasaw .....	674	.9	114 215	.9	15 587 474	.9	177	2.1	5 302	2.2	91 489	2.2

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 grain or seed						Corn for silage or green chop					
	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)	Tons, green	Relative standard error of estimate (percent)
Clarke .....	309	1.5	25 691	2.0	2 809 247	2.1	52	4.4	1 546	5.1	18 500	4.8
Clay .....	508	.8	118 457	.8	15 713 582	.8	56	3.4	1 896	2.3	31 517	2.2
Clayton .....	1 082	.7	158 200	.9	20 923 842	.8	343	1.5	7 418	1.5	120 460	1.5
Clinton .....	918	.8	171 357	.9	23 414 391	.9	125	2.3	3 961	2.6	64 758	2.8
Crawford .....	785	.9	160 588	.9	19 657 636	.9	92	2.8	2 300	2.7	36 854	2.5
Dallas .....	553	.8	126 098	.8	16 867 647	.7	34	4.2	819	3.7	13 641	3.6
Davis .....	361	1.4	33 647	1.8	3 974 152	1.8	67	3.7	1 112	4.0	18 259	4.3
Decatur .....	248	1.4	24 834	1.7	2 793 028	1.8	34	4.0	1 181	4.4	15 132	4.7
Delaware .....	1 014	.6	157 975	.7	21 723 080	.7	333	1.3	9 027	1.3	162 943	1.3
Des Moines .....	422	1.0	68 347	1.3	9 334 779	1.2	49	4.0	911	4.3	14 998	4.2
Dickinson .....	361	.9	78 518	1.0	9 715 927	1.0	47	3.4	2 811	1.5	45 049	1.1
Dubuque .....	1 105	.9	116 149	.9	15 465 826	.9	391	1.5	9 797	1.4	162 307	1.4
Emmet .....	393	.8	96 395	.9	13 417 749	.9	51	3.6	1 745	6.1	31 259	6.8
Fayette .....	970	.7	170 723	.7	23 315 159	.7	271	1.6	8 005	1.5	145 737	1.8
Floyd .....	632	.7	134 011	.8	18 209 619	.8	74	3.1	2 301	4.3	43 039	5.4
Franklin .....	692	.7	157 682	.8	20 527 021	.8	58	3.5	1 535	2.3	23 490	2.5
Fremont .....	413	.9	110 761	.9	14 469 622	.9	11	6.0	491	3.2	9 290	2.5
Greene .....	612	.8	147 897	.8	20 074 105	.8	31	4.3	1 096	6.4	18 117	5.9
Grundy .....	602	.6	150 400	.6	20 669 062	.6	34	3.6	831	2.2	14 364	2.1
Guthrie .....	522	1.1	93 504	1.1	10 880 772	1.2	48	4.5	951	6.7	12 694	6.0
Hamilton .....	632	.6	165 490	.5	23 069 007	.5	11	5.6	324	2.6	5 964	2.3
Hancock .....	699	.6	164 212	.7	22 787 740	.7	62	2.9	1 225	2.9	21 772	2.7
Hardin .....	653	.8	158 864	.8	20 236 600	.8	38	4.0	1 177	4.8	18 108	4.9
Harrison .....	632	1.0	149 889	.9	19 072 729	.9	46	4.2	1 291	5.4	19 119	5.8
Henry .....	499	.9	85 642	1.0	11 322 611	1.1	33	4.5	728	4.9	10 340	4.8
Howard .....	606	.9	105 511	.9	14 286 924	.8	165	2.1	4 216	3.4	68 763	2.9
Humboldt .....	510	.8	120 221	.8	17 080 777	.8	32	4.8	805	4.8	14 250	5.0
Ida .....	493	1.2	104 446	1.2	13 720 056	1.2	73	3.4	2 302	2.8	34 014	2.5
Iowa .....	614	.9	112 493	.9	14 753 816	1.0	92	2.7	2 739	2.6	44 028	2.5
Jackson .....	787	.9	91 247	1.2	11 575 597	1.2	181	2.1	4 910	2.0	74 131	2.0
Jasper .....	834	.9	157 636	.9	21 615 987	.9	60	3.6	1 880	6.8	32 095	6.1
Jefferson .....	405	1.3	61 740	1.4	8 058 776	1.5	30	5.2	602	6.3	7 845	7.2
Johnson .....	778	.9	98 460	1.1	13 131 480	1.1	126	2.7	2 239	9.1	37 334	8.3
Jones .....	716	.7	135 485	.9	18 643 910	.9	144	1.9	3 595	1.8	59 973	2.0
Keokuk .....	588	1.1	98 836	1.2	13 620 395	1.2	45	4.6	913	3.8	15 904	3.6
Kossuth .....	1 201	.6	278 774	.6	39 434 946	.6	104	2.3	3 180	2.1	55 595	2.7
Lee .....	496	1.1	74 928	1.3	10 047 204	1.3	71	3.5	2 054	6.7	46 521	13.0
Linn .....	877	.8	128 793	.9	17 834 588	.9	132	2.3	2 695	2.1	47 341	2.5
Louisa .....	382	1.0	75 216	1.2	9 413 450	1.2	29	5.6	550	6.2	8 500	6.0
