
Appendix C.

Statistical Methodology

THE SCREENING PHASE AND THE MAIL LIST MODEL

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

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

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

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

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

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

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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	8.6	Corn for grain or seed	3.6
Land in farms	5.3	Wheat for grain	4.8
Estimated market value of land and buildings ¹	5.8	Livestock and poultry inventory:	
Market value of agricultural products sold	2.8	Cattle and calves	4.1
Harvested cropland	4.4	Hogs and pigs	1.9
		Layers 20 weeks old and older .....	.1

¹Data are based on a sample of farms.

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

Farms	Relative standard error of estimate (percent)	Farms	Relative standard error of estimate (percent)
COMPLETE COUNT ITEM		SAMPLE COUNT ITEM	
Number of farms reporting:		Number of farms reporting:	
25	5.0	25	40.5
50	3.3	50	28.2
75	2.5	75	22.7
100	1.9	100	19.4
150	1.1	150	15.3
200 .....	.2	200	12.8
300 .....	.2	300	9.6
500 .....	.1	500	6.1
750 .....	.1	750	2.9
1,000 .....	.1	1,000	2.5
1,500 .....	.1	1,500	2.1
2,000	(X)	2,000	(X)

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

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

Item	Total	Relative standard error of estimate (percent)	Item	Total	Relative standard error of estimate (percent)
FARMS AND LAND IN FARMS			FARM PRODUCTION EXPENSES¹		
Farms	46 027	.9	Total farm production expenses	46 040	.9
Land in farms	9 872 812	.8	Average per farm	2 835 658	.6
Average size of farm	215	1.2	Livestock and poultry purchased	11 086	1.9
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD			NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)¹		
Total sales (see text)	46 027	.9	All farms	46 040	.9
Average per farm	3 567 825	.5	Average per farm	686 891	1.2
Farms by value of sales:			Farms with net gains ²	21 612	1.4
Less than \$1,000 (see text)	7 756	.7	Average net gain	883 034	.9
\$1,000 to \$2,499	1 198	.9	Average net loss	40 859	1.6
\$2,500 to \$4,999	4 801	.7	Farms with net losses	24 428	1.1
\$5,000 to \$9,999	7 833	.7	Average net loss	196 143	1.6
\$10,000 to \$19,999	5 049	.7	Government payments	18 851	1.1
\$20,000 to \$24,999	18 208	.7	Other farm-related income ¹	92 806	.8
\$25,000 to \$39,999	8 200	.8	Customwork and other agricultural services	11 609	2.0
\$40,000 to \$49,999	5 800	.8	Gross cash rent or share payments	61 699	2.6
\$50,000 to \$99,999	41 220	.8	Forest products, excluding Christmas trees and maple products	3 312	3.6
\$100,000 to \$249,999	5 602	1.3	Other farm-related income sources	22 647	4.2
\$250,000 to \$499,999	41 220	.8	Total	4 372	3.3
\$500,000 or more	5 602	1.3	Government payments	19 279	4.7
Sales by commodity or commodity group:			Forest products, excluding Christmas trees and maple products	1 494	5.1
Crops, including nursery and greenhouse crops	79 536	1.3	Other farm-related income sources	10 013	6.4
Grains	1 611	1.7	Total	4 791	2.9
Corn for grain	35 798	1.7	Government payments	9 761	4.7
Wheat	3 136	1.8	COMMODITY CREDIT CORPORATION LOANS		
Soybeans	98 944	1.9	Total	1 587	1.3
Sorghum for grain	1 336	2.0	Total	51 618	.6
Barley	59 500	2.0			
Oats	3 663	1.9			
Other grains	260 190	1.9			
Cotton and cottonseed	4 008	1.5			
Tobacco	637 327	1.5			
Hay, silage, and field seeds	1 954	—			
Vegetables, sweet corn, and melons	677 385	—			
Fruits, nuts, and berries	1 311	—			
Nursery and greenhouse crops	1 650 687	—			
Other crops	31 679	1.0			
Livestock, poultry, and their products	2 199 721	.6			
Poultry and poultry products	19 502	1.2			
Dairy products	1 033 206	.8			
Cattle and calves	13 864	1.3			
Hogs and pigs	470 240	.7			
Sheep, lambs, and wool	8 875	1.4			
Other livestock and livestock products (see text)	89 407	.9			
Value of agricultural products sold directly to individuals for human consumption (see text)	12 516	1.3			
	375 311	.9			
	6	10.0			
	22	8.5			
	295	1.9			
	1 180	1.6			
	1 804	1.5			
	4 311	1.5			
	2 667	1.5			
	92 735	.8			
	—	—			
	—	—			
	3	14.1			
	34	15.5			
	10 938	.9			
	83 225	.9			
	2 494	1.0			
	183 645	.4			
	3 027	1.0			
	231 595	.6			
	3 548	1.0			
	478 448	.3			
	1 725	1.2			
	189 569	.4			
	19 541	.9			
	1 368 104	.5			
	1 442	1.0			
	169 053	.1			
	3 696	1.4			
	645 713	.6			
	14 293	1.0			
	276 971	.6			
	2 690	1.1			
	228 488	.3			
	1 543	1.0			
	5 911	1.5			
	3 625	.9			
	41 968	1.0			
	4 339	.9			
	28 720	1.0			

See footnotes at end of table.

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

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

Item	Total	Relative standard error of estimate (percent)	Item	Total	Relative standard error of estimate (percent)
LAND IN FARMS ACCORDING TO USE			TENURE OF OPERATOR		
Total cropland farms..	43 017	.9	All operators farms..	46 027	.9
Harvested cropland farms..	7 891 802	.8	Full owners farms..	9 872 812	.8
Farms by acres harvested:	37 941	1.0	Part owners farms..	2 864 121	.9
1 to 9 acres farms..	6 724 480	.8	Tenants farms..	15 497	1.2
10 to 19 acres farms..	5 319	.7	Land owned farms..	6 460 128	.8
20 to 29 acres farms..	23 043	.8	Owned land in farms farms..	2 597	1.1
30 to 49 acres farms..	4 423	.7	Land rented or leased from others farms..	548 563	.9
50 to 99 acres farms..	59 329	.7	Land rented or leased to others farms..		
100 to 199 acres farms..	3 386	.8	Operator characteristics		
200 to 499 acres farms..	78 109	.8	Operators by place of residence:		
500 to 999 acres farms..	4 793	.9	On farm operated	37 077	.9
1,000 acres or more farms..	180 079	.9	Not on farm operated	6 043	.9
Cropland:			Not reported	2 907	.7
Pasture or grazing only farms..	14 850	.9	Operators by principal occupation:		
Other cropland farms..	481 259	1.0	Farming	22 043	1.1
Total woodland farms..	16 535	.9	Other	23 984	.7
Pastureland and rangeland other than cropland and woodland pastured farms..	686 063	.9	Operators by days worked off farm:		
Land in house lots, ponds, roads, wasteland, etc. farms..	5 876	.8	Any	25 906	.8
Irrigated land farms..	187 975	.9	200 days or more	18 568	.8
Acres irrigated:	32 389	.9	Operators by sex:		
1 to 9 acres farms..	650 347	.8	Male farms..	42 094	.9
10 to 49 acres farms..	3 752	.9	Female farms..	9 485 557	.8
50 to 99 acres farms..	393 485	.4	Average age of operator years..	3 933	.9
100 to 199 acres farms..	1 808	1.1	FARMS BY TYPE OF ORGANIZATION	387 255	1.0
200 to 499 acres farms..	4 809	1.2	Individual or family (sole proprietorship) farms..	40 190	.9
500 to 999 acres farms..	798	1.4	Partnership farms..	7 205 435	1.0
1,000 acres or more farms..	18 613	1.5	Corporation:	3 778	.9
Harvested cropland irrigated farms..	329	1.6	Family held farms..	1 662	.9
Pasture and other land irrigated farms..	22 944	1.6	More than 10 stockholders farms..	842 331	.4
Land under Conservation Reserve or Wetlands Reserve Programs farms..	318	1.4	10 or less stockholders farms..	30	3.2
VALUE OF LAND AND BUILDINGS ¹	42 744	1.4	Other than family held farms..	1 632	1.0
Estimated market value of land and buildings farms..	291	.9	More than 10 stockholders farms..	172	2.3
Average per farm dollars..	89 261	.9	10 or less stockholders farms..	41 864	1.8
Average per acre dollars..	93 020	.8	Other—cooperative, estate or trust, institutional, etc. farms..	17	5.2
VALUE OF MACHINERY AND EQUIPMENT ¹	70	—	Hired farm labor ¹	155	2.5
Estimated market value of all machinery and equipment farms..	122 094	—	Hired workers by days worked:	225	2.0
Average per farm dollars..	3 669	1.0	150 days or more farms..	65 316	1.2
Average per acre dollars..	390 636	.4	Less than 150 days farms..		
AGRICULTURAL CHEMICALS ¹	161	2.3	INJURIES AND DEATHS		
Commercial fertilizer farms..	2 849	3.0	Farm-related injuries:		
acres on which used..	5 251	.9	Operator and family members farms..	448	1.5
Reserve Programs acres..	287 081	1.3	Hired workers farms..	503	1.5
VALUE OF LAND AND BUILDINGS ¹			Operator and family members number..	364	.9
Estimated market value of land and buildings farms..	46 040	.9	Hired workers number..	554	.8
Average per farm dollars..	16 489 949	1.0	Farm-related deaths:		
Average per acre dollars..	358 166	1.3	Operator and family members farms..	7	—
AGRICULTURAL CHEMICALS ¹	1 671	1.4	Hired workers farms..	7	—
Commercial fertilizer farms..	29 377	1.3	Hired workers farms..	4	—
acres on which used..	5 612 394	1.1	Hired workers number..	4	—

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)
FARMS BY SIZE			LIVESTOCK		
1 to 9 acres	farms.. 2 611	.9	Cattle and calves inventory	farms.. 15 468	1.0
10 to 49 acres	acres.. 11 808	.9	number.. 1 025 702		.8
50 to 69 acres	farms.. 12 075	.7	Beef cows	farms.. 7 566	.9
70 to 99 acres	acres.. 332 869	.8	number.. 116 399		1.0
100 to 139 acres	farms.. 3 563	.7	Milk cows	farms.. 3 990	1.3
140 to 179 acres	acres.. 208 058	.8	number.. 300 641		.7
180 to 219 acres	farms.. 5 801	.9	Cattle and calves sold	farms.. 14 293	1.0
220 to 259 acres	acres.. 472 895	.9	number.. 537 681		.6
260 to 499 acres	farms.. 4 572	1.1	\$1,000.. 276 971		.6
500 to 999 acres	acres.. 532 355	1.2	Hogs and pigs inventory	farms.. 2 853	1.0
			number.. 1 032 014		.4
			Hogs and pigs sold	farms.. 2 690	1.1
			number.. 2 206 940		.4
			\$1,000.. 228 488		.3
			Sheep and lambs of all ages inventory	farms.. 1 628	1.0
			number.. 72 107		1.5
			Sheep and lambs sold	farms.. 1 436	1.0
			number.. 77 146		3.0
			Horses and ponies inventory	farms.. 9 090	.8
			number.. 66 201		.9
			Horses and ponies sold	farms.. 2 482	.9
			number.. 9 646		1.3
			POULTRY		
			Layers and pullets 13 weeks old and older inventory		
			(see text)	farms.. 2 276	.9
			number.. 6 043 468		(L)
			Layers 20 weeks old and older	farms.. 2 205	.9
			number.. 4 928 067		(L)
			Broilers and other meat-type chickens sold	farms.. 336	1.7
			number.. 393 028		5.6
			SELECTED CROPS HARVESTED		
			Corn for grain or seed	farms.. 16 712	1.3
			acres.. 2 122 283		.8
			bushels.. 238 319 129		.7
			Corn for silage or green chop	farms.. 4 817	1.3
			acres.. 279 786		.7
			tons, green.. 4 001 045		.7
			Wheat for grain	farms.. 8 976	1.4
			acres.. 499 742		1.0
			bushels.. 28 432 159		.9
			Oats for grain	farms.. 3 707	1.4
			acres.. 77 588		1.3
			bushels.. 4 624 435		1.3
			Soybeans for beans	farms.. 12 561	1.3
			acres.. 1 694 872		1.0
			bushels.. 62 242 411		.9
			Dry edible beans, excluding dry limas	farms.. 2 172	1.6
			acres.. 302 767		.9
			cwt.. 4 878 076		.9
			Potatoes, excluding sweetpotatoes	farms.. 328	1.4
			acres.. 44 931		.4
			cwt.. 13 632 901		.3
			Sugar beets for sugar	farms.. 1 182	1.3
			acres.. 163 236		.6
			tons.. 3 055 112		.6
			Hay—alfalfa, other tame, small grain, wild, grass		
			silage, green chop, etc. (see text)	farms.. 20 858	.9
			acres.. 1 264 350		.9
			tons, dry.. 2 830 915		.9
			Alfalfa hay	farms.. 17 108	1.0
			acres.. 788 156		1.0
			tons, dry.. 1 985 404		1.0
			Vegetables harvested for sale (see text)	farms.. 2 498	1.0
			acres.. 128 349		.5
			Land in orchards	farms.. 2 863	.9
			acres.. 139 607		.8
FARMS BY NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM					
Oilseed and grain farming (1111)	farms.. 16 307	1.1			
acres.. 4 894 874		1.0			
Vegetable and melon farming (1112)	farms.. 1 428	1.1			
acres.. 344 407		.6			
Fruit and tree nut farming (1113)	farms.. 2 668	1.0			
acres.. 347 863		.8			
Greenhouse, nursery, and floriculture production (1114)	farms.. 3 054	1.0			
acres.. 241 781		1.1			
Other crop farming (1119)	farms.. 6 191	.7			
acres.. 1 017 611		.8			
Beef cattle ranching and farming (112111)	farms.. 4 765	.8			
acres.. 729 423		.9			
Cattle feedlots (112112)	farms.. 1 791	1.1			
acres.. 326 159		1.0			
Dairy cattle and milk production (11212)	farms.. 3 177	1.4			
acres.. 1 396 441		.8			
Hog and pig farming (1122)	farms.. 1 178	1.2			
acres.. 261 616		.8			
Poultry and egg production (1123)	farms.. 400	1.4			
acres.. 38 575		1.2			
Sheep and goat farming (1124)	farms.. 681	1.2			
acres.. 48 684		1.6			
Animal aquaculture and other animal production (1125, 1129)	farms.. 4 387	.8			
acres.. 225 378		.9			

¹Data are based on a sample of farms.