Lucas .....	278	1.6	23 535	2.2	2 903 555	2.3	32	5.3	693	4.8	10 929	4.8
Lyon .....	850	1.0	141 720	1.0	18 010 906	1.0	216	1.9	7 138	1.4	125 483	1.5
Madison .....	520	1.2	68 946	1.3	8 287 469	1.3	60	3.8	2 022	3.3	23 178	3.8
Mahaska .....	681	.9	117 711	.9	15 931 605	.9	99	2.7	2 648	2.9	48 193	2.9
Marion .....	526	1.1	77 621	1.1	9 769 902	1.1	39	4.6	1 079	4.5	18 344	5.2
Marshall .....	614	.8	130 504	.9	17 459 458	.9	43	4.0	1 371	2.9	25 643	3.0
Mills .....	348	1.1	87 047	1.2	11 355 107	1.3	10	8.9	267	6.2	4 120	4.0
Mitchell .....	627	.8	121 677	.8	17 520 175	.8	157	2.1	6 614	1.6	109 208	2.1
Monona .....	515	.9	140 004	1.0	16 747 695	.9	63	3.5	2 045	3.5	28 577	3.3
Monroe .....	311	1.7	27 028	2.3	3 303 128	2.4	44	4.9	1 208	4.8	23 497	5.4
Montgomery .....	401	.9	80 630	1.0	10 422 485	1.0	27	4.3	746	2.5	11 538	2.8
Muscatine .....	503	1.0	86 570	1.2	10 895 561	1.2	57	3.7	2 078	2.8	37 415	2.8
O'Brien .....	816	.7	152 787	.8	20 691 261	.8	92	2.8	2 396	2.6	39 282	2.7
Oscceola .....	531	.9	103 308	1.0	12 776 047	1.0	74	2.7	3 406	1.3	54 973	1.5
Page .....	537	.9	90 619	1.0	11 625 835	1.0	42	4.1	1 061	3.7	18 744	5.2
Palo Alto .....	636	.7	145 977	.8	20 192 212	.8	63	2.8	2 006	1.9	32 423	1.9
Plymouth .....	1 104	.8	205 499	.7	25 290 584	.7	148	2.1	5 619	1.4	79 062	1.4
Pocahontas .....	703	.7	163 570	.8	23 291 520	.8	32	4.6	644	4.2	11 480	4.5
Polk .....	442	1.1	90 408	1.0	13 423 582	1.0	18	6.9	558	8.0	8 455	9.7
Pottawattamie .....	957	.8	217 327	.8	27 608 524	.8	85	2.8	2 518	5.1	38 421	5.2
Poweshiek .....	607	.9	108 723	1.0	14 714 637	1.0	61	3.6	1 794	4.9	33 281	4.9
Ringgold .....	318	1.4	37 393	1.6	3 916 927	1.6	39	4.7	1 180	5.4	17 769	6.4
Sac .....	659	.8	145 454	.7	19 097 215	.7	65	3.3	2 601	2.4	47 796	3.9
Scott .....	585	.9	114 405	.9	15 877 875	.9	60	3.7	1 521	3.8	25 221	3.1
Shelby .....	748	.8	151 012	.9	18 995 077	.9	62	3.4	1 055	4.9	18 718	4.7
Sioux .....	1 277	.7	221 167	.7	29 821 449	.7	290	1.4	15 016	1.3	246 669	1.4
Story .....	705	.8	153 984	.9	21 728 167	.9	36	4.1	1 428	2.3	24 063	2.7
Tama .....	794	.9	153 862	.9	20 175 618	.9	67	3.3	1 462	2.9	24 714	3.7
Taylor .....	402	1.3	55 711	1.3	6 284 662	1.3	25	5.6	632	4.1	7 792	4.8
Union .....	346	1.5	40 234	2.0	4 538 654	2.0	36	5.7	898	5.7	10 790	5.9
Van Buren .....	396	1.3	44 270	1.9	5 537 637	2.1	46	4.7	966	6.7	21 089	13.8
Wapello .....	331	1.3	48 851	1.5	6 408 454	1.6	21	6.5	555	5.9	9 618	5.3
Warren .....	541	1.2	69 439	1.3	9 036 378	1.4	66	3.9	1 430	3.4	22 524	3.3
Washington .....	731	.9	115 938	.9	15 924 901	1.0	74	3.5	1 307	4.3	20 954	4.2
Wayne .....	340	1.2	42 337	1.3	4 448 082	1.4	34	5.0	1 009	4.9	10 673	6.1
Webster .....	762	.7	183 897	.6	25 972 338	.6	35	4.9	916	6.5	16 210	7.1
Winnebago .....	438	.8	118 378	.8	16 976 038	.8	37	4.4	1 139	4.1	18 374	4.7
Winneshiek .....	964	.9	116 778	1.0	15 888 053	1.0	419	1.4	11 245	1.5	189 559	1.6
Woodbury .....	808	1.1	186 237	1.0	21 430 318	.9	117	2.7	4 170	3.9	66 556	5.0
Worth .....	433	.8	102 966	.9	14 324 472	.9	46	3.7	952	3.7	14 984	4.7
Wright .....	600	.6	162 707	.6	22 388 449	.6	10	5.9	518	11.7	5 054	6.2

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—Con.											
	Wheat for grain						Oats for grain					
	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)	Bushels	Relative standard error of estimate (percent)
Iowa .....	719	1.2	22 123	1.8	905 333	2.0	10 823	.7	211 985	.7	14 293 977	.6
Adair .....	1	32.3	(D)	(D)	(D)	(D)	122	2.5	2 923	2.7	164 436	2.8
Adams .....	5	12.9	105	18.4	3 457	23.8	62	3.4	1 729	4.3	114 992	4.5
Allamakee .....	4	18.1	36	26.1	1 959	25.3	293	1.6	7 492	2.0	463 530	1.8
Appanoose .....	7	10.7	174	11.3	7 270	10.3	33	4.8	586	5.4	34 128	5.5
Audubon .....	1	31.3	(D)	(D)	(D)	(D)	75	3.0	1 411	3.7	94 229	3.8
Benton .....	4	16.9	245	19.9	9 468	20.0	200	1.8	3 635	2.1	275 276	2.1
Black Hawk .....	—	—	—	—	—	—	68	2.8	1 229	2.7	87 181	2.9
Boone .....	2	13.0	(D)	(D)	(D)	(D)	59	3.1	1 224	5.0	91 400	5.2
Bremer .....	3	18.1	(D)	(D)	2 452	26.1	132	2.5	1 960	3.0	134 574	3.2
Buchanan .....	9	9.1	155	9.2	8 873	9.9	236	1.7	3 731	2.1	256 636	2.0
Buena Vista .....	—	—	—	—	—	—	89	2.3	1 448	2.7	124 509	2.3
Butler .....	4	9.5	272	5.6	6 825	6.7	136	1.9	2 416	1.7	169 730	1.7
Calhoun .....	1	—	(D)	(D)	(D)	(D)	64	3.6	885	3.4	73 896	3.6
Carroll .....	3	18.9	114	20.8	5 160	24.1	150	2.1	2 324	2.7	186 174	2.7
Cass .....	3	21.1	(D)	(D)	(D)	(D)	80	2.9	1 607	3.1	87 746	3.1
Cedar .....	13	4.5	327	6.3	15 297	6.8	145	2.0	2 171	2.2	162 322	2.2
Cerro Gordo .....	1	—	(D)	(D)	(D)	(D)	76	3.2	1 301	3.1	95 053	3.0
Cherokee .....	4	11.0	59	13.2	1 934	10.2	80	2.8	1 190	2.5	95 267	2.5
Chickasaw .....	3	21.0	57	21.7	1 725	21.7	154	2.3	2 482	3.0	163 057	3.1
Clarke .....	6	13.9	144	13.8	4 063	12.8	74	3.4	1 701	4.2	87 732	4.3
Clay .....	1	29.6	(D)	(D)	(D)	(D)	38	3.9	649	3.8	45 468	4.1
Clayton .....	7	10.9	272	15.9	12 890	19.3	474	1.2	10 503	1.6	667 379	1.5
Clinton .....	8	10.8	90	11.2	4 373	14.0	210	1.9	3 554	2.3	241 640	2.3
Crawford .....	4	15.1	87	8.9	3 000	10.4	124	2.6	2 235	3.3	156 987	3.5
Dallas .....	5	9.7	158	9.0	4 640	6.2	40	4.4	886	4.7	65 141	4.9
Davis .....	17	5.9	324	3.3	13 352	2.6	115	2.8	1 850	3.6	96 930	3.3
Decatur .....	6	8.9	218	5.5	7 134	4.8	31	4.5	752	4.7	40 269	4.5
Delaware .....	6	7.0	118	8.6	6 660	7.7	298	1.4	6 268	1.6	410 873	1.6
Des Moines .....	31	4.7	574	5.2	30 653	5.4	33	4.9	419	6.5	32 037	9.2
Dickinson .....	—	—	—	—	—	—	24	6.2	409	8.1	30 679	8.1
Dubuque .....	8	10.8	89	10.8	2 590	8.8	486	1.3	10 651	1.5	684 767	1.5
Emmet .....	1	40.5	(D)	(D)	(D)	(D)	28	4.5	360	6.6	23 537	5.6
Fayette .....	4	12.6	93	5.1	2 990	8.0	307	1.5	6 386	1.9	420 241	1.8
Floyd .....	3	12.8	85	12.5	6 000	12.2	82	2.6	1 728	4.1	116 203	3.9
Franklin .....	3	23.9	(D)	(D)	7 065	35.2	66	3.3	1 050	4.4	71 818	4.7
Fremont .....	14	6.6	372	7.2	12 973	7.1	7	11.6	97	11.7	6 224	11.1
Greene .....	2	23.3	(D)	(D)	(D)	(D)	47	3.7	652	4.2	48 736	4.1
Grundy .....	4	13.0	144	16.2	6 907	17.5	55	2.8	1 032	2.8	81 105	2.8