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

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

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

Item	Total	Relative standard error of estimate (percent)	Item	Total	Relative standard error of estimate (percent)
FARMS AND LAND IN FARMS			FARM PRODUCTION EXPENSES¹		
Farms number	22 621	1.3	Total farm production expenses farms	22 636	1.4
Land in farms acres	8 131 338	.9	Average per farm \$1,000	2 695 447	.6
Average size of farm acres	359	1.6	. . . . . dollars	119 078	1.5
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD			NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)¹		
Total sales (see text) farms	22 621	1.3	All farms number	22 636	1.4
Average per farm \$1,000	3 499 367	.5	Average per farm \$1,000	758 861	1.1
. dollars	154 696	1.4	. . . . . dollars	33 525	1.7
Farms by value of sales:			Farms with net gains ² number	16 604	1.6
\$10,000 to \$19,999 farms	5 602	1.3	Average net gain \$1,000	872 907	.9
\$1,000	79 536	1.3	. . . . . dollars	52 572	1.8
\$20,000 to \$24,999 farms	1 611	1.7	Farms with net losses number	6 032	2.7
\$1,000	35 798	1.7	Average net loss \$1,000	114 046	2.3
\$25,000 to \$39,999 farms	3 136	1.9	. . . . . dollars	18 907	3.6
\$1,000	98 944	1.9	GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME		
\$40,000 to \$49,999 farms	1 336	2.0	Government payments farms	11 974	1.5
\$1,000	59 500	2.0	. . . . . \$1,000	76 933	.8
\$50,000 to \$99,999 farms	3 663	1.9	Other farm-related income ¹ farms	7 094	2.4
\$1,000	260 190	1.9	. . . . . \$1,000	47 532	3.0
\$100,000 to \$249,999 farms	4 008	1.6	Customwork and other agricultural services farms	2 401	4.1
\$1,000	637 327	1.5	. . . . . \$1,000	20 716	4.5
\$250,000 to \$499,999 farms	1 954	-	Gross cash rent or share payments farms	1 710	5.0
\$1,000	677 385	-	. . . . . \$1,000	10 893	6.4
\$500,000 or more farms	1 311	-	Forest products, excluding Christmas trees and maple products farms	769	6.9
Sales by commodity or commodity group:			. . . . . \$1,000	7 272	7.8
Crops, including nursery and greenhouse crops farms	19 634	1.4	Other farm-related income sources farms	4 051	3.1
Grains \$1,000	2 157 668	.6	. . . . . \$1,000	8 652	4.8
Corn for grain \$1,000	14 502	1.5	COMMODITY CREDIT CORPORATION LOANS		
Wheat \$1,000	1 014 688	.8	Total farms	1 467	1.3
Soybeans \$1,000	11 242	.8	. . . . . \$1,000	51 529	.6
Sorghum for grain farms	462 811	.8			
Barley \$1,000	7 581	1.5			
Oats \$1,000	86 902	1.0			
Other grains farms	10 337	1.5			
Cotton and cottonseed farms	367 816	.9			
Tobacco \$1,000	4	10.3			
Hay, silage, and field seeds farms	(D)	(D)			
Vegetables, sweet corn, and melons farms	250	2.0			
Fruits, nuts, and berries farms	(D)	(D)			
Nursery and greenhouse crops farms	1 304	1.8			
Other crops \$1,000	3 830	1.5			
Livestock, poultry, and their products farms	2 404	1.6			
Poultry and poultry products farms	92 176	.8			
Dairy products \$1,000	-	-			
Cattle and calves farms	-	-			
Hogs and pigs \$1,000	3	15.0			
Sheep, lambs, and wool farms	34	15.6			
Other livestock and livestock products (see text) farms	5 305	1.4			
Value of agricultural products sold directly to individuals for human consumption (see text) farms	69 083	1.0			
. \$1,000	1 816	1.2			
. \$1,000	181 692	.4			
. \$1,000	2 100	1.3			
. \$1,000	228 780	.6			
. \$1,000	1 954	1.2			
. \$1,000	474 188	.3			
. \$1,000	1 554	1.3			
. \$1,000	189 203	.4			
. \$1,000	10 499	1.3			
. \$1,000	1 341 699	.5			
. \$1,000	494	1.6			
. \$1,000	168 419	.1			
. \$1,000	3 638	1.4			
. \$1,000	645 508	.6			
. \$1,000	8 574	1.4			
. \$1,000	260 601	.6			
. \$1,000	1 781	1.4			
. \$1,000	226 920	.3			
. \$1,000	531	1.8			
. \$1,000	4 435	1.8			
. \$1,000	1 158	1.4			
. \$1,000	35 816	1.1			
. \$1,000	2 147	1.4			
. \$1,000	25 254	1.1			

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)
LAND IN FARMS ACCORDING TO USE			FARMS BY TYPE OF ORGANIZATION		
Total cropland farms	22 070	1.4	Individual or family (sole proprietorship) farms	18 364	1.5
Harvested cropland acres	6 904 398	.9	Partnership farms	5 623 450	1.2
Cropland: acres	21 647	1.4	Corporation: acres	2 749	1.0
Pasture or grazing only farms	6 255 735	.9	Family held farms	1 616 537	.5
Total woodland acres	6 429	1.5	More than 10 stockholders acres	1 304	.9
Pastureland and rangeland other than cropland and woodland pastured farms	295 583	1.3	10 or less stockholders farms	807 850	.4
Land in house lots, ponds, roads, wasteland, etc. farms	12 112	1.4	Other than family held farms	24	3.0
Irrigated land acres	696 637	1.1	Other—cooperative, estate or trust, institutional, etc. farms	1 280	.9
Harvested cropland irrigated farms	2 323	1.4	More than 10 stockholders acres	110	2.6
Pasture and other land irrigated farms	109 636	1.1	10 or less stockholders farms	35 530	1.8
Land under Conservation Reserve or Wetlands Reserve Programs farms	15 549	1.1	Less than 150 days farms	12	5.6
Estimated market value of land and buildings farms	109 636	1.1	150 days or more farms	98	2.8
Average per farm \$1,000	420 667	1.0	Other—cooperative, estate or trust, institutional, etc. acres	94	2.7
Average per acre dollars	2 927	1.0	Hired workers by days worked:	47 971	1.2
Average per acre dollars	388 615	1.0	Operator and family members farms	5 196	2.1
Operator and family members farms	2 908	1.0	Hired workers farms	20 066	1.1
Operator and family members acres	386 469	.4	Less than 150 days farms	9 230	2.0
Operator and family members acres	67	3.1	150 days or more workers	66 030	1.7
Operator and family members acres	2 146	3.4			
			INJURIES AND DEATHS		
			Farm-related injuries:		
			Operator and family members farms	288	1.8
			Hired workers number	323	1.8
			Farm-related deaths:		
			Operator and family members farms	5	—
			Hired workers number	(D)	(D)
				3	—
				(D)	(D)
			FARMS BY SIZE		
			1 to 9 acres	727	1.4
			10 to 49 acres	2 192	1.2
			50 to 69 acres	1 071	1.5
			70 to 99 acres	2 175	1.5
			100 to 139 acres	2 295	1.7
			140 to 179 acres	2 099	1.8
			180 to 219 acres	1 705	1.9
			220 to 259 acres	1 314	2.0
			260 to 499 acres	4 253	1.7
			500 to 999 acres	3 097	1.1
			1,000 to 1,999 acres	1 322	—
			2,000 acres or more	371	—
			FARMS BY NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM		
			Oilseed and grain farming (1111)	9 589	1.6
			Vegetable and melon farming (1112)	961	1.3
			Fruit and tree nut farming (1113)	1 666	1.3
			Greenhouse, nursery, and floriculture production (1114)	1 632	1.2
			Other crop farming (1119)	2 033	1.2
			Beef cattle ranching and farming (112111)	1 216	1.5
			Cattle feedlots (112112)	745	1.8
			Dairy cattle and milk production (11212)	3 136	1.4
			Hog and pig farming (1122)	789	1.4
			Poultry and egg production (1123)	122	1.6
			Sheep and goat farming (1124)	73	3.2
			Animal aquaculture and other animal production (1125, 1129)	659	1.4
			LIVESTOCK		
			Cattle and calves inventory farms	8 675	1.4
			Beef cows number	920 571	.8
			Milk cows farms	3 015	1.4
			Other number	72 814	1.3
			Cattle and calves sold farms	3 669	1.4
			Hogs and pigs inventory number	299 561	.7
			Hogs and pigs sold farms	8 574	1.4
			Sheep and lambs of all ages inventory number	495 835	.7
			Sheep and lambs sold farms	260 601	.6
			Horses and ponies inventory farms	1 777	1.4
			Horses and ponies sold number	1 017 968	.4
			Other farms	1 781	1.4
			Other number	2 191 214	.4
			Other farms	226 920	.3
			Other number	568	1.7
			Other farms	44 539	2.1
			Other number	500	1.8
			Other farms	58 220	4.0
			Other number	2 475	1.4
			Other farms	20 136	1.6
			Other number	728	1.5
			Other farms	5 577	1.9
			Other number		

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)
POULTRY			SELECTED CROPS HARVESTED—Con.		
Layers and pullets 13 weeks old and older inventory (see text)	farms.. 694	1.6	Oats for grain	farms.. 2 753	1.6
Layers 20 weeks old and older	number.. 5 997 933	(L)	.....	acres.. 66 901	1.3
.....	farms.. 664	1.6	Soybeans for beans	bushels.. 4 132 643	1.4
.....	number.. 4 888 242	(L)	.....	farms.. 10 352	1.5
.....			.....	acres.. 1 643 475	1.0
Broilers and other meat-type chickens sold	farms.. 118	3.0	Dry edible beans, excluding dry limas	bushels.. 60 817 299	.9
.....	number.. 361 540	5.9	.....	farms.. 2 043	1.7
SELECTED CROPS HARVESTED			.....	acres.. 300 365	.9
Corn for grain or seed	farms.. 13 357	1.5	.....	cwt.. 4 851 596	.9
.....	acres.. 2 068 726	.8	Potatoes, excluding sweetpotatoes	farms.. 263	1.4
.....	bushels.. 234 140 282	.8	.....	acres.. 44 811	.3
Corn for silage or green chop	farms.. 4 162	1.4	Sugar beets for sugar	cwt.. 13 621 661	.3
.....	acres.. 270 444	.7	.....	farms.. 1 156	1.4
.....	tons, green.. 3 903 061	.7	.....	acres.. 163 071	.6
Wheat for grain	farms.. 7 618	1.5	.....	tons.. 3 052 438	.6
.....	acres.. 479 329	1.0	Hay—alfalfa, other tame, small grain, wild, grass		
.....	bushels.. 27 562 141	1.0	silage, green chop, etc. (see text)	farms.. 10 444	1.4
			.....	acres.. 970 029	1.0
			.....	tons, dry.. 2 374 662	1.0
			Alfalfa hay	farms.. 9 172	1.4
			.....	acres.. 597 845	1.1
			.....	tons, dry.. 1 658 070	1.1
			Vegetables harvested for sale (see text)	farms.. 1 816	1.2
			.....	acres.. 126 299	.5
			Land in orchards	farms.. 1 699	1.2
			.....	acres.. 133 012	.8

¹Data are based on a sample of farms.

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

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

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

Item	All farms		Farms with sales of \$10,000 or more	
	Percent change from 1992 to 1997	Standard error of estimate	Percent change from 1992 to 1997	Standard error of estimate
Farms	-1.1	1.1	-4.4	1.4
Land in farms	-2.1	.9	-2.4	1.0
Average size of farm	-9	1.4	2.0	1.9
Estimated market value of land and buildings ¹ :				
Average per farm	44.8	2.4	47.3	3.0
Average per acre	47.7	2.6	46.1	2.8
Estimated market value of all machinery and equipment ¹ :				
Average per farm	20.6	2.1	19.4	2.6
Farms by size:				
1 to 9 acres	1.9	1.3	6.1	1.9
10 to 49 acres	8.3	1.1	15.2	1.8
50 to 179 acres	-1	1.0	-3	1.6
180 to 499 acres	-12.6	1.4	-13.8	1.6
500 to 999 acres	-10.5	1.1	-10.5	1.2
1,000 to 1,999 acres	8.4	-	7.9	-
2,000 acres or more	23.0	-	23.3	-
Total cropland	-2.9	1.1	-4.6	1.5
Harvested cropland	-3.2	.9	-2.6	1.0
Irrigated land	-8.2	1.1	-4.6	1.5
Irrigated land	2.1	1.0	3.8	1.0
Market value of agricultural products sold	17.8	.7	18.5	.7
Average per farm	19.2	1.5	24.0	2.0
Crops, including nursery and greenhouse crops	31.6	.9	32.8	.9
Livestock, poultry, and their products .....	.8	.6	1.0	.6
Farms by value of sales:				
Less than \$2,500	15.0	1.1	(X)	(X)
\$2,500 to \$4,999	-9.5	1.0	(X)	(X)
\$5,000 to \$9,999	-9.2	1.0	(X)	(X)
\$10,000 to \$24,999	-7.0	1.4	-7.0	1.4
\$25,000 to \$49,999	-4.5	1.9	-4.5	1.9
\$50,000 to \$99,999	-12.0	1.9	-12.0	1.9
\$100,000 to \$249,999	-8.1	1.5	-8.1	1.5
\$250,000 to \$499,999	9.0	-	9.0	-
\$500,000 or more	42.7	-	42.7	-
Total farm production expenses ¹	9.8	1.1	11.5	1.6
Average per farm	11.0	1.5	16.0	2.0
Net cash return from agricultural sales for the farm unit (see text) ¹	-1.1	1.1	-3.8	1.5
Average per farm	59.4	3.1	45.9	2.4
Average per farm	61.2	3.6	51.8	3.4
Operators by principal occupation:				
Farming	-9.6	1.2	-9.5	1.4
Other	8.2	1.1	8.6	1.8
Operators by days worked off farm:				
Any	1.7	1.1	2.4	1.7
200 days or more	3.2	1.1	3.9	1.7
Livestock and poultry:				
Cattle and calves inventory	-9.2	1.1	-12.5	1.4
number	-7.9	.8	-8.9	.8
Beef cows .....	.2	1.1	3.1	1.8
number .....	.3	1.3	-1.3	1.5
Milk cows	-23.2	1.2	-23.8	1.2
number	-5.1	.8	-5.2	.8
Cattle and calves sold	-9.4	1.1	-12.9	1.4
number	-9.6	.7	-10.5	.7
Hogs and pigs inventory	-40.2	.8	-39.2	1.0
number	-16.2	.5	-14.7	.5
Hogs and pigs sold	-43.6	.8	-41.7	1.0
number	-4.1	.5	-2.7	.5
Sheep and lambs inventory	-11.1	1.2	-7.0	2.1
number	-26.0	1.6	-26.4	2.2
Layers and pullets 13 weeks old and older inventory (see text)	-7.3	1.2	-4.8	2.0
number	12.1	.2	12.6	.2
Broilers and other meat-type chickens sold	-13.0	2.2	2.6	4.5
number	-1.8	12.6	-3.2	13.3
Selected crops harvested:				
Corn for grain or seed	-11.9	1.3	-6.4	1.5
acres	-4.5	.9	-3.2	.9
bushels	5.1	.9	6.2	.9
Wheat for grain	-27.8	1.1	-20.1	1.4
acres	-14.3	1.0	-10.7	1.0
bushels	-3.1	1.1	.2	1.1
Soybeans for beans	-4.7	1.4	4.8	1.8
acres	27.2	1.4	31.9	1.5
bushels	49.5	1.6	53.7	1.7
Dry edible beans, excluding dry limas	-31.6	1.3	-28.7	1.4
acres	-6.1	1.1	-5.1	1.1
cwt	15.3	1.3	16.2	1.3
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)	-6.4	1.0	-5.7	1.5
acres	-1.5	1.1	-1.7	1.2
tons, dry .....	.3	1.1	-.4	1.1
Vegetables harvested for sale (see text)	-16.9	1.1	-10.0	1.3
acres	-7.6	.6	-6.3	.6
Land in orchards	-18.9	.9	-8.5	1.3
acres	-13.9	.8	-9.8	.8

¹Data are based on a sample of farms.