Guthrie .....	3	22.5	120	25.1	1 420	24.7	91	3.0	1 855	3.3	118 338	3.3
Hamilton .....	—	—	—	—	—	—	41	3.2	791	3.3	60 860	3.5
Hancock .....	—	—	—	—	—	—	66	2.8	887	3.8	61 818	3.6
Hardin .....	—	—	—	—	—	—	43	3.7	682	3.1	51 139	3.5
Harrison .....	12	8.8	474	8.4	16 546	9.3	31	5.8	477	5.8	32 574	5.7
Henry .....	14	6.1	599	2.9	31 766	2.4	64	3.2	995	4.0	73 738	4.2
Howard .....	5	15.8	206	26.8	10 735	34.1	165	2.2	3 137	2.6	215 038	2.6
Humboldt .....	—	—	—	—	—	—	33	4.2	440	5.9	34 905	5.2
Ida .....	—	—	—	—	—	—	64	4.0	1 175	4.5	86 328	5.0
Iowa .....	7	10.1	427	3.4	22 465	3.9	167	2.1	3 601	2.4	261 835	2.6
Jackson .....	12	7.3	387	3.6	14 020	3.6	370	1.4	8 205	1.6	531 135	1.6
Jasper .....	1	33.8	(D)	(D)	(D)	(D)	161	2.3	3 668	3.4	242 757	2.7
Jefferson .....	30	5.9	866	14.8	39 440	18.7	96	3.1	1 787	5.3	104 230	4.6
Johnson .....	25	6.0	1 116	9.3	57 974	7.5	249	1.8	5 060	2.2	346 153	2.2
Jones .....	1	—	(D)	(D)	(D)	(D)	185	1.8	4 069	2.4	239 383	2.2
Keokuk .....	12	7.0	273	11.7	13 949	10.3	99	3.2	2 121	3.5	137 785	3.6
Kossuth .....	—	—	—	—	—	—	125	2.1	1 667	2.2	126 349	2.2
Lee .....	90	3.0	2 057	3.2	102 235	3.6	57	4.4	783	5.3	49 481	7.2
Linn .....	10	10.9	412	15.1	17 663	16.6	211	1.9	3 903	2.7	273 494	3.0
Louisa .....	20	6.2	298	7.4	12 915	8.8	40	4.6	660	6.4	48 156	7.8
Lucas .....	4	14.4	311	14.0	8 480	14.7	70	3.5	1 599	5.0	97 986	5.5
Lyon .....	11	10.4	336	12.1	10 980	11.5	127	2.7	2 443	2.9	188 765	3.0
Madison .....	6	14.4	204	16.0	5 498	10.2	63	3.9	1 225	4.6	68 586	5.0
Mahaska .....	4	15.9	131	22.5	5 660	21.6	130	2.5	2 362	3.0	172 213	3.5
Marion .....	7	11.8	199	14.7	7 850	14.4	105	2.7	2 184	3.1	146 320	3.2
Marshall .....	5	12.2	46	12.1	1 855	13.3	52	3.6	963	4.1	69 749	4.3
Mills .....	14	7.8	588	9.2	19 193	10.3	18	7.6	374	9.0	24 397	9.0
Mitchell .....	1	31.9	(D)	(D)	(D)	(D)	154	2.2	3 355	2.5	255 537	2.5
Monona .....	7	11.7	457	27.8	12 282	27.0	38	4.7	1 001	8.4	70 362	8.9
Monroe .....	8	12.3	280	14.3	6 022	18.5	39	5.3	907	6.1	68 377	7.0
Montgomery .....	3	17.0	(D)	(D)	(D)	(D)	25	5.4	590	6.6	39 752	6.1
Muscatine .....	15	7.6	333	7.3	13 798	8.9	117	2.7	2 076	3.4	142 806	3.2
O'Brien .....	2	22.2	(D)	(D)	(D)	(D)	83	2.7	874	2.8	75 884	3.1
Oscella .....	2	29.5	(D)	(D)	(D)	(D)	54	3.8	859	4.0	71 130	4.1
Page .....	14	7.5	390	10.8	13 802	9.7	39	4.3	851	4.6	46 566	4.2
Palo Alto .....	—	—	—	—	—	—	53	3.1	1 051	5.1	76 188	4.6
Plymouth .....	2	24.9	(D)	(D)	(D)	(D)	180	2.1	3 820	2.5	278 996	1.9
Pocahontas .....	1	34.1	(D)	(D)	(D)	(D)	52	3.1	842	2.4	69 278	2.5
Polk .....	4	14.2	93	13.2	4 381	13.1	22	6.0	435	5.6	28 390	5.1
Pottawattamie .....	13	8.2	422	3.8	18 827	4.2	57	3.8	1 467	5.2	98 944	5.4
Poweshiek .....	4	13.0	70	13.4	2 460	12.5	165	2.1	3 609	2.6	246 498	2.7

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	Selected crops harvested—Con.											
	Wheat for grain						Oats for grain					
	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)	Bushels	Relative standard error of estimate (percent)
Ringgold .....	8	11.0	273	12.8	6 082	11.9	70	3.4	1 971	3.7	106 689	4.1
Sac .....	3	15.6	143	13.9	5 708	21.2	110	2.5	1 980	3.2	139 693	3.5
Scott .....	8	10.4	149	12.1	7 029	11.9	116	2.5	1 613	3.0	135 561	2.8
Shelby .....	4	14.3	112	17.0	4 780	13.8	108	2.8	2 158	3.8	168 691	3.9
Sioux .....	13	5.3	374	4.8	17 243	5.2	123	2.6	2 329	3.3	190 048	3.3
Story .....	6	12.0	78	17.0	3 992	18.0	57	3.7	804	4.7	60 090	5.9
Tama .....	—	—	—	—	—	—	156	2.2	2 437	2.5	163 720	2.5
Taylor .....	17	7.8	616	7.8	19 209	12.6	52	3.9	1 428	4.0	73 925	4.1
Union .....	4	18.4	166	12.1	5 680	14.3	95	3.3	2 894	4.5	158 143	4.9
Van Buren .....	13	7.4	232	7.6	8 088	5.6	71	3.4	1 163	4.1	71 813	4.2
Wapello .....	11	8.5	199	9.8	8 940	10.4	48	4.6	1 113	10.1	91 043	9.8
Warren .....	4	16.9	88	22.7	2 234	24.7	75	3.7	1 261	4.3	74 212	4.5
Washington .....	33	5.0	973	16.9	44 799	19.3	150	2.4	2 492	2.8	176 073	3.0
Wayne .....	15	5.6	1 141	3.2	37 588	3.7	63	3.2	1 607	3.4	70 613	2.8
Webster .....	—	—	—	—	—	—	47	3.5	1 182	4.3	87 895	4.6
Winnebago .....	—	—	—	—	—	—	68	3.2	1 218	3.1	85 972	2.9
Winneshiek .....	5	15.2	541	9.1	(D)	(D)	436	1.4	9 128	2.0	569 231	1.9
Woodbury .....	6	13.3	342	20.2	11 210	18.1	77	3.5	1 616	3.7	113 371	3.9
Worth .....	2	20.4	(D)	(D)	(D)	(D)	78	2.6	1 384	4.7	92 260	4.1
Wright .....	—	—	—	—	—	—	29	3.5	431	2.7	30 812	2.8
Geographic area	Selected crops harvested—Con.											