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

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

Geographic area	Farms		Land in farms		Average size of farm		Average market value of land and buildings per farm ¹		Estimated market value of all machinery and equipment ¹	
	Total (number)	Relative standard error of estimate (percent)	Total (acres)	Relative standard error of estimate (percent)	Total (acres)	Relative standard error of estimate (percent)	Value (dollars)	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Michigan	46 027	.9	9 872 812	.8	215	1.2	358 166	1.3	3 055 199	1.1
Alcona	207	.4	43 383	1.1	210	1.2	215 500	7.1	10 613	12.4
Alger	60	1.3	16 029	2.7	267	2.9	229 290	5.1	2 452	5.6
Allegan	1 337	.7	236 936	.6	177	1.0	352 657	3.0	99 962	3.3
Alpena	412	.4	78 047	.7	189	.8	228 078	8.6	18 774	9.7
Antrim	261	.4	55 166	1.1	211	1.2	253 068	6.0	11 715	7.3
Arenac	325	.7	86 240	.9	265	1.2	325 842	5.3	28 088	8.2
Baraga	54	.8	14 988	3.9	278	4.0	231 249	5.6	2 295	6.1
Barry	881	.6	164 815	.8	187	1.0	319 143	3.6	39 889	4.2
Bay	730	.9	175 931	.8	241	1.2	388 338	3.6	65 003	4.9
Benzie	140	.4	22 556	1.4	161	1.5	296 703	5.9	5 783	7.7
Berrien	1 182	.9	173 958	1.0	147	1.3	282 701	4.2	74 041	3.5
Branch	980	1.1	234 076	1.1	239	1.6	304 986	4.3	61 333	4.5
Calhoun	1 085	.9	243 151	1.1	224	1.5	301 037	4.4	57 721	4.6
Cass	700	.9	176 831	1.0	253	1.3	399 530	4.7	53 136	5.8
Charlevoix	188	.6	31 077	1.7	165	1.8	240 551	5.1	6 245	5.6
Cheboygan	210	.5	50 582	1.2	241	1.3	249 054	3.9	8 962	4.9
Chippewa	319	.6	98 979	1.1	310	1.2	264 891	11.1	12 904	6.6
Clare	350	1.1	62 831	1.7	180	2.0	239 355	12.4	10 732	8.9
Clinton	1 123	1.0	243 850	.9	217	1.4	358 399	3.5	79 218	4.6
Crawford	27	1.6	2 568	11.4	95	11.6	158 085	7.9	670	5.6
Delta	253	.7	70 232	1.4	278	1.5	204 889	5.5	11 679	5.8
Dickinson	116	.6	28 298	1.4	244	1.5	229 988	3.2	5 802	3.0
Eaton	1 062	.6	231 870	.7	218	1.0	333 533	4.4	57 983	4.9
Emmet	207	.7	40 115	1.7	194	1.8	352 044	5.3	9 080	4.2
Genesee	796	.8	117 968	1.0	148	1.3	301 229	4.5	41 243	6.4
Gladwin	424	.9	68 036	1.7	160	1.9	173 013	5.7	13 327	10.9
Gogebic	48	.9	4 197	2.6	87	2.8	98 742	5.6	1 328	5.9
Grand Traverse	413	.4	61 767	.9	150	1.0	329 574	7.4	17 411	7.2
Graziot	873	1.3	276 833	1.1	317	1.8	453 741	3.2	78 469	2.8
Hillsdale	1 236	1.4	257 469	1.6	208	2.1	271 212	4.7	57 487	6.0
Houghton	128	.5	23 126	1.5	181	1.6	164 622	14.3	4 379	5.4
Huron	1 184	1.8	424 122	1.3	358	2.2	605 935	3.5	137 785	3.0
Ingham	827	.8	190 405	.9	230	1.2	390 202	4.4	58 484	4.8
Ionia	1 004	.9	236 652	.9	236	1.3	334 448	2.7	65 529	3.5
Iosco	238	.7	42 667	1.7	179	1.8	206 358	7.2	10 006	11.0
Iron	86	.5	23 823	1.7	277	1.8	189 793	3.6	3 391	3.5
Isabella	911	1.3	216 651	1.4	238	1.9	290 127	4.8	49 952	5.0
Jackson	987	.8	181 287	1.1	184	1.4	271 990	4.6	49 917	4.7
Kalamazoo	696	.6	146 927	.9	211	1.1	439 497	4.7	51 516	3.6
Kalkaska	139	.8	21 375	1.7	154	1.9	170 902	3.8	5 519	2.8
Kent	1 136	.7	186 453	.8	164	1.1	453 387	4.2	84 279	6.9
Keweenaw	5	-	(D)	(D)	(D)	(D)	79 931	-	89	-
Lake	126	.6	22 971	2.2	182	2.2	189 780	6.2	5 469	12.5
Lapeer	1 020	1.2	178 249	1.4	175	1.9	433 252	6.4	67 222	6.6
Leelanau	369	.6	62 129	.8	168	1.0	499 928	7.6	26 052	7.3
Lenawee	1 317	.8	336 468	.8	255	1.1	444 451	2.8	94 162	3.8
Livingston	637	.8	98 297	1.1	154	1.4	398 766	6.7	44 836	5.6
Luce	31	.4	(D)	(D)	(D)	(D)	335 710	3.0	1 633	2.0
Mackinac	72	.6	21 513	1.8	299	1.9	196 313	3.9	2 451	2.7
Macomb	523	.9	68 829	1.5	132	1.7	429 797	7.4	31 842	8.6
Manistee	284	.7	47 521	1.5	167	1.6	238 599	9.3	13 400	13.5
Marquette	108	.6	26 624	1.8	247	1.9	261 325	3.5	3 998	2.4
Mason	413	1.1	77 103	1.6	187	2.0	244 920	6.6	20 499	7.1
Mecosta	597	.7	111 974	1.1	188	1.3	217 447	8.3	29 620	7.5
Menominee	348	.8	109 661	1.2	315	1.4	225 950	7.8	20 783	9.9
Midland	418	.8	79 667	1.3	191	1.5	345 912	14.7	26 786	12.9
Missaukee	335	.5	90 027	.9	269	1.0	288 719	4.6	26 810	4.4
Monroe	1 058	1.1	209 715	1.3	198	1.7	447 310	3.9	81 083	4.8
Montcalm	954	.9	237 771	.9	249	1.3	315 690	3.8	72 197	4.1
Montmorency	103	.4	21 025	1.2	204	1.3	200 437	7.1	4 729	7.0
Muskegon	410	.9	73 113	1.1	178	1.4	283 432	4.5	28 257	7.1
Newaygo	670	.8	122 294	1.1	183	1.3	236 346	5.2	38 171	13.3
Oakland	544	.7	45 366	1.4	83	1.6	486 079	9.1	26 756	8.2
Oceana	573	.9	127 994	1.1	223	1.4	294 547	3.8	38 915	11.1
Ogemaw	261	.7	73 239	1.1	281	1.2	294 322	5.0	19 271	6.6
Ontonagon	92	.8	32 516	1.5	353	1.7	169 141	3.7	3 424	3.0
Osceola	496	.9	108 250	1.3	218	1.6	242 019	6.0	29 443	11.6
Oscoda	80	.9	13 904	2.6	174	2.8	194 910	4.7	1 997	4.1
Otsego	139	.6	34 450	1.2	248	1.4	343 229	6.9	8 564	6.7
Ottawa	1 292	1.0	170 627	.9	132	1.3	395 504	3.0	101 006	3.1
Presque Isle	296	.8	82 466	1.0	279	1.3	203 546	5.2	10 996	6.5
Roscommon	36	.5	4 139	2.2	115	2.3	149 296	6.1	815	4.2
Saginaw	1 163	1.0	297 842	.9	256	1.3	459 033	4.0	93 411	4.6
St. Clair	940	.8	162 887	1.1	173	1.4	416 014	6.6	52 246	6.5
St. Joseph	791	1.2	217 345	1.0	275	1.5	504 172	3.1	75 399	4.1
Sanilac	1 448	1.3	429 706	1.1	297	1.7	400 889	3.5	133 159	3.3
Schoolcraft	45	.9	15 742	1.3	350	1.6	294 470	4.3	1 652	3.9
Shiawassee	915	1.1	214 153	1.3	234	1.6	366 206	4.4	78 256	8.6
Tuscola	1 140	.9	333 099	.8	292	1.2	512 315	2.8	118 831	3.4
Van Buren	1 059	.9	177 360	1.0	167	1.3	322 034	3.8	70 486	6.0
Washtenaw	1 030	.7	180 223	1.0	175	1.2	507 203	4.3	57 298	4.4
Wayne	303	.9	39 102	1.1	129	1.4	447 041	10.1	20 020	7.9
Wexford	251	.6	43 321	1.2	173	1.3	200 038	5.2	9 070	6.0

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	Average market value of all machinery and equipment per farm ¹		Market value of agricultural products sold		Average market value of agricultural products sold per farm		Farm production expenses ¹			
	Value (dollars)	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Value (dollars)	Relative standard error of estimate (percent)	Total farm production expenses			
							Farms		Value	
							Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Michigan	66 361	1.4	3 567 825	.5	77 516	1.0	46 040	.9	2 835 658	.6
Alcona	51 270	12.4	5 592	1.8	27 016	1.8	207	1.2	3 850	6.0
Alger	40 863	6.7	2 028	4.7	33 806	4.8	60	3.6	1 711	4.7
Allegan	74 878	3.3	186 757	.3	139 684	.8	1 335	.8	154 725	.8
Alpena	45 679	9.7	11 156	1.1	27 078	1.2	411	.7	9 838	7.4
Antrim	44 885	7.4	17 206	.8	65 922	.9	261	1.2	11 681	3.8
Arenac	86 691	8.3	23 118	.9	71 133	1.2	324	1.1	15 490	5.8
Baraga	43 304	6.9	1 134	8.3	21 001	8.4	54	3.1	926	8.2
Barry	45 277	4.3	47 801	.6	54 258	.8	881	.7	41 677	2.5
Bay	89 046	5.0	61 423	.7	84 141	1.1	730	1.0	46 583	2.3
Benzie	41 306	7.9	6 636	1.6	47 400	1.7	140	1.7	4 586	7.5
Berrien	62 587	3.6	81 376	.8	68 846	1.2	1 183	1.0	63 106	2.2
Branch	62 585	4.6	77 249	.7	78 826	1.3	980	1.1	60 307	2.0
Calhoun	53 199	4.7	60 985	.8	56 208	1.3	1 085	.9	51 967	2.3
Cass	75 908	5.9	67 491	.6	96 416	1.1	700	1.1	55 517	2.4
Charlevoix	33 398	5.9	4 151	2.3	22 080	2.4	187	1.8	3 371	6.3
Cheboygan	42 882	5.0	5 848	1.5	27 847	1.5	209	1.2	4 574	3.2
Chippewa	40 451	6.7	7 351	2.0	23 043	2.1	319	.9	5 399	18.4
Clare	30 662	9.0	12 950	1.7	36 999	2.1	350	1.6	10 074	2.7
Clinton	70 353	4.7	91 515	.6	81 492	1.1	1 126	1.2	72 550	1.6
Crawford	24 804	7.9	117	7.5	4 326	7.7	27	5.5	234	7.2
Delta	46 530	5.9	8 162	1.9	32 260	2.1	251	1.2	5 811	8.6
Dickinson	50 021	3.8	3 941	2.0	33 975	2.0	116	2.3	3 506	2.0
Eaton	54 650	5.0	54 948	.7	51 740	.9	1 061	.8	45 406	2.5
Emmet	43 863	4.4	5 449	1.9	26 321	2.0	207	1.4	4 120	5.5
Genesee	51 684	6.5	27 995	1.0	35 169	1.3	798	.9	24 547	6.9
Gladwin	31 431	11.0	9 557	2.2	22 539	2.4	424	1.1	6 430	13.5
Gogebic	27 670	6.8	232	15.0	4 830	15.1	48	3.4	239	5.1
Grand Traverse	41 953	7.3	17 155	.9	41 537	1.0	415	.9	13 352	3.8
Gratiot	89 884	3.2	102 439	.7	117 342	1.5	873	1.5	77 585	1.6
Hillsdale	46 586	6.1	71 729	1.2	58 033	1.8	1 234	1.5	53 709	2.9
Houghton	34 213	5.6	2 206	2.2	17 238	2.3	128	1.8	2 251	9.9
Huron	116 372	3.5	211 414	.7	178 559	2.0	1 184	1.8	171 252	1.0
Ingham	70 804	4.9	53 394	.8	64 564	1.1	826	.9	49 755	2.2
Ionia	65 138	3.6	87 194	.6	86 846	1.1	1 006	1.0	75 257	1.4
Iosco	42 219	11.1	6 769	2.0	28 442	2.1	237	1.1	4 952	8.2
Iron	39 426	4.3	1 593	2.1	18 525	2.2	86	2.5	1 458	2.4
Isabella	54 772	5.2	56 825	1.1	62 377	1.7	912	1.4	44 791	3.3
Jackson	50 523	4.8	44 311	.8	44 895	1.2	988	1.0	38 452	3.0
Kalamazoo	74 017	3.7	105 494	.3	151 572	.7	696	.8	73 163	1.5
Kalkaska	39 702	3.8	5 060	1.3	36 405	1.5	139	2.6	4 084	1.6
Kent	74 189	7.0	121 041	.4	106 550	.8	1 136	.8	93 300	1.8
Keweenaw	17 825	-	5	-	994	-	5	-	22	-
Lake	43 749	12.7	2 073	4.8	16 454	4.9	125	2.1	1 662	9.2
Lapeer	65 710	6.7	54 255	1.1	53 191	1.6	1 023	1.3	43 867	3.5
Leelanau	70 220	7.3	28 725	.9	77 845	1.1	371	1.1	20 733	4.3
Lenawee	71 551	3.9	102 849	.6	78 093	1.0	1 316	.8	78 591	1.8
Livingston	70 608	5.7	28 455	1.1	44 671	1.4	635	1.0	25 194	4.7
Luce	52 670	3.4	2 326	.1	75 029	.4	31	2.7	1 048	.2
Mackinac	34 037	4.1	2 547	.8	35 373	1.0	72	3.1	2 418	.9
Macomb	61 118	8.6	44 734	.6	85 534	1.1	521	1.0	31 411	1.9
Manistee	46 852	13.6	9 096	1.4	32 030	1.6	286	1.3	8 533	8.0
Marquette	37 017	3.5	2 946	2.4	27 278	2.5	108	2.6	2 894	1.9
Mason	49 514	7.3	23 621	1.3	57 194	1.7	414	1.3	20 715	5.9
Mecosta	49 615	7.5	24 866	.9	41 651	1.2	597	.9	17 511	2.7
Menominee	59 720	10.0	18 302	1.4	52 592	1.6	348	1.3	14 489	4.6
Midland	64 081	13.0	17 254	1.3	41 278	1.5	418	1.0	14 667	5.2
Missaukee	79 790	4.5	34 697	.7	103 575	.9	336	1.0	26 418	2.6
Monroe	76 566	5.0	94 138	.8	88 977	1.4	1 059	1.3	70 369	2.7
Montcalm	75 520	4.3	87 860	.6	92 096	1.1	956	1.1	65 365	1.4
Montmorency	45 917	7.2	3 271	1.2	31 755	1.3	103	1.8	2 202	8.2
Muskegon	68 752	7.2	44 435	.6	108 379	1.0	411	1.1	34 487	2.3
Newaygo	56 972	13.3	48 541	.8	72 449	1.1	670	1.0	39 745	4.7
Oakland	49 275	8.2	32 452	.6	59 654	.9	543	.9	32 747	2.5
Oceana	67 795	11.2	49 792	.8	86 896	1.2	574	1.1	38 861	2.7
Ogemaw	74 121	6.7	22 144	.8	84 841	1.0	260	1.2	18 051	3.0
Ontonagon	37 216	4.0	2 205	2.3	23 963	2.5	92	2.6	1 676	3.0
Osceola	59 242	11.6	19 284	1.4	38 879	1.7	497	1.1	15 213	8.1
Oscoda	24 958	5.1	1 880	4.4	23 494	4.5	80	3.0	1 463	4.7
Otsego	61 613	7.0	3 810	1.8	27 407	1.9	139	1.8	3 179	4.9
Ottawa	78 117	3.2	299 985	.3	232 187	1.0	1 293	1.0	243 970	.7
Presque Isle	37 274	6.6	13 085	1.2	44 206	1.4	295	1.1	8 262	4.3
Roscommon	22 629	5.7	513	5.2	14 255	5.2	36	3.8	320	3.9
Saginaw	80 319	4.7	84 034	.8	72 256	1.2	1 163	1.1	65 020	2.3
St. Clair	55 699	6.6	36 076	1.0	38 378	1.3	938	.9	29 955	2.3
St. Joseph	95 080	4.3	81 103	.6	102 533	1.3	793	1.3	61 648	1.7
Sanilac	92 024	3.6	132 513	.8	91 514	1.5	1 447	1.3	102 825	1.6
Schoolcraft	36 711	5.3	1 230	1.8	27 326	2.0	45	3.6	992	1.9
Shiawassee	85 339	8.7	45 200	1.1	49 399	1.6	917	1.2	37 260	2.1
Tuscola	104 055	3.6	105 723	.7	92 739	1.2	1 142	1.0	83 841	1.4