	Soybeans for beans						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)	Bushels	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)
Iowa .....	56 436	.6	9 944 865	.5	445 574 589	.5	37 711	.6	1 575 777	.6	4 365 999	.6
Adar .....	518	1.0	88 004	1.2	3 423 610	1.1	477	1.1	29 518	1.5	74 369	1.6
Adams .....	335	1.2	53 869	1.4	2 214 721	1.4	310	1.3	17 579	1.6	42 047	1.8
Allamakee .....	214	1.9	16 742	2.2	744 704	2.3	604	1.0	46 505	1.2	141 091	1.3
Appanoose .....	316	1.5	30 320	2.2	1 240 536	2.2	547	1.0	42 032	1.5	94 117	1.6
Audubon .....	465	.9	101 724	.9	4 468 600	.9	314	1.3	11 928	1.8	30 146	1.9
Benton .....	813	.8	155 595	.8	7 662 847	.8	531	1.0	16 617	1.4	50 271	1.4
Black Hawk .....	709	.7	111 781	.9	5 255 971	.9	298	1.4	7 482	2.1	22 096	2.6
Boone .....	625	.7	137 120	.8	6 009 155	.8	281	1.4	5 695	2.1	14 792	2.2
Bremer .....	647	.9	81 635	1.0	3 865 852	1.0	381	1.3	10 917	1.9	31 852	2.3
Buchanan .....	783	.8	112 669	.8	5 297 869	.8	459	1.2	11 177	1.7	30 585	1.8
Buena Vista .....	712	.6	150 291	.7	7 087 488	.7	209	1.6	3 976	2.2	12 090	2.2
Butler .....	767	.7	120 836	.7	5 310 971	.7	361	1.2	8 199	1.5	20 126	1.7
Calhoun .....	668	.8	153 275	.9	6 719 423	.9	172	2.2	3 051	2.8	6 843	3.1
Carroll .....	863	.7	138 727	.8	6 236 473	.8	390	1.2	9 929	2.0	29 525	2.3
Cass .....	562	.9	103 593	1.0	4 044 482	1.0	436	1.1	18 971	1.3	44 310	1.5
Cedar .....	640	.8	110 106	.9	5 564 544	.9	399	1.2	12 479	1.7	43 208	1.7
Cerro Gordo .....	579	.9	120 639	.9	5 196 050	.9	190	1.9	3 529	2.7	8 161	3.3
Cherokee .....	696	.7	124 329	.8	5 962 251	.8	329	1.3	8 698	1.7	21 682	1.8
Chickasaw .....	626	.9	92 579	1.0	4 130 167	1.0	397	1.3	12 699	2.1	35 786	2.3
Clarke .....	276	1.6	26 715	2.2	1 098 717	2.3	426	1.2	27 253	1.7	65 303	2.0
Clay .....	532	.7	120 511	.8	5 411 651	.8	184	1.8	5 110	2.8	10 164	2.7
Clayton .....	410	1.3	44 759	1.6	2 110 870	1.6	980	.8	62 403	1.1	194 102	1.1
Clinton .....	745	.9	99 452	1.0	4 969 010	1.0	494	1.1	16 826	1.7	52 120	1.8
Crawford .....	742	1.0	144 894	1.0	6 396 233	.9	529	1.2	17 750	1.6	50 206	1.8
Dallas .....	581	.8	126 449	.8	5 296 309	.8	330	1.2	9 022	1.8	25 600	2.3
Davis .....	345	1.5	38 409	2.0	1 702 630	1.9	585	1.0	38 475	1.5	89 751	1.6
Decatur .....	245	1.5	28 727	1.6	1 250 983	1.7	434	1.0	34 924	1.3	78 230	1.6
Delaware .....	634	.9	59 798	1.1	3 031 817	1.1	690	.9	33 361	1.1	104 823	1.2
Des Moines .....	417	1.0	65 171	1.3	3 156 027	1.3	239	1.6	6 693	2.3	19 458	2.4
Dickinson .....	366	.9	80 177	1.0	3 188 662	1.0	132	2.2	6 612	2.0	15 898	2.4
Dubuque .....	269	1.7	19 886	1.6	978 026	1.6	1 021	.9	67 863	1.0	222 645	1.1
Emmet .....	381	.8	88 909	.8	3 754 538	.9	98	2.4	2 189	3.8	5 078	4.1
Fayette .....	757	.9	106 567	.9	4 933 635	.9	626	1.0	30 546	1.3	98 313	1.3
Floyd .....	606	.7	116 055	.8	5 016 295	.8	270	1.4	6 496	2.0	14 717	2.3
Franklin .....	666	.8	136 722	.8	5 543 406	.8	187	2.0	4 558	2.5	10 549	3.0
Fremont .....	435	.9	116 362	.8	4 914 240	.8	212	1.6	6 173	2.3	16 964	2.2
Greene .....	614	.8	146 025	.8	6 527 512	.9	201	1.8	5 243	2.1	14 222	2.1
Grundy .....	604	.6	133 983	.6	6 594 050	.7	209	1.5	4 261	1.6	12 535	1.7
Guthrie .....	509	1.1	86 225	1.2	3 411 149	1.3	391	1.3	15 548	1.9	35 890	2.0
Hamilton .....	625	.6	149 441	.6	6 576 120	.5	153	1.8	2 839	2.7	6 699	2.7
Hancock .....	680	.6	136 208	.7	5 650 708	.7	194	1.7	3 775	2.4	9 619	3.0
Hardin .....	637	.8	135 692	.7	5 989 969	.7	206	1.8	4 441	2.1	12 100	2.2
Harrison .....	621	1.0	143 116	1.0	6 050 247	.9	332	1.6	9 972	2.0	29 367	2.0
Henry .....	483	.9	70 786	1.2	3 378 591	1.2	326	1.3	10 114	2.1	25 993	2.3
Howard .....	557	.9	92 922	1.0	4 004 292	.9	355	1.4	13 389	1.8	36 346	2.1
Humboldt .....	498	.8	117 554	.8	5 297 769	.8	107	2.5	1 983	3.1	4 955	2.9
Ida .....	466	1.3	91 543	1.3	4 130 035	1.3	247	1.9	8 205	2.4	24 329	2.4
Iowa .....	573	.9	76 935	1.0	3 789 169	1.0	453	1.1	20 944	1.6	64 559	1.9
Jackson .....	271	1.7	18 686	2.0	905 042	2.0	779	.9	49 004	1.2	160 275	1.3

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	Selected crops harvested—Con.											
	Soybeans for beans								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)	Bushels	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)
Jasper.....	790	.9	138 711	.9	6 745 742	.9	574	1.1	21 078	1.5	69 462	1.6
Jefferson.....	403	1.3	62 066	1.5	2 764 056	1.5	357	1.4	13 924	2.2	35 237	2.7
Johnson.....	629	1.0	76 018	1.2	3 596 929	1.2	634	1.0	23 739	1.4	72 724	1.5
Jones.....	553	.9	70 527	1.1	3 504 748	1.1	534	.9	24 448	1.3	77 258	1.3
Keokuk.....	550	1.1	80 464	1.3	3 972 982	1.3	374	1.4	15 280	2.0	47 276	2.0
Kossuth.....	1 172	.6	242 432	.6	10 333 066	.6	225	1.7	5 278	2.7	10 820	2.6
Lee.....	458	1.1	63 556	1.4	3 053 380	1.4	415	1.3	16 084	1.8	46 121	1.9
Linn.....	790	.8	105 898	.9	4 948 400	1.0	648	1.0	18 870	1.4	52 697	1.5
Louisa.....	372	1.0	65 965	1.2	2 957 729	1.2	183	1.9	4 447	2.9	13 560	3.5
Lucas.....	242	1.7	24 159	2.4	1 052 973	2.2	444	1.1	29 048	1.7	73 960	2.0
Lyon.....	837	1.1	134 236	1.1	6 032 759	1.1	457	1.4	11 619	1.7	34 013	2.0
Madison.....	533	1.2	67 246	1.4	2 764 953	1.4	583	1.1	26 757	1.5	64 629	1.6
Mahaska.....	643	.9	94 723	1.0	4 584 281	1.0	432	1.2	15 911	1.6	50 351	1.8
Marion.....	521	1.1	71 549	1.2	3 205 697	1.2	495	1.2	22 706	1.7	58 528	2.1
Marshall.....	616	.8	120 612	.9	5 965 650	1.0	299	1.4	8 873	1.8	27 084	2.1
Mills.....	369	1.1	89 756	1.2	3 761 142	1.3	192	2.0	5 470	2.7	15 654	2.8
Mitchell.....	586	.9	92 807	1.0	4 202 974	1.0	262	1.6	8 439	2.3	20 915	2.3
Monona.....	486	1.0	123 734	.9	5 018 939	.9	219	1.9	8 812	2.5	25 170	2.7
Monroe.....	310	1.7	26 580	2.6	1 164 628	2.7	478	1.2	28 845	1.8	77 593	2.0
Montgomery.....	397	.9	79 948	1.0	3 481 395	1.0	291	1.3	11 540	1.7	29 678	1.6
Muscatine.....	462	1.1	69 398	1.3	3 169 940	1.3	331	1.4	10 183	1.9	31 493	2.1
O'Brien.....	830	.7	155 109	.8	7 274 306	.8	262	1.6	5 279	2.9	13 691	3.4
Osceola.....	539	.9	104 755	1.0	4 385 453	1.0	151	2.3	3 363	2.3	7 758	2.4
Page.....	557	.9	96 650	1.0	4 262 924	1.0	443	1.1	17 790	1.5	47 591	1.7
Palo Alto.....	633	.7	138 121	.8	6 024 714	.8	153	2.0	3 468	3.3	7 722	3.0
Plymouth.....	1 050	.8	183 410	.8	8 177 213	.8	526	1.2	15 857	1.6	41 539	1.8
Pocahontas.....	698	.7	164 947	.8	7 554 633	.8	136	2.3	2 115	2.9	4 636	2.8
Polk.....	448	1.1	87 971	1.0	4 004 990	1.0	241	1.8	6 972	3.7	16 409	3.1
Pottawattamie.....	923	.9	201 459	.8	8 771 176	.8	567	1.2	16 109	1.6	46 271	1.8
Poweshiek.....	584	.9	97 123	1.0	4 615 495	1.0	488	1.1	24 242	1.3	75 394	1.4
Ringgold.....	344	1.4	42 564	1.6	1 709 042	1.6	410	1.2	32 329	1.6	72 991	1.8
Sac.....	642	.8	141 008	.7	6 521 868	.7	259	1.6	7 289	1.9	20 305	2.3
Scott.....	522	1.0	70 605	1.1	3 635 063	1.1	303	1.5	7 618	2.1	23 455	2.2
Shelby.....	716	.9	124 143	1.0	5 783 806	1.0	407	1.3	12 260	2.3	36 632	2.5
Sioux.....	1 213	.7	183 844	.8	8 786 442	.8	485	1.2	13 090	1.6	38 891	1.6
Story.....	688	.8	145 726	.8	6 578 229	.8	264	1.5	5 459	1.9	16 024	2.1
Tama.....	738	.9	130 656	1.0	6 185 159	1.0	493	1.2	16 290	1.6	51 012	1.8