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	Average market value of all machinery and equipment per farm ¹		Market value of agricultural products sold		Average market value of agricultural products sold per farm		Farm production expenses ¹					
	Value (dollars)	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Value (dollars)	Relative standard error of estimate (percent)	Total farm production expenses					
							Farms		Value			
							Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)		
Van Buren	66 559	6.1	100 641	.6	95 034	1.1	1 059	1.0	78 805	1.7		
Washtenaw	55 575	4.4	56 521	.7	54 874	1.0	1 031	.9	50 013	3.0		
Wayne	65 639	8.0	27 159	.7	89 635	1.2	305	1.2	20 920	4.1		
Wexford	35 992	6.2	8 690	1.8	34 621	1.8	252	1.5	6 715	3.1		
Farm production expenses ¹ —Con.												
Geographic area	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)
Michigan	11 086	1.9	175 474	1.1	17 888	1.5	414 770	.8	27 224	1.3	180 800	1.0
Alcona	83	14.4	473	10.7	124	9.5	701	11.2	81	13.6	113	17.6
Alger	18	5.9	157	7.7	27	5.1	416	7.0	30	5.0	30	6.3
Allegan	372	8.5	11 117	3.5	576	6.3	47 224	.7	776	4.8	5 481	5.0
Alpena	138	15.5	602	21.7	158	14.7	890	14.0	212	10.1	538	14.4
Antrim	79	14.7	432	7.8	114	11.3	1 115	7.7	141	8.4	748	1.8
Arenac	44	26.4	190	19.9	79	17.7	1 144	21.7	205	5.2	1 219	6.2
Baraga	11	6.7	40	6.7	26	4.4	162	7.0	30	4.5	28	21.8
Barry	239	11.4	3 751	3.3	367	8.5	9 130	3.6	372	7.3	1 810	5.0
Bay	66	24.6	539	34.9	111	18.7	1 061	17.6	555	4.1	4 086	3.8
Benzie	38	15.9	224	15.7	50	11.9	303	51.8	56	9.6	84	13.9
Berrien	88	22.5	1 427	4.2	223	13.2	2 711	6.7	668	5.5	3 882	6.7
Branch	270	10.6	3 817	7.4	413	8.0	10 553	5.7	615	5.2	3 306	4.1
Calhoun	261	11.9	3 142	6.7	429	8.3	7 494	11.4	658	3.7	3 895	3.3
Cass	208	12.6	2 382	6.2	321	9.8	15 373	2.0	469	4.6	2 904	5.6
Charlevoix	57	10.4	143	25.9	102	7.3	623	8.7	78	7.7	114	7.8
Cheboygan	51	11.4	172	9.2	94	6.8	1 407	2.2	81	7.1	102	12.3
Chippewa	105	18.6	431	14.9	164	11.2	1 245	40.0	94	19.2	47	20.2
Clare	147	12.4	1 316	18.7	192	9.2	2 289	5.1	154	9.9	256	8.7
Clinton	319	9.6	5 787	3.8	406	8.1	12 126	4.0	818	3.4	4 438	4.4
Crawford	9	9.0	14	10.3	17	7.1	58	9.9	9	9.0	4	11.6
Delta	51	19.1	139	20.0	105	13.6	649	7.6	124	10.7	332	16.8
Dickinson	36	3.6	127	5.2	58	3.0	729	2.2	66	2.7	211	2.1
Eaton	264	11.9	2 184	6.3	380	9.1	4 165	9.0	626	4.5	4 432	4.3
Emmet	55	12.5	286	20.3	99	7.7	582	11.1	98	7.2	127	9.1
Genesee	217	14.0	1 946	20.4	371	8.8	2 068	11.4	366	8.5	1 596	10.4
Gladwin	146	17.8	289	20.7	239	8.9	888	19.9	188	11.8	323	27.0
Gogebic	6	10.8	(D)	(D)	25	4.5	31	7.9	8	5.9	(D)	(D)
Grand Traverse	85	19.7	565	32.2	123	14.2	1 121	17.4	196	9.1	433	13.2
Gratiot	260	12.5	6 724	7.5	352	10.3	12 924	2.6	613	4.4	5 653	5.2
Hillsdale	194	14.4	4 441	9.3	358	10.5	7 102	10.9	656	5.0	3 696	7.1
Houghton	32	13.6	84	11.1	67	8.1	533	12.7	56	8.8	41	14.9
Huron	370	9.1	31 311	1.4	486	7.2	31 905	2.1	853	3.9	8 873	3.4
Ingham	226	13.2	2 348	10.0	384	8.6	4 782	7.5	506	6.4	3 118	7.9
Ionia	304	10.2	3 912	6.8	458	7.7	16 773	3.1	673	3.6	3 852	5.8
Iosco	34	26.7	587	10.6	111	11.5	755	13.6	120	10.4	186	13.7
Iron	33	3.9	90	4.3	50	3.3	117	5.1	29	4.1	60	2.6
Isabella	193	13.2	2 067	15.5	342	9.2	8 626	8.3	607	4.9	2 343	5.7
Jackson	264	11.8	6 870	3.0	385	8.9	3 663	9.0	573	5.0	2 279	5.4
Kalamazoo	137	16.2	5 158	1.4	224	11.7	10 911	1.6	471	4.9	4 864	2.8
Kalkaska	29	5.6	103	9.9	45	4.5	310	6.6	74	3.4	504	.8
Kent	230	12.1	1 612	8.2	475	6.9	6 737	4.9	609	5.0	6 578	4.3
Keweenaw	1	—	(D)	(D)	3	—	7	—	2	—	(D)	(D)
Lake	37	14.1	106	21.5	63	9.4	335	16.8	49	11.4	41	19.6
Lapeer	288	11.7	3 644	13.0	497	7.7	4 385	8.7	542	5.8	2 280	9.6
Leelanau	41	29.3	1 250	2.1	73	19.9	435	9.6	211	10.0	447	11.2
Lenawee	240	12.0	5 327	3.8	383	8.9	4 076	8.3	818	3.0	6 048	3.5
Livingston	162	13.4	1 089	14.0	306	9.1	2 560	14.2	288	7.1	1 486	7.6
Luce	5	—	106	—	9	—	61	—	14	2.3	98	(L)
Mackinac	20	5.0	142	4.1	35	4.1	669	.3	28	4.2	20	.9
Macomb	117	20.8	442	9.4	178	13.8	789	5.9	307	8.3	3 816	2.4
Manistee	69	16.7	447	70.4	86	13.8	235	38.5	152	8.1	403	26.1
Marquette	24	5.4	219	9.0	54	3.7	713	1.1	40	3.6	75	1.7
Mason	105	17.5	951	28.5	170	13.4	2 033	13.4	251	8.6	1 334	26.0
Mecosta	170	15.0	1 148	15.6	273	9.3	3 572	5.5	300	8.4	877	5.9
Menominee	97	14.0	747	13.4	218	7.6	3 951	9.2	221	6.9	421	8.5
Midland	100	13.8	550	7.6	174	12.0	1 360	4.4	245	7.6	1 247	13.6
Missaukee	88	14.5	1 613	3.5	158	6.7	7 477	5.5	168	6.1	732	3.8
Monroe	261	11.5	3 492	11.4	351	10.0	2 301	9.1	787	3.9	7 072	8.3
Montcalm	247	11.4	2 141	13.7	413	7.5	4 544	6.8	602	5.4	4 755	1.8
Montmorency	25	17.8	72	27.0	64	8.1	481	11.5	43	11.5	118	23.9
Muskegon	66	19.7	2 099	2.5	135	14.5	6 840	2.7	209	9.6	1 591	5.8
Newaygo	173	12.9	2 357	5.7	333	8.9	8 275	11.9	389	7.2	1 927	10.2
Oakland	87	22.0	867	39.9	246	11.7	781	17.5	170	12.9	6 473	3.5
Oceana	103	21.7	1 579	11.0	191	13.3	3 707	4.7	368	5.5	1 548	5.9

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	Farm production expenses ¹ —Con.											
	Livestock and poultry purchased				Feed for livestock and poultry				Seeds, bulbs, plants, and trees			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Ogemaw	108	11.4	1 885	3.9	172	6.2	4 065	4.2	154	8.7	561	5.5
Ontonagon	28	4.4	95	7.1	46	3.7	312	4.6	35	3.8	26	2.2
Osceola	191	11.3	761	17.1	272	8.3	3 803	15.2	236	9.5	486	14.8
Oscoda	36	4.5	112	6.8	56	3.7	401	6.0	40	4.2	37	8.0
Otsego	34	14.9	292	19.8	62	9.4	334	16.0	92	6.0	102	6.4
Ottawa	368	8.1	15 198	1.5	609	5.5	71 819	1.0	775	4.3	12 456	3.4
Presque Isle	86	19.4	444	33.1	119	15.3	526	13.8	150	12.7	603	6.1
Roscommon	8	8.2	30	.9	17	5.0	24	4.8	16	5.8	6	7.1
Saginaw	169	16.6	958	15.5	212	14.4	2 054	11.8	959	2.6	5 823	3.4
St. Clair	219	13.7	1 426	15.5	341	10.0	2 533	8.4	545	5.9	2 607	6.4
St. Joseph	230	11.7	2 135	9.2	339	9.2	6 110	8.7	569	5.0	3 949	2.8
Sanilac	422	8.6	4 749	11.2	591	6.5	13 662	5.0	941	3.7	6 326	3.5
Schoolcraft	13	6.1	58	1.5	25	4.7	130	2.2	26	4.4	35	3.2
Shiawassee	162	16.9	810	10.7	273	12.4	2 719	9.9	717	4.2	3 086	4.1
Tuscola	195	13.6	2 622	9.9	318	10.2	4 301	8.3	786	3.1	7 050	3.1
Van Buren	140	17.1	1 481	11.7	318	10.9	5 405	12.7	496	7.3	5 769	2.3
Washtenaw	270	13.1	4 127	2.5	394	9.7	4 078	13.2	664	5.1	3 397	4.5
Wayne	51	29.5	281	48.6	72	26.0	607	39.7	112	10.7	2 803	2.3
Wexford	61	12.6	621	10.3	109	7.8	901	10.6	93	8.5	281	3.7

Geographic area	Farm production expenses ¹ —Con.											
	Commercial fertilizer				Agricultural chemicals				Petroleum products			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Michigan	29 576	1.3	244 613	1.0	26 238	1.4	182 494	1.1	42 348	1.0	142 449	.9
Alcona	89	12.9	172	10.1	62	15.7	58	24.0	206	1.2	280	8.2
Alger	35	4.5	67	6.1	23	5.8	28	5.0	58	3.7	93	4.8
Allegan	916	3.6	7 412	3.6	805	4.4	6 031	3.3	1 252	1.7	5 840	2.4
Alpena	205	10.0	1 117	13.9	149	11.5	590	25.8	381	3.3	685	8.3
Antrim	162	6.8	862	5.2	147	8.2	1 256	9.0	222	3.6	857	3.1
Arenac	208	4.9	2 351	6.9	189	5.0	1 085	7.1	289	1.6	939	6.7
Baraga	30	4.3	29	9.4	9	7.6	(D)	(D)	53	3.2	90	6.1
Barry	449	5.8	2 841	6.2	430	6.1	1 799	7.3	737	3.1	1 810	5.5
Bay	564	3.6	7 503	3.9	524	4.2	4 056	6.7	702	2.0	3 024	4.8
Benzie	84	6.5	187	8.1	69	7.1	704	9.3	135	2.4	196	6.8
Berrien	881	3.5	4 598	4.9	884	3.6	7 599	4.4	1 130	1.8	3 199	3.9
Branch	598	5.4	4 901	4.1	567	5.2	3 736	4.6	890	2.7	3 582	3.1
Calhoun	683	4.1	4 632	6.7	633	4.9	3 006	7.5	934	2.7	3 059	4.1
Cass	527	4.6	4 040	6.0	437	5.8	2 900	6.6	659	2.0	2 890	7.4
Charlevoix	101	7.0	218	7.4	72	9.0	160	18.3	171	2.8	217	6.9
Cheboygan	128	4.6	348	23.4	67	8.7	101	15.7	195	2.0	270	4.3
Chippewa	151	13.6	225	10.3	49	29.7	47	19.8	313	2.0	395	12.8
Clare	159	10.2	592	11.7	98	13.7	181	12.6	299	3.6	454	6.8
Clinton	804	3.4	6 576	3.6	796	3.7	5 346	4.3	1 060	1.9	3 490	3.1
Crawford	10	7.7	5	12.6	5	13.7	2	16.8	25	5.8	12	10.6
Delta	144	9.8	545	16.2	112	12.4	238	23.6	246	2.0	396	7.5
Dickinson	63	2.6	252	2.6	46	3.0	176	2.3	100	2.3	239	3.1
Eaton	667	4.4	6 017	4.4	603	4.8	3 659	4.2	965	2.1	2 749	3.2
Emmet	127	5.1	237	9.8	87	8.3	126	8.4	193	2.1	241	5.0
Genesee	351	8.6	2 575	7.5	349	9.4	1 713	8.0	716	3.0	1 360	6.8
Gladwin	243	9.3	758	26.3	161	14.4	349	37.4	375	3.4	389	9.1
Gogebic	12	6.2	(D)	(D)	7	8.9	(D)	(D)	44	3.6	21	4.5
Grand Traverse	270	7.2	977	11.3	260	6.7	1 469	7.4	354	4.4	738	7.1
Gratiot	611	4.4	9 068	3.5	590	4.8	5 893	4.3	823	2.4	4 038	3.8
Hillsdale	646	5.7	5 465	7.8	645	5.7	3 863	7.5	1 048	3.0	2 765	4.5
Houghton	60	8.5	86	10.1	33	13.4	8	20.8	118	2.7	137	8.2
Huron	878	3.8	17 817	2.6	810	4.4	8 190	3.9	1 074	2.9	6 739	3.6
Ingham	561	5.4	5 536	3.6	477	6.7	3 149	4.4	753	2.7	2 560	3.5
Ionia	639	4.2	7 369	3.7	657	3.9	4 312	4.2	912	2.2	3 084	2.9
Iosco	121	9.8	396	15.2	80	13.8	170	21.4	208	4.5	306	9.3
Iron	37	3.6	123	2.6	24	4.1	65	4.0	84	2.5	123	2.8
Isabella	660	4.2	4 983	6.2	549	4.7	2 444	8.2	828	2.3	2 499	4.2
Jackson	593	5.4	3 578	6.3	583	5.1	2 593	4.2	943	1.7	1 979	5.7
Kalamazoo	455	5.1	4 166	6.1	372	5.8	3 248	8.8	635	2.7	3 848	1.6
Kalkaska	78	3.2	516	1.1	50	4.0	178	2.6	124	2.7	307	1.0
Kent	714	4.6	4 614	7.9	663	4.4	5 844	6.9	1 085	1.6	4 865	3.3
Keweenaw	2	—	(D)	(D)	1	—	(D)	(D)	4	—	1	—
Lake	61	9.3	85	22.5	23	17.3	23	42.0	117	3.1	120	9.8
Lapeer	590	5.9	4 028	6.4	472	6.5	2 710	4.8	917	2.7	2 347	5.4
Leelanau	316	4.0	1 222	6.3	297	4.7	3 174	6.5	337	3.5	939	7.8
Lenawee	808	3.8	9 746	3.4	830	3.8	7 142	3.4	1 188	2.1	4 095	3.4
Livingston	343	7.9	1 982	8.3	278	8.2	1 878	10.9	514	3.8	1 379	6.5
Luce	20	2.9	58	1.1	12	2.4	37	.2	30	2.8	63	.4
Mackinac	29	4.6	78	2.8	18	5.0	82	5.8	66	3.1	122	1.8

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	Farm production expenses ¹ —Con.											
	Commercial fertilizer				Agricultural chemicals				Petroleum products			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Macomb	351	7.2	1 412	7.9	277	10.1	1 374	7.1	520	1.1	2 265	3.4
Manistee	171	7.6	618	16.7	158	8.7	1 116	9.3	264	2.9	592	7.5
Marquette	50	3.4	128	2.1	29	4.4	62	1.9	99	2.7	205	3.6
Mason	259	7.0	1 705	12.3	276	7.2	1 664	12.9	390	3.1	973	10.4
Mecosta	349	8.2	1 524	6.6	232	8.7	953	3.7	544	3.8	942	7.3
Menominee	238	7.1	1 197	13.6	161	9.9	349	7.7	320	3.6	684	6.4
Midland	281	6.8	2 014	7.9	221	7.7	1 196	11.7	378	2.9	880	7.3
Missaukee	182	6.3	1 184	4.3	172	5.2	564	8.3	320	2.5	1 097	3.1
Monroe	763	4.1	7 160	5.2	783	3.9	5 239	5.9	1 009	2.0	4 082	4.9
Montcalm	618	5.4	7 372	3.2	517	6.5	6 859	5.4	914	2.0	3 478	3.4
Montmorency	57	10.8	191	29.2	27	16.1	43	19.9	91	5.5	163	11.3
Muskegon	267	8.3	1 552	5.1	246	8.0	2 126	8.1	379	3.9	1 613	4.3
Newaygo	446	5.6	2 488	8.8	352	7.4	2 076	10.1	639	2.0	1 610	6.6
Oakland	167	12.2	913	18.0	176	11.9	524	10.5	455	4.8	1 392	6.4
Oceana	445	4.8	2 483	4.0	394	6.1	4 081	5.6	534	3.2	1 666	5.1
Ogemaw	178	7.3	1 141	5.1	122	9.7	436	9.4	246	3.1	848	4.1
Ontonagon	42	3.7	55	4.1	14	4.4	8	1.7	88	2.6	111	2.7
Osceola	269	8.2	758	10.0	173	12.1	400	10.6	454	3.4	976	11.5
Oscoda	45	4.0	132	5.3	32	4.6	42	6.3	74	3.2	76	4.8
Otsego	95	5.7	244	5.5	67	7.8	128	10.8	131	2.9	207	6.6
Ottawa	900	3.7	4 967	4.3	836	3.7	6 036	2.8	1 233	1.5	7 486	2.0
Presque Isle	192	8.2	1 049	5.7	108	17.5	495	2.1	274	3.1	675	8.0
Roscommon	18	5.6	17	7.3	11	7.8	6	20.1	34	3.9	35	3.7
Saginaw	951	2.7	10 523	3.4	917	3.2	7 334	4.1	1 106	1.8	4 237	3.3
St. Clair	583	5.3	3 818	6.3	518	5.6	2 880	6.9	853	2.3	1 801	5.5
St. Joseph	582	4.6	8 230	3.2	572	4.7	5 518	2.8	664	3.7	3 062	4.1
Sanilac	993	3.5	11 929	2.7	898	4.3	7 382	3.6	1 358	1.9	5 463	2.6
Schoolcraft	25	4.4	78	3.8	20	4.6	39	4.3	40	3.7	62	3.2
Shiawassee	690	4.9	5 336	4.5	671	5.0	3 993	5.2	896	1.9	2 458	6.0
Tuscola	847	3.5	12 013	2.8	709	3.8	7 071	3.8	1 088	1.5	5 040	2.7
Van Buren	710	4.6	4 713	3.3	647	5.3	6 948	4.2	986	2.0	3 867	5.5
Washtenaw	692	5.1	5 539	7.6	595	5.7	3 507	8.3	980	2.0	2 673	4.2
Wayne	109	14.5	817	2.0	114	11.2	402	15.6	238	6.1	1 495	3.9
Wexford	128	6.7	354	5.0	89	8.8	213	4.9	237	2.0	404	5.3

Geographic area	Farm production expenses ¹ —Con.											
	Electricity				Hired farm labor				Contract labor			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Michigan	31 396	1.2	53 192	1.0	14 481	1.6	369 145	.7	3 865	3.2	29 043	2.8
Alcona	122	10.3	112	13.2	71	15.7	244	8.9	9	24.6	3	15.3
Alger	42	4.2	50	4.4	20	6.1	230	2.9	7	9.0	11	9.6
Allegan	1 024	3.3	3 312	2.7	488	5.6	23 421	1.5	139	15.9	803	14.4
Alpena	272	7.1	219	10.8	85	20.0	585	15.2	32	37.4	106	3.0
Antrim	181	6.4	276	9.9	108	11.4	1 582	9.0	24	31.2	223	19.2
Arenac	221	5.3	289	9.8	106	14.2	1 604	8.0	30	32.3	413	68.7
Baraga	44	3.5	44	5.9	12	5.2	155	15.6	1	24.2	(D)	(D)
Barry	522	5.8	681	4.7	196	12.5	3 358	1.0	45	28.6	198	23.0
Bay	483	5.1	642	5.2	256	8.7	4 692	13.6	62	20.9	539	10.0
Benzie	113	5.0	77	12.4	62	9.7	935	14.5	20	20.5	144	22.9
Berrien	711	5.0	1 036	6.3	462	7.3	14 070	4.2	163	15.1	733	20.7
Branch	642	5.0	1 296	4.8	249	11.5	6 199	1.2	72	25.7	218	12.4
Calhoun	770	3.5	1 139	6.9	248	11.2	5 098	4.2	93	23.1	404	15.0
Cass	477	5.0	731	5.1	185	12.3	4 238	5.3	56	27.0	602	1.8
Charlevoix	134	4.9	133	8.5	46	11.0	291	13.2	13	27.9	45	14.8
Cheboygan	137	4.5	122	6.1	57	8.0	531	3.6	8	16.3	18	12.6
Chippewa	249	6.5	154	18.2	98	15.5	526	38.0	23	46.0	26	23.2
Clare	252	6.7	226	7.3	66	17.6	629	1.7	29	29.4	86	5.8
Clinton	775	4.1	1 408	4.9	359	8.9	7 697	2.0	84	21.3	253	26.5
Crawford	21	6.5	8	10.1	5	9.8	(D)	(D)	2	29.7	(D)	(D)
Delta	183	6.3	164	13.1	97	13.9	816	25.4	7	9.6	7	3.4
Dickinson	86	2.5	96	2.5	40	3.1	334	3.7	8	6.2	32	7.7
Eaton	717	5.0	806	6.4	255	10.8	3 564	8.6	54	24.8	230	8.0
Emmet	146	4.5	127	8.0	59	11.7	442	10.0	5	34.9	4	23.1
Genesee	484	6.5	435	10.0	216	14.3	2 075	7.9	21	39.0	38	22.0
Gladwin	258	8.8	127	13.7	117	17.6	226	11.1	18	62.7	24	44.8
Gogebic	25	5.2	8	5.0	19	6.0	17	11.5	1	—	(D)	(D)
Grand Traverse	299	6.0	310	9.4	168	9.2	1 894	6.4	77	19.7	163	26.8
Gratiot	636	5.1	1 204	2.1	298	10.2	5 765	1.1	107	22.3	486	5.3
Hillsdale	764	5.4	995	4.3	277	12.9	4 469	3.3	83	25.3	358	3.7
Houghton	91	5.1	71	10.7	46	11.0	318	22.9	13	26.7	25	41.3
Huron	878	3.6	1 934	3.4	504	6.8	10 301	3.0	138	14.8	1 564	4.8
Ingham	567	5.8	1 082	4.2	264	11.5	7 599	5.5	52	25.3	264	2.5
Ionia	642	4.6	1 573	7.2	299	9.9	7 272	3.8	59	27.7	1 658	2.6

See footnotes at end of table.

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

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

Geographic area	Farm production expenses ¹ —Con.											
	Electricity				Hired farm labor				Contract labor			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
Iosco	175	6.4	120	7.9	76	14.2	466	29.8	7	60.7	17	72.6
Iron	58	3.0	34	3.8	27	4.0	266	2.6	1	22.3	(D)	(D)
Isabella	592	5.4	938	7.4	252	11.3	4 464	9.1	58	27.4	110	12.6
Jackson	669	4.8	665	4.6	196	13.7	2 961	5.9	61	28.5	113	16.6
Kalamazoo	472	5.4	1 504	2.3	272	9.1	13 999	1.6	60	20.2	329	2.7
Kalkaska	92	3.1	103	5.1	50	3.8	445	1.1	18	7.5	39	10.9
Kent	825	3.7	2 066	4.4	500	6.1	23 212	3.2	131	14.6	679	12.6
Keweenaw	4	—	2	—	—	—	—	—	—	—	—	—
Lake	58	8.1	60	9.6	18	18.5	112	5.3	6	42.8	4	28.3
Lapeer	727	4.5	1 004	5.6	347	8.8	5 044	3.7	91	23.8	512	20.7
Leelanau	280	6.4	347	6.1	204	9.6	4 760	6.8	64	24.8	447	43.8
Lenawee	803	4.2	1 012	4.5	362	8.5	6 217	2.5	60	22.9	173	14.2
Livingston	424	5.8	594	7.5	190	12.9	4 084	3.8	26	44.0	156	78.5
Luce	24	3.7	19	1.2	15	3.1	161	.5	2	—	(D)	(D)
Mackinac	56	3.3	52	1.9	22	4.7	296	.3	3	13.2	3	6.5
Macomb	380	6.6	667	5.1	158	15.0	8 125	1.9	60	27.2	176	46.2
Manistee	181	7.1	196	6.3	117	10.4	1 531	8.2	42	21.0	452	7.4
Marquette	75	3.1	70	2.4	38	4.0	314	5.8	4	11.5	(D)	(D)
Mason	286	7.1	402	13.0	156	10.7	4 457	12.2	26	40.7	86	54.7
Mecosta	400	7.1	513	5.1	147	15.2	1 173	1.8	9	6.3	21	5.3
Menominee	266	5.1	421	8.7	122	12.3	1 496	12.3	56	19.9	67	17.9
Midland	282	6.5	203	6.1	138	14.1	762	5.3	53	28.6	121	32.9
Missaukee	223	5.4	740	3.5	159	9.0	3 119	2.7	48	14.2	185	11.7
Monroe	680	4.9	976	2.7	309	10.8	10 200	2.9	106	20.1	820	3.1
Montcalm	620	5.6	1 682	3.7	317	9.8	7 631	1.4	80	24.0	383	14.6
Montmorency	86	5.6	91	11.2	20	16.5	81	1.4	4	62.1	6	44.4
Muskegon	308	7.3	651	4.4	124	11.2	6 395	4.3	62	22.6	671	4.1
Newaygo	445	5.0	1 132	7.8	183	14.2	5 092	14.6	34	36.5	447	61.2
Oakland	422	5.6	517	5.5	184	13.2	10 320	3.7	49	32.3	250	59.2
Oceana	401	6.0	678	3.9	270	7.7	9 657	3.2	66	22.0	418	16.4
Ogemaw	204	4.8	411	5.0	93	11.7	2 938	2.3	14	26.7	67	15.3
Ontonagon	69	3.1	63	3.6	34	4.1	202	3.8	8	7.7	15	8.8
Osceola	322	7.2	457	11.2	114	16.1	1 435	10.6	24	46.4	11	38.8
Oscoda	60	3.5	47	5.8	16	5.8	48	14.0	1	32.0	(D)	(D)
Otsego	108	5.0	78	5.9	41	12.1	311	5.6	10	23.1	21	20.9
Ottawa	1 027	3.0	4 005	4.0	592	5.5	45 110	1.0	186	11.6	6 979	5.8
Presque Isle	227	6.5	258	11.9	82	13.4	782	13.1	42	33.9	30	24.2
Roscommon	26	4.9	9	5.1	5	10.8	(D)	(D)	—	—	—	—
Saginaw	804	4.6	870	5.3	287	10.4	4 924	9.0	89	20.8	312	21.8
St. Clair	518	6.8	452	5.6	152	14.1	2 839	4.6	53	33.3	80	34.4
St. Joseph	501	5.2	1 372	3.9	219	11.8	4 486	5.8	46	25.9	698	7
Sanilac	1 044	3.6	2 043	5.2	435	7.7	8 297	4.3	97	18.5	1 703	4.5
Schoolcraft	34	4.0	29	1.7	20	4.3	119	1.3	5	11.0	2	10.4
Shiawassee	571	6.6	629	6.8	260	11.7	2 717	3.4	53	33.0	98	14.5
Tuscola	768	4.4	1 053	4.9	405	7.7	7 821	5.4	60	20.7	200	18.2
Van Buren	813	3.7	1 509	7.3	446	7.6	17 191	3.0	192	14.4	1 204	8.8
Washtenaw	704	5.0	1 021	5.4	289	10.6	5 459	5.8	88	24.3	222	14.6
Wayne	160	11.8	395	4.5	120	15.3	5 460	2.9	21	40.2	702	48.2
Wexford	154	5.6	152	7.8	60	10.6	979	6.0	34	16.0	206	8.0