Taylor.....	440	1.2	70 062	1.2	2 725 607	1.3	388	1.3	21 584	1.7	51 419	2.0
Union.....	303	1.6	40 063	2.1	1 636 565	2.1	403	1.3	25 525	1.8	57 426	2.0
Van Buren.....	365	1.4	44 647	1.9	2 043 426	2.0	475	1.2	25 354	1.9	64 850	2.3
Wapello.....	320	1.4	51 014	1.5	2 332 218	1.5	420	1.2	18 609	1.8	44 351	2.1
Warren.....	544	1.2	67 793	1.3	2 935 310	1.4	675	1.0	27 207	1.6	75 368	1.9
Washington.....	678	.9	101 882	1.0	4 928 949	1.0	438	1.3	13 534	1.9	38 502	1.8
Wayne.....	343	1.2	47 379	1.3	1 851 706	1.3	477	.9	39 231	1.2	92 896	1.4
Webster.....	773	.7	186 828	.7	8 373 468	.7	176	2.0	3 113	3.1	9 181	4.0
Winnebago.....	420	.8	90 667	.8	3 844 415	.8	124	2.2	3 609	2.8	8 814	3.8
Winneshiek.....	556	1.3	46 832	1.4	2 097 700	1.4	884	.9	50 154	1.2	159 400	1.3
Woodbury.....	753	1.1	162 550	.9	6 467 355	.9	458	1.4	14 289	1.8	32 559	1.9
Worth.....	431	.8	89 667	1.0	3 862 387	1.0	184	1.7	3 571	2.8	8 037	3.0
Wright.....	583	.6	154 492	.6	6 429 191	.6	119	2.1	2 163	3.4	4 745	2.2

<sup>1</sup>Data 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 <sup>1</sup>	Adjusted census		Relative standard error (percent)	Coverage adjustment (percent)
			Total			
Farms ..... number..	90 792	5 905	96 697		1.4	6.1
Land in farms ..... acres..	31 166 699	458 768	31 625 467		1.2	1.5
Average size of farm .....	343	78	327		(X)	(X)
Farms by size of farm:						
Less than 10 acres .....	5 049	832	5 881		8.3	14.1
10 to 49 acres .....	11 580	1 527	13 107		5.3	11.7
50 to 179 acres .....	24 525	1 909	26 434		2.4	7.2
180 acres or more .....	49 638	1 637	51 275		1.2	3.2
Farms by value of sales:						
Less than \$2,500 .....	13 191	3 436	16 627		4.7	20.7
\$2,500 to \$9,999 .....	10 455	736	11 191		4.2	6.6
\$10,000 or more .....	67 146	1 733	68 879		1.1	2.5
Market value of agricultural products sold.....\$1,000..	11 947 894	63 422	12 011 315		1.2	.5
Farms by type of organization:						
Individual or family .....	75 880	5 708	81 588		1.5	7.0
Partnership, corporation, or other .....	14 912	197	15 109		2.3	1.3
Farms by tenure of operator:						
Full owners .....	42 902	4 198	47 100		2.3	8.9
Part owners .....	32 996	575	33 571		1.2	1.7
Tenants .....	14 894	1 132	16 026		2.9	7.1
Operators by place of residence:						
On farm operated .....	66 661	4 390	71 051		1.4	6.2
Not on farm operated .....	19 439	1 046	20 485		2.8	5.1
Not reported .....	4 692	469	5 161		6.9	9.1
Operators by principal occupation:						
Farming .....	56 256	1 454	57 710		1.2	2.5
Other .....	34 536	4 451	38 987		2.7	11.4
Operators by sex:						
Male .....	86 174	5 491	91 665		1.4	6.0
Female .....	4 618	414	5 032		6.5	8.2
Operators by race:						
White .....	90 669	5 867	96 536		1.4	6.1
Black and other races .....	123	38	161		126.1	23.6
Operators by years on present farm:						
4 years or less .....	7 792	1 672	9 464		4.8	17.7
5 years or more .....	71 143	3 158	74 301		1.1	4.3
Not reported .....	11 857	1 075	12 932		5.8	8.3

<sup>1</sup> See text in Appendix C regarding coverage estimates.