Geographic area	Farm production expenses ¹ —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)
Michigan	37 918	1.1	209 298	1.0	13 520	1.8	53 082	1.7	18 209	1.5	189 849	1.1
Alcona	187	4.0	516	11.8	51	19.9	41	27.6	68	13.1	293	19.5
Alger	46	4.0	117	6.4	16	6.3	8	6.4	23	5.6	109	5.9
Allegan	1 083	3.0	7 523	2.6	391	8.6	3 050	7.3	620	5.9	8 772	3.2
Alpena	301	6.6	919	13.6	58	24.8	127	18.8	163	12.8	869	11.3
Antrim	213	4.9	920	4.1	51	16.7	160	3.3	85	10.1	889	5.1
Arenac	252	4.8	1 345	7.5	94	14.9	210	13.0	126	12.7	1 103	6.0
Baraga	46	3.6	92	5.5	12	6.7	11	8.6	10	7.8	43	15.3
Barry	625	5.0	3 049	5.2	228	12.7	1 088	9.2	322	9.1	3 365	9.8
Bay	610	3.2	4 339	3.7	261	9.9	871	14.1	330	6.4	3 385	4.6
Benzie	124	3.1	402	8.9	26	17.8	52	6.7	70	8.6	387	8.5
Berrien	1 029	2.7	4 640	6.2	405	7.8	1 842	5.4	451	7.8	3 691	6.9
Branch	793	3.7	4 457	5.4	301	10.8	1 142	5.6	353	7.8	4 356	4.3
Calhoun	826	3.4	3 501	5.0	301	11.0	982	10.6	371	8.0	3 718	8.3
Cass	625	2.8	3 112	8.9	226	11.5	1 174	6.4	320	7.8	5 115	5.5
Charlevoix	148	4.2	367	6.7	29	17.1	57	36.3	50	11.7	250	17.1
Cheboygan	163	3.5	423	4.6	43	12.4	39	12.1	50	9.3	234	8.0
Chippewa	265	5.7	664	8.4	55	25.7	50	31.7	106	15.9	510	24.0
Clare	245	7.0	670	6.5	100	16.7	150	20.3	166	10.9	1 266	6.5
Clinton	1 003	2.5	5 574	3.5	475	6.9	1 352	7.7	490	6.5	4 835	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	Farm production expenses ¹ —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)
Crawford	22	6.1	25	6.5	3	13.4	7	19.5	9	9.8	21	12.7
Delta	213	4.5	714	8.7	30	28.2	48	15.6	88	15.0	421	13.9
Dickinson	99	2.3	334	2.5	23	4.5	24	5.9	42	2.9	230	2.7
Eaton	904	3.1	3 847	4.5	326	10.5	777	11.9	397	7.0	3 088	5.9
Emmet	178	3.1	546	10.2	30	17.7	15	18.1	63	10.1	246	14.2
Genesee	627	4.3	2 213	6.1	178	14.6	329	19.0	242	12.6	1 968	12.3
Gladwin	313	7.5	625	10.7	92	24.2	104	20.0	193	12.7	640	19.6
Gogebic	37	4.0	57	7.3	3	17.4	(D)	(D)	8	10.1	21	9.4
Grand Traverse	328	4.9	1 396	6.8	144	12.7	242	11.6	120	12.9	786	14.0
Gratiot	766	3.4	5 674	3.9	273	11.4	1 236	7.5	446	7.6	4 991	4.0
Hillsdale	870	4.5	4 004	3.8	414	9.5	1 288	12.3	525	7.4	4 263	9.5
Houghton	105	4.1	279	9.9	21	19.0	30	16.2	44	10.1	142	18.8
Huron	1 039	3.0	10 649	2.8	455	7.9	3 143	11.2	611	5.5	11 457	3.5
Ingham	734	3.2	4 123	6.1	246	12.1	1 271	11.2	338	9.5	3 389	8.2
Ionia	792	3.5	4 813	3.5	400	7.9	1 342	8.0	389	7.9	5 412	4.2
Iosco	203	4.7	609	14.1	39	23.8	41	17.1	43	22.3	263	15.4
Iron	76	2.6	135	3.3	14	6.7	(D)	(D)	25	4.7	61	4.9
Isabella	769	3.2	3 921	3.7	284	10.9	788	7.7	432	7.9	3 080	7.5
Jackson	821	3.2	3 078	5.6	240	12.4	567	8.9	406	8.5	2 737	7.9
Kalamazoo	582	3.7	4 532	2.7	195	12.1	802	16.9	272	8.6	4 824	2.9
Kalkaska	109	2.8	362	3.0	26	5.0	94	1.3	43	4.2	323	2.3
Kent	987	2.4	6 633	4.3	311	9.1	1 106	7.4	364	7.7	5 473	4.6
Keweenaw	5	—	3	—	—	—	—	—	3	—	3	—
Lake	85	7.0	207	15.9	12	24.2	12	15.8	33	12.8	118	20.7
Lapeer	860	3.2	4 056	10.1	324	10.5	645	11.8	356	9.5	2 826	7.7
Leelanau	323	4.3	1 660	5.6	113	14.5	429	32.2	147	11.7	1 296	11.2
Lenawee	1 110	2.7	6 477	4.5	426	8.5	1 355	13.6	606	6.2	6 938	4.8
Livingston	464	5.3	2 207	9.7	139	16.7	434	13.0	195	12.0	1 547	12.8
Luce	23	3.0	94	.3	3	—	(D)	(D)	15	3.9	109	.1
Mackinac	63	3.2	187	1.5	13	6.7	37	3.9	26	3.6	154	1.5
Macomb	453	4.6	2 426	8.4	132	18.3	360	8.6	138	14.1	1 090	13.2
Manistee	236	4.0	878	9.5	41	24.5	73	33.6	110	10.6	585	12.0
Marquette	84	2.9	305	2.6	15	6.0	(D)	(D)	36	4.5	177	3.5
Mason	326	5.1	1 581	5.1	82	21.1	356	9.0	141	15.3	1 203	12.5
Mecosta	434	5.9	1 365	4.9	114	21.4	305	6.8	197	13.1	1 683	7.3
Menominee	305	4.1	1 251	6.5	105	13.8	121	16.7	155	9.8	1 260	9.2
Midland	357	4.6	1 170	12.7	107	16.9	258	14.7	123	13.4	1 187	11.9
Missaukee	249	4.6	2 062	3.1	88	11.4	243	10.3	163	6.6	2 208	5.8
Monroe	872	3.2	5 313	4.8	418	8.3	1 507	12.4	411	8.3	4 441	8.1
Montcalm	817	3.3	5 440	4.2	261	10.7	1 736	5.8	429	7.9	4 894	5.1
Montmorency	91	4.2	238	15.5	13	17.5	17	7.4	41	12.7	217	11.1
Muskegon	335	6.2	2 168	2.3	100	18.1	1 068	1.4	127	11.2	1 736	5.1
Newaygo	561	3.8	3 394	11.1	239	12.0	671	24.3	289	8.4	2 813	11.6
Oakland	401	6.3	1 704	6.7	123	17.5	307	23.9	95	17.1	544	18.0
Oceana	479	5.4	3 135	6.2	165	13.1	724	2.1	221	10.4	2 463	5.2
Ogemaw	223	4.9	1 556	3.1	53	17.5	137	4.6	90	10.9	1 056	10.3
Ontonagon	77	2.8	205	3.6	19	4.9	14	8.6	32	4.0	176	4.8
Osceola	408	4.1	1 437	6.8	84	20.2	132	40.2	164	14.1	1 103	18.8
Oscoda	63	3.4	158	5.1	13	7.3	(D)	(D)	30	4.6	111	6.7
Otsego	119	3.8	423	7.4	22	18.9	105	7.9	50	10.5	213	13.4
Ottawa	1 140	2.2	9 909	2.4	524	6.7	2 807	3.0	635	5.0	10 511	3.4
Presque Isle	238	5.8	740	7.8	77	22.2	99	10.7	99	17.0	877	13.9
Roscommon	24	5.0	60	3.8	3	17.9	2	17.8	8	9.5	20	16.4
Saginaw	1 005	2.7	6 370	4.1	400	8.2	1 158	11.1	566	6.3	5 391	6.5
St. Clair	748	4.1	2 885	6.4	195	14.9	643	16.0	271	10.8	1 316	9.4
St. Joseph	578	4.8	4 863	4.3	315	9.0	2 757	10.3	373	7.7	5 336	4.6
Sanilac	1 205	2.9	9 266	3.2	464	8.0	1 978	7.8	666	5.8	8 094	4.7
Schoolcraft	42	3.6	122	2.6	12	6.9	15	3.3	20	4.3	86	2.5
Shiawassee	800	3.2	3 834	5.9	241	12.7	485	14.9	386	8.3	2 687	7.1
Tuscola	949	3.1	7 021	4.4	395	7.3	2 941	5.8	542	6.0	6 917	3.9
Van Buren	894	3.0	5 533	3.5	347	9.2	2 358	5.9	423	8.3	5 080	8.3
Washtenaw	882	3.1	4 236	5.1	339	9.7	682	11.9	335	9.9	3 237	8.0
Wayne	240	6.8	1 595	6.4	67	18.6	351	18.3	105	12.0	853	12.1
Wexford	192	4.1	567	6.1	47	14.7	31	11.8	83	10.4	266	7.9

Geographic area	Farm production expenses ¹ —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)
Michigan	12 983	1.8	162 012	1.2	43 608	.9	114 049	1.1	40 748	1.0	315 391	.8
Alcona	58	14.3	82	14.4	202	2.5	337	8.5	191	4.1	425	7.8
Alger	17	6.2	40	8.2	59	3.6	83	4.3	56	3.8	272	5.7
Allegan	366	8.4	5 780	5.0	1 292	1.2	3 824	3.1	1 229	1.8	15 136	2.3
Alpena	114	14.9	755	14.8	387	2.9	548	9.7	373	3.6	1 287	9.3

See footnotes at end of table.

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

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

Geographic area	Farm production expenses ¹ —Con.											
	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)
Antrim	34	21.1	417	1.3	255	2.3	624	4.7	238	3.1	1 320	6.6
Arenac	112	11.3	1 349	9.6	319	1.3	719	5.7	283	4.0	1 531	7.4
Baraga	11	7.4	19	14.4	53	3.2	84	3.8	45	3.4	120	14.5
Barry	176	11.3	2 505	4.7	852	1.4	1 782	4.7	680	4.1	4 510	2.0
Bay	318	7.0	5 289	5.1	658	3.0	2 107	4.9	636	3.2	4 450	6.5
Benzie	18	18.5	119	24.0	139	1.7	245	3.7	125	3.2	528	9.7
Berrien	358	9.1	3 497	7.4	1 084	2.3	2 550	4.7	1 025	2.5	7 632	3.6
Branch	271	9.5	4 490	7.9	907	2.1	2 412	4.2	875	2.9	5 839	3.2
Calhoun	290	8.7	2 873	6.0	1 035	1.8	2 896	5.5	974	2.4	6 129	4.6
Cass	242	11.1	3 015	7.7	642	3.1	1 969	5.8	661	2.3	5 072	7.4
Charlevoix	32	14.8	76	7.8	187	1.8	263	6.2	151	3.9	415	10.3
Cheboygan	37	8.9	64	10.2	205	1.5	291	5.4	181	2.6	450	4.1
Chippewa	82	20.7	119	28.1	319	.9	355	9.3	274	4.8	603	13.0
Clare	79	14.2	208	13.5	346	1.7	500	5.9	285	5.3	1 251	3.8
Clinton	398	7.8	4 487	5.4	1 040	2.3	2 925	4.5	999	2.4	6 257	4.2
Crawford	2	20.1	(D)	(D)	27	5.5	37	7.2	22	6.3	33	9.3
Delta	51	19.7	189	39.9	240	2.9	403	6.8	206	5.3	752	6.5
Dickinson	25	4.0	46	3.6	111	2.3	171	2.4	103	2.3	505	2.4
Eaton	297	8.4	3 103	6.3	1 002	2.3	2 393	4.1	1 001	1.8	4 391	3.3
Emmet	44	9.5	93	8.9	202	1.9	407	9.7	170	3.6	642	9.2
Genesee	170	16.2	1 483	4.7	766	1.9	1 645	5.0	682	3.1	3 104	17.8
Gladwin	118	20.4	508	59.3	405	3.2	591	7.4	352	4.6	590	15.1
Gogebic	3	13.5	(Z)	23.9	46	3.6	44	4.3	40	3.8	29	6.4
Grand Traverse	49	19.5	329	24.9	374	3.8	1 069	8.4	370	3.8	1 860	9.1
Gratiot	259	11.8	4 782	4.7	787	3.1	2 249	5.0	737	3.5	6 896	2.0
Hillsdale	333	8.4	4 794	9.8	1 189	2.0	2 087	4.5	1 016	3.5	4 119	5.6
Houghton	26	13.8	29	25.1	128	1.8	189	8.4	100	4.1	279	13.9
Huron	472	6.6	11 850	4.3	1 091	2.6	4 601	3.1	1 067	2.7	10 920	3.0
Ingham	242	11.0	3 116	11.7	782	2.5	2 637	3.5	762	2.9	4 781	3.1
Ionia	258	9.7	3 795	7.9	986	1.4	2 473	3.3	903	2.3	7 618	3.4
Iosco	42	18.2	136	25.6	228	2.6	286	6.1	211	4.1	614	10.3
Iron	27	4.3	29	2.9	81	2.6	111	2.7	74	2.7	233	3.0
Isabella	242	11.8	2 227	4.0	880	1.9	1 827	4.8	796	3.0	4 475	4.5
Jackson	267	10.9	1 872	6.0	928	2.2	2 135	4.3	876	2.6	3 362	6.4
Kalamazoo	208	9.3	2 579	6.0	679	1.4	2 108	3.6	608	3.0	10 289	1.4
Kalkaska	13	6.6	133	1.6	135	2.6	243	2.4	114	2.8	425	3.5
Kent	320	9.4	3 123	8.7	1 088	1.7	3 581	3.8	1 023	2.2	17 176	1.4
Keweenaw	—	—	—	—	5	—	3	—	5	—	1	—
Lake	19	14.1	27	10.5	123	2.6	246	6.4	98	5.0	166	11.5
Lapeer	330	8.9	2 801	4.3	994	1.6	2 209	5.2	854	3.4	5 374	4.4
Leelanau	52	25.2	836	18.1	354	2.8	1 176	12.5	340	2.1	2 315	12.6
Lenawee	443	6.8	10 388	6.2	1 204	1.9	3 651	4.1	1 195	2.0	5 944	2.6
Livingston	173	10.8	1 502	8.4	598	2.5	1 729	5.9	560	3.3	2 567	11.9
Luce	8	—	(D)	31	31	2.7	38	1.6	24	2.1	100	.3
Mackinac	27	3.5	27	3.0	67	3.2	88	3.4	63	3.1	461	1.1
Macomb	147	15.8	957	12.0	490	2.7	1 445	6.0	481	3.2	6 069	2.3
Manistee	48	21.7	136	31.9	266	3.0	504	7.8	263	3.0	767	6.2
Marquette	12	6.4	13	3.1	106	2.6	189	2.8	94	2.8	295	2.8
Mason	103	17.1	689	9.5	404	2.2	792	7.4	350	4.4	2 489	13.9
Mecosta	135	15.3	483	11.8	576	1.8	907	5.6	510	4.6	2 046	3.8
Menominee	115	11.4	282	7.8	341	1.8	611	4.1	323	2.7	1 629	7.7
Midland	87	17.4	1 282	4.6	382	3.2	1 029	11.8	366	4.2	1 408	10.4
Missaukee	116	9.3	496	5.1	328	1.3	945	3.3	286	3.7	3 754	3.2
Monroe	426	7.6	6 759	6.0	979	2.3	2 860	5.2	980	2.4	8 146	3.9
Montcalm	272	9.1	4 436	2.9	888	2.2	2 194	4.7	851	2.9	7 819	3.1
Montmorency	16	21.5	50	8.3	98	2.3	93	7.3	92	4.7	340	10.1
Muskegon	81	17.6	645	7.2	390	2.4	1 043	6.5	320	4.1	4 289	2.0
Newaygo	222	9.2	975	11.9	632	2.5	1 618	9.5	563	3.6	4 870	9.4
Oakland	108	17.5	1 112	7.4	507	3.0	1 769	7.3	469	4.3	5 275	2.6
Oceana	123	15.0	1 066	4.4	562	1.6	1 357	4.6	549	2.9	4 298	3.0
Ogemaw	94	10.1	324	8.9	256	1.2	503	5.0	228	4.7	2 124	3.5
Ontonagon	26	4.4	27	2.8	92	2.6	132	2.7	83	2.7	237	3.6
Osceola	131	13.7	421	13.4	482	1.9	1 079	11.3	428	4.0	1 953	3.1
Oscoda	20	5.9	24	17.5	76	3.1	100	5.0	71	3.2	153	5.1
Otsego	29	16.1	94	14.8	137	2.1	267	14.8	133	2.3	361	6.3
Ottawa	341	7.9	6 456	1.9	1 241	1.5	4 224	2.5	1 205	1.9	36 008	1.4
Presque Isle	63	24.8	486	7.1	295	1.1	428	3.4	251	4.2	769	4.3
Roscommon	1	38.0	(D)	(D)	35	4.0	52	7.1	32	4.3	48	3.5
Saginaw	389	8.1	6 515	8.4	1 063	2.4	3 233	4.7	1 061	2.3	5 320	4.8
St. Clair	271	10.0	2 000	6.3	905	1.5	1 853	5.8	825	2.8	2 820	4.8
St. Joseph	321	9.1	5 687	4.0	707	3.3	2 281	4.3	737	2.5	5 162	3.7
Sanilac	468	7.0	6 730	3.4	1 380	1.9	4 170	3.9	1 296	2.3	11 033	3.8
Schoolcraft	18	4.6	39	2.7	45	3.6	80	2.0	40	3.7	98	2.9
Shiawassee	258	11.8	2 394	7.7	869	2.2	2 067	5.9	861	2.6	3 947	3.9
Tuscola	364	8.3	8 606	4.4	1 068	2.1	3 634	4.0	1 038	2.1	7 552	4.7
Van Buren	260	10.9	3 783	5.4	1 023	1.7	2 973	5.3	916	2.9	10 992	2.4
Washtenaw	300	8.7	2 834	10.9	959	2.3	3 321	4.6	930	2.8	5 680	9.8
Wayne	58	19.1	1 011	9.3	268	4.5	858	15.7	246	7.1	3 292	3.3
Wexford	27	14.7	143	7.1	246	2.0	497	3.7	217	3.5	1 098	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	Irrigated land				Livestock and poultry							
	Farms		Acres		Cattle and calves inventory				Beef cows inventory			
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	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)
Michigan	3 752	.9	393 485	.4	15 468	1.0	1 025 702	.8	7 566	.9	116 399	1.0
Alcona	4	10.4	(D)	(D)	105	1.6	4 744	1.7	76	2.0	1 619	2.2
Alger	5	11.7	29	16.8	25	4.0	2 060	5.2	14	6.0	325	9.4
Allegan	185	1.7	12 948	.8	474	1.1	41 416	.8	190	1.9	2 701	2.7
Alpena	13	5.4	516	10.0	206	1.2	10 494	1.3	128	1.7	1 970	2.3
Antrim	38	3.2	2 971	.9	77	2.2	4 686	2.2	42	3.3	875	2.7
Arenac	10	6.2	870	.3	82	2.3	7 177	1.9	27	4.6	430	4.4
Baraga	5	13.7	(D)	(D)	24	3.6	1 327	4.4	14	5.2	425	7.9
Barry	25	4.0	2 253	.9	328	1.2	24 888	.9	209	1.6	3 140	2.7
Bay	65	2.5	5 065	3.2	85	2.4	4 245	1.8	50	3.2	568	3.5
Benzie	16	4.7	210	4.9	42	2.4	1 556	3.6	28	3.5	(D)	(D)
Berrien	196	1.9	10 625	1.0	162	2.2	4 972	2.2	91	2.9	1 130	4.0
Branch	122	2.3	30 563	1.3	353	1.7	24 193	1.0	182	2.2	2 406	2.6
Calhoun	62	3.1	8 962	1.3	375	1.5	19 738	1.3	229	1.9	2 923	2.4
Cass	79	2.5	14 599	1.2	196	1.9	7 082	2.3	116	2.4	2 079	2.6
Charlevoix	13	7.3	56	9.9	81	2.2	3 217	2.9	58	2.8	705	6.0
Cheboygan	11	7.3	72	12.3	93	1.9	5 261	1.8	68	2.4	1 280	3.7
Chippewa	7	9.0	35	15.6	165	1.6	8 429	2.3	113	2.1	2 267	2.3
Clare	6	12.5	(D)	(D)	189	2.0	13 916	2.2	102	2.6	2 583	2.7
Clinton	44	3.5	2 547	1.6	365	1.5	41 204	.7	107	2.6	1 479	2.8
Crawford	1	36.1	(D)	(D)	10	7.9	163	15.8	7	10.6	52	15.0
Delta	16	6.4	903	3.1	136	1.8	7 979	1.9	86	2.4	2 003	2.7
Dickinson	10	6.2	377	8.3	53	2.3	2 630	2.5	35	3.2	730	2.6
Eaton	35	3.7	1 033	1.2	355	1.2	15 879	1.3	211	1.6	3 579	1.9
Emmet	25	5.2	360	5.9	111	1.9	5 852	2.7	74	2.7	1 618	2.9
Genesee	50	4.1	798	2.3	194	2.1	7 526	2.2	106	2.9	1 076	4.9
Gladwin	10	9.2	34	13.2	228	1.7	7 845	2.7	122	2.3	2 192	3.5
Gogebic	1	—	(D)	(D)	19	4.9	251	7.8	15	6.2	110	7.9
Grand Traverse	65	2.4	1 912	3.0	102	2.1	6 072	1.8	44	3.4	1 391	3.4
Gratiot	28	4.7	2 012	4.3	270	1.9	25 575	.9	109	2.9	1 813	4.2
Hillsdale	32	4.1	4 428	2.0	387	2.2	21 633	1.9	163	2.8	1 960	4.0
Houghton	18	5.5	76	5.5	50	2.8	2 123	2.8	33	4.0	418	5.4
Huron	28	5.7	2 270	9.5	450	2.3	59 918	1.2	66	4.1	926	4.9
Ingham	33	4.0	2 369	1.5	278	1.6	21 243	1.2	132	2.4	2 203	5.0
Ionia	31	4.5	2 152	3.0	406	1.4	32 661	1.1	160	2.1	2 800	2.5
Iosco	10	9.5	697	4.8	116	2.0	7 013	2.0	72	2.8	1 659	4.1
Iron	8	5.6	496	3.8	47	2.3	2 038	3.4	38	2.8	991	4.0
Isabella	25	5.5	1 266	5.9	384	1.9	30 100	1.5	170	2.5	2 817	3.1
Jackson	58	3.6	3 475	2.4	339	1.5	21 773	1.1	182	2.0	2 671	2.6
Kalamazoo	144	1.4	18 144	1.5	149	1.9	12 872	1.1	76	2.8	1 996	3.0
Kalkaska	12	6.5	3 657	.6	39	4.1	917	6.3	21	5.5	239	7.7
Kent	128	1.9	6 120	1.5	356	1.4	27 633	1.1	189	2.0	2 769	3.2
Keweenaw	—	—	—	—	3	—	26	—	3	—	14	—
Lake	4	11.9	18	13.7	64	2.3	2 248	4.8	54	2.6	939	5.5
Lapeer	58	4.0	2 308	2.6	402	1.8	23 621	1.6	212	2.1	2 473	3.2
Leelanau	77	2.3	2 362	2.7	64	2.5	5 161	1.8	33	3.9	539	6.0
Lenawee	50	3.1	2 667	2.4	280	1.4	20 026	.9	103	2.5	1 116	3.0
Livingston	47	4.3	1 548	2.1	190	1.9	10 896	1.5	96	2.8	1 139	4.0
Luce	8	4.7	(D)	(D)	13	2.9	1 073	.6	13	2.9	433	.8
Mackinac	3	15.9	(D)	(D)	39	3.2	2 701	1.3	23	4.2	567	2.4
Macomb	93	2.5	1 996	1.4	93	2.8	3 289	2.5	50	4.0	577	4.9
Manistee	39	3.4	3 064	1.4	88	2.4	2 435	4.1	63	2.9	703	5.3
Marquette	4	14.5	29	17.0	43	3.2	2 556	1.7	32	4.0	568	3.0
Mason	54	3.5	3 251	1.8	147	2.3	9 025	2.2	63	3.6	693	5.3
Mecosta	34	3.7	6 822	1.3	297	1.4	15 760	1.3	153	1.9	2 563	2.5
Menominee	6	10.7	100	22.2	197	1.5	18 694	1.4	103	2.0	2 104	2.5
Midland	16	6.6	551	5.5	128	2.1	4 552	1.9	87	2.7	1 011	3.6
Missaukee	22	3.5	2 396	1.6	171	1.4	23 695	.8	63	3.0	1 013	3.1
Monroe	79	2.9	5 047	.9	170	2.3	5 529	2.5	57	3.7	484	4.6
Montcalm	104	2.0	45 345	.4	404	1.4	21 352	1.4	175	2.0	1 813	3.0
Montmorency	3	6.5	(D)	(D)	67	1.1	2 963	1.5	43	1.9	716	2.7
Muskegon	55	3.4	7 661	.5	130	2.1	13 741	1.2	61	3.4	563	5.5
Newaygo	51	3.3	4 319	2.3	341	1.3	22 412	1.2	156	1.9	1 635	2.8
Oakland	75	3.0	586	3.8	81	3.1	2 029	3.5	54	4.0	584	5.6
Oceana	46	3.4	3 238	3.1	160	2.1	11 592	2.3	76	3.2	928	4.2
Ogemaw	7	10.6	102	3.2	158	1.6	20 997	1.0	75	3.0	1 708	4.2
Ononagon	—	—	—	—	49	2.5	3 193	2.5	34	3.4	1 092	3.7
Osceola	16	5.3	1 273	.9	303	1.5	20 059	1.4	181	1.9	3 968	2.7
Oscoda	5	13.5	10	20.7	52	2.6	2 388	4.0	24	4.3	593	7.0
Otsego	8	8.1	723	.3	43	2.7	2 548	3.4	21	4.1	589	5.4
Ottawa	323	1.6	14 811	.8	451	1.4	36 159	.9	184	2.0	2 421	2.6
Presque Isle	22	4.8	3 096	1.8	166	1.6	9 247	1.6	97	2.3	1 867	2.6
Roscommon	4	10.0	182	17.6	14	4.7	428	4.4	10	6.1	256	4.9
Saginaw	41	3.5	2 919	1.3	218	1.8	8 659	1.9	74	2.9	697	3.9
St. Clair	45	4.0	725	5.6	316	1.5	10 084	1.9	206	1.9	2 399	2.7
St. Joseph	224	1.8	91 191	.9	269	1.9	11 680	1.7	119	2.5	1 598	3.4
Sanilac	35	4.9	3 614	2.1	659	1.6	59 423	1.2	184	2.3	2 733	2.9
Schoolcraft	3	16.4	(D)	(D)	22	3.5	1 462	2.0	17	4.6	(D)	(D)
Shiawassee	19	5.7	993	3.9	270	1.8	13 691	1.5	109	2.8	1 105	4.1
Tuscola	44	3.2	9 315	2.6	368	1.4	19 247	1.3	185	1.9	2 060	2.3

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	Irrigated land				Livestock and poultry							
	Farms		Acres		Cattle and calves inventory				Beef cows inventory			
	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)
Van Buren	188	1.9	19 805	1.0	230	1.8	8 413	2.4	141	2.3	1 927	3.3
Washtenaw	83	2.9	4 715	1.4	270	1.5	17 654	1.3	100	2.6	1 317	3.3
Wayne	69	3.2	557	2.3	43	4.8	1 091	1.6	27	6.3	492	1.6
Wexford	14	6.6	254	6.7	89	2.1	3 602	2.1	50	3.1	622	3.4
Livestock and poultry—Con.												
Geographic area	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)
Michigan	3 990	1.3	300 641	.7	2 853	1.0	1 032 014	.4	1 628	1.0	72 107	1.5
Alcona	15	4.6	728	4.5	9	7.1	129	15.5	11	6.0	236	10.2
Alger	9	7.6	491	8.2	6	9.2	35	16.7	2	16.5	(D)	(D)
Allegan	145	1.6	15 816	.7	134	1.9	121 752	.5	46	3.8	2 358	6.2
Alpena	41	2.6	2 551	2.1	24	4.3	519	11.5	24	4.3	437	7.1
Antrim	14	5.4	815	5.4	7	7.0	1 209	3.3	9	7.8	431	12.9
Arenac	25	2.9	2 379	1.7	13	5.9	1 207	11.5	3	11.1	(D)	(D)
Baraga	10	6.7	306	6.8	1	24.9	(D)	(D)	—	—	—	—
Barry	59	2.3	8 843	.6	43	3.6	18 864	1.0	37	4.0	2 096	8.4
Bay	16	4.1	1 325	1.8	12	7.1	554	9.2	6	10.1	(D)	(D)
Benzie	3	12.7	(D)	(D)	11	6.9	(D)	(D)	5	4.1	26	1.6
Berrien	25	4.9	1 350	2.0	64	3.3	20 364	1.6	17	6.4	345	9.0
Branch	82	3.0	3 996	1.6	114	2.5	61 982	1.0	44	4.3	1 444	6.5
Calhoun	75	2.7	4 987	1.7	94	2.8	41 965	1.1	50	4.0	1 593	6.9
Cass	26	5.1	1 164	5.9	106	2.2	172 740	.3	44	4.2	1 147	6.1
Charlevoix	13	5.0	773	2.9	6	12.1	20	15.0	7	10.6	81	12.3
Cheboygan	12	3.9	1 538	1.6	11	7.7	245	12.4	7	6.7	361	6.7
Chippewa	30	4.2	1 173	4.3	15	6.6	538	4.8	19	4.8	1 206	8.3
Clare	60	4.0	3 176	2.1	31	5.6	4 550	2.5	11	7.5	695	2.4
Clinton	113	1.9	16 151	.6	67	2.9	20 815	2.2	34	4.6	2 054	8.6
Crawford	—	—	—	—	5	13.3	21	20.8	4	14.3	(D)	(D)
Delta	35	4.0	1 933	3.4	15	6.0	230	11.1	5	13.3	37	18.7
Dickinson	10	4.3	626	4.0	6	8.4	120	16.4	3	10.6	11	11.6
Eaton	71	2.7	2 854	2.5	56	2.9	20 573	1.4	37	4.0	2 194	3.3
Emmet	17	3.8	1 113	2.3	13	7.1	577	14.1	7	9.6	268	14.4
Genesee	27	5.1	1 843	3.5	48	4.2	4 183	8.1	41	4.8	1 024	6.4
Gladwin	76	3.3	1 480	4.3	58	3.7	3 216	6.4	20	6.6	1 074	16.4
Gogebic	—	—	—	—	1	—	(D)	(D)	—	—	—	—
Grand Traverse	13	5.2	670	3.9	17	6.0	3 281	1.3	4	12.4	(D)	(D)
Gratiot	64	2.6	7 220	.9	42	4.0	19 325	1.4	20	6.3	411	8.0
Hillsdale	103	3.4	7 001	1.8	86	3.4	36 181	2.0	50	4.5	1 503	6.6
Houghton	13	4.7	530	3.8	5	11.9	17	14.5	5	11.2	116	16.5
Huron	188	2.7	13 275	1.6	69	2.7	80 889	.4	10	8.0	242	20.6
Ingham	80	2.6	6 097	1.4	40	4.2	6 769	4.4	48	3.9	2 105	4.5
Ionia	100	2.2	10 772	1.0	77	3.0	19 484	1.3	37	4.3	895	6.5
Iosco	25	4.3	1 728	2.8	11	8.9	172	12.4	19	6.5	567	9.2
Iron	5	9.8	126	12.3	6	9.2	59	11.7	3	8.3	(D)	(D)
Isabella	125	2.7	9 860	1.6	49	4.2	7 833	5.0	7	11.5	295	14.5
Jackson	47	3.0	3 936	1.6	71	3.2	9 393	4.0	51	4.1	1 982	7.6
Kalamazoo	17	3.8	3 157	1.4	53	2.9	50 323	1.0	42	3.5	7 204	4.0
Kalkaska	6	13.1	230	13.0	13	7.8	993	4.1	3	16.6	107	18.0
Kent	93	2.3	9 097	1.0	52	3.8	7 949	3.2	27	5.7	523	8.0
Keweenaw	—	—	—	—	—	—	—	—	—	—	—	—
Lake	9	8.1	269	7.1	14	5.9	491	9.2	6	8.6	774	16.4
Lapeer	101	3.2	5 879	2.3	60	3.9	4 354	10.2	50	4.2	1 488	7.1
Leelanau	12	5.1	508	5.1	5	9.9	54	12.1	2	17.9	(D)	(D)
Lenawee	57	2.4	5 441	1.3	70	2.7	13 273	1.4	57	3.3	1 725	3.3
Livingston	47	3.2	3 042	1.8	30	5.2	2 329	14.2	37	4.7	1 229	5.8
Luce	—	—	—	—	—	—	—	—	—	—	—	—
Mackinac	12	5.1	751	1.9	3	—	27	—	1	—	(D)	(D)
Macomb	16	6.4	892	3.4	18	6.5	(D)	(D)	16	7.8	272	12.0
Manistee	7	10.6	116	12.4	13	7.2	414	9.0	9	8.2	367	10.3
Marquette	6	7.0	772	2.2	10	8.0	159	14.1	2	21.9	(D)	(D)
Mason	46	4.0	2 838	3.1	28	4.9	951	4.0	11	8.9	899	26.1
Mecosta	117	2.3	5 257	1.7	62	3.3	11 612	2.7	19	5.8	1 416	17.9
Menominee	88	2.4	6 415	1.7	11	7.5	191	14.1	8	8.5	63	10.8
Midland	13	6.7	704	3.5	34	4.6	4 375	3.7	13	7.8	216	11.9
Missaukee	91	1.7	10 355	.8	17	5.5	2 590	1.3	13	7.1	340	8.5
Monroe	18	6.1	751	6.7	66	3.4	13 788	3.2	36	4.8	1 229	8.2
Montcalm	120	2.5	7 617	1.7	55	3.8	22 737	.8	16	7.6	571	7.8
Montmorency	13	3.1	683	2.6	8	5.6	(D)	(D)	4	6.8	28	3.9
Muskegon	41	3.4	6 677	1.0	25	5.0	6 202	7.5	6	11.2	53	18.7
Newaygo	127	2.3	8 868	1.3	45	3.7	9 690	2.7	17	5.7	1 103	9.0
Oakland	11	7.7	373	5.1	9	10.2	418	8.5	35	5.2	967	7.4
Oceana	48	3.9	3 360	2.6	30	5.1	2 380	7.5	11	8.7	89	9.3

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)	Number	Relative standard error of estimate (percent)
Ogemaw	58	2.5	5 714	1.3	10	8.0	219	11.3	9	9.3	283	15.7
Ontonagon	17	5.2	682	5.5	—	—	—	—	2	20.3	(D)	(D)
Osceola	85	2.8	5 956	1.8	40	4.4	808	17.7	30	4.8	1 084	13.5
Oscoda	18	5.5	539	6.8	4	12.1	(D)	(D)	13	6.3	610	15.3
Otsego	6	9.2	336	9.7	4	9.9	(D)	(D)	5	11.5	78	10.4
Ottawa	137	2.1	13 177	1.0	96	2.5	69 018	.8	35	4.5	713	8.2
Presque Isle	37	3.5	2 344	2.4	9	8.7	60	11.9	7	8.2	113	4.1
Roscommon	—	—	—	—	2	—	(D)	(D)	2	20.0	(D)	(D)
Saginaw	40	3.4	2 654	2.4	27	5.1	4 277	1.5	25	5.3	433	6.6
St. Clair	38	3.9	1 770	3.3	45	4.2	1 997	4.2	24	5.9	362	8.4
St. Joseph	76	3.5	3 710	1.3	94	2.9	38 684	1.9	51	3.7	3 009	8.2
Sanilac	310	2.0	22 294	1.1	74	3.6	10 339	4.9	22	6.2	567	10.4
Schoolcraft	4	6.7	(D)	(D)	3	14.2	11	15.8	1	30.0	(D)	(D)
Shiawassee	63	3.0	4 555	1.8	70	3.4	2 792	6.3	34	4.9	1 041	6.4
Tuscola	84	2.6	6 015	1.6	55	3.5	10 044	3.0	25	5.1	941	4.7
Van Buren	38	4.0	1 997	3.1	60	3.1	29 477	1.2	22	5.4	1 344	11.9
Washtenaw	64	2.4	4 985	1.5	60	3.1	21 881	2.4	115	2.5	11 315	3.4
Wayne	7	10.1	105	1.9	11	8.8	648	5.7	14	7.9	521	3.6
Wexford	20	4.5	857	3.9	15	6.4	107	9.2	4	11.7	120	20.0

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)
Michigan	2 205	.9	4 928 067	(L)	336	1.7	393 028	5.6
Alcona	11	6.3	317	4.0	—	—	—	—
Alger	4	11.3	75	8.2	—	—	—	—
Allegan	52	3.6	1 374	(L)	10	8.1	795	10.2
Alpena	34	3.7	941	5.2	2	18.3	(D)	(D)
Antrim	18	5.5	318	8.6	5	11.8	155	13.6
Arenac	8	8.2	167	12.5	—	—	—	—
Baraga	1	28.7	(D)	(D)	—	—	—	—
Barry	62	2.9	1 505	6.2	1	23.5	(D)	(D)
Bay	20	5.1	633	7.3	1	27.8	(D)	(D)
Benzie	13	3.6	248	4.7	—	—	—	—
Berrien	40	4.2	674	6.2	4	13.6	(D)	(D)
Branch	34	4.9	671	6.0	4	13.8	(D)	(D)
Calhoun	44	4.3	1 740	10.6	9	10.2	539	10.8
Cass	37	4.5	866	5.6	3	15.8	(D)	(D)
Charlevoix	21	5.6	1 051	13.0	1	27.2	(D)	(D)
Cheboygan	14	6.9	374	7.2	2	14.5	(D)	(D)
Chippewa	13	8.0	295	10.8	1	23.5	(D)	(D)
Clare	35	5.5	1 066	6.7	4	15.0	240	19.1
Clinton	22	4.9	653	5.2	4	14.5	212	19.1
Crawford	3	12.0	(D)	(D)	—	—	—	—
Delta	18	6.6	633	7.8	5	10.4	355	13.0
Dickinson	11	6.8	291	7.0	—	—	—	—
Eaton	49	3.4	3 589	3.6	5	10.1	(D)	(D)
Emmet	24	5.2	511	8.0	4	11.5	452	16.3
Genesee	37	5.0	670	6.2	7	11.7	901	16.1
Gladwin	55	3.9	2 002	5.4	12	8.9	2 953	12.5
Gogebic	1	—	(D)	(D)	—	—	—	—
Grand Traverse	16	5.5	663	6.9	—	—	—	—
Gratiot	26	5.0	(D)	(D)	4	14.3	295	15.4
Hillsdale	63	3.9	(D)	(D)	10	10.1	1 158	13.2
Houghton	18	6.1	(D)	(D)	3	15.0	44	17.6
Huron	18	5.8	500 930	(L)	3	17.7	(D)	(D)
Ingham	41	4.4	2 317	2.3	5	13.1	156	16.0
Ionia	23	5.9	(D)	(D)	4	13.9	655	17.6
Iosco	18	6.8	555	9.8	—	—	—	—
Iron	5	10.2	201	15.5	1	29.4	(D)	(D)
Isabella	33	5.3	703	7.7	3	17.3	470	12.1
Jackson	57	3.5	1 272	4.2	7	11.4	(D)	(D)
Kalamazoo	33	4.2	291 315	(L)	5	10.0	375	22.0
Kalkaska	12	7.7	319	11.1	2	23.3	(D)	(D)
Kent	32	4.9	844	8.8	5	12.0	283	15.3
Keweenaw	—	—	—	—	—	—	—	—
Lake	8	8.2	359	14.2	—	—	—	—
Lapeer	73	3.3	1 787	5.0	14	8.2	(D)	(D)
Leelanau	14	5.1	795	9.6	1	24.2	(D)	(D)
Lenawee	45	3.8	6 980	1.7	5	12.6	870	17.2
Livingston	45	4.4	1 029	6.3	8	10.3	997	16.2
Luce	—	—	—	—	—	—	—	—
Mackinac	6	5.8	524	3.3	—	—	—	—

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.											
	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)				
Macomb	23	5.8	1 042	7.0	2	21.4	(D)	(D)				
Manistee	16	6.1	309	7.9	1	25.1	(D)	(D)				
Marquette	7	10.5	420	9.4	1	35.0	(D)	(D)				
Mason	22	6.2	575	8.0	3	17.4	(D)	(D)				
Mecosta	40	3.9	1 644	6.8	8	9.8	2 428	16.4				
Menominee	21	5.1	436	5.4	1	28.0	(D)	(D)				
Midland	26	5.6	1 050	8.8	4	13.8	775	15.2				
Missaukee	8	8.8	286	14.6	3	15.8	(D)	(D)				
Monroe	51	3.9	2 974	7.9	14	7.8	1 453	15.3				
Montcalm	42	4.3	1 363	5.5	7	12.7	604	16.6				
Montmorency	7	3.9	164	3.2	1	19.6	(D)	(D)				
Muskegon	21	6.3	712	10.6	4	12.6	192	12.8				
Newaygo	40	3.9	914	5.3	5	12.8	(D)	(D)				
Oakland	33	5.3	691	7.0	3	14.3	123	14.8				
Oceana	19	6.8	449	8.9	8	9.0	1 986	20.4				
Ogemaw	14	8.2	234	9.5	2	22.6	(D)	(D)				
Ontonagon	2	19.9	(D)	(D)	—	—	—	—				
Osceola	33	5.0	1 075	7.2	2	26.2	(D)	(D)				
Oscoda	13	7.4	556	13.0	5	12.6	456	17.5				
Otsego	8	9.4	1 057	24.5	2	23.4	(D)	(D)				
Ottawa	43	3.4	1 671 021	(L)	20	6.0	9 166	2.0				
Presque Isle	22	5.6	755	6.8	4	14.3	(D)	(D)				
Roscommon	4	10.0	97	10.3	—	—	—	—				
Saginaw	36	4.2	723	5.6	6	11.8	1 790	14.8				
St. Clair	64	3.4	2 442	5.7	10	8.6	2 474	15.4				
St. Joseph	48	4.0	1 532	5.9	5	13.6	(D)	(D)				
Sanilac	50	4.5	1 874	12.8	11	10.9	919	13.4				
Schoolcraft	3	17.3	71	17.6	—	—	—	—				
Shiawassee	45	4.3	2 947	10.3	12	8.8	1 640	9.8				
Tuscola	50	3.8	(D)	(D)	10	7.6	2 092	13.7				
Van Buren	45	3.8	(D)	(D)	3	16.1	(D)	(D)				
Washtenaw	59	3.4	1 745	4.9	12	6.6	1 955	9.7				
Wayne	16	8.9	729	12.2	1	43.8	(D)	(D)				
Wexford	7	9.5	260	11.8	2	16.2	(D)	(D)				
Geographic area	Selected crops harvested											
	Corn for grain or seed					Wheat for grain						
	Farms		Acres		Quantity	Farms		Acres		Quantity		
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels	Relative standard error of estimate (percent)	
Michigan	16 712	1.3	2 122 283	.8	238 319 129	.7	8 976	1.4	499 742	1.0	28 432 159	.9
Alcona	24	3.8	1 237	2.9	74 183	3.5	15	5.5	595	7.2	26 340	8.0
Alger	—	—	—	—	—	—	1	24.9	(D)	(D)	(D)	(D)
Allegan	490	1.2	71 499	.7	7 864 562	.7	190	1.6	10 185	1.0	645 327	1.0
Alpena	59	2.2	5 735	1.4	461 617	1.2	42	3.0	2 160	2.0	90 999	2.2
Antrim	37	3.0	1 843	2.6	159 829	2.3	7	7.1	117	7.7	4 085	7.5
Arenac	121	1.8	14 348	1.6	1 650 694	1.6	93	2.1	5 430	1.7	334 443	1.5
Baraga	—	—	—	—	—	—	—	—	—	—	—	—
Barry	261	1.4	29 410	1.3	2 873 526	1.3	118	2.1	8 503	1.6	470 784	1.6
Bay	374	1.3	44 992	.9	5 832 241	.9	184	1.7	6 489	1.9	432 136	1.8
Benzie	32	2.9	1 383	1.7	96 529	1.6	2	19.1	(D)	(D)	(D)	(D)
Berrien	291	1.8	43 846	1.2	5 012 867	1.2	98	2.6	4 945	2.0	250 823	2.1
Branch	501	1.7	83 638	1.1	9 823 560	1.1	192	2.2	7 674	2.0	381 062	1.9
Calhoun	533	1.5	71 687	1.3	6 883 919	1.2	256	1.9	13 675	2.2	638 998	1.9
Cass	352	1.5	63 940	1.1	6 785 517	1.0	98	2.3	4 565	1.7	233 719	1.8
Charlevoix	34	3.7	1 812	5.1	121 579	3.8	6	5.1	171	4.4	5 758	3.4
Cheboygan	15	5.5	482	3.4	38 333	3.1	9	7.9	138	9.2	3 962	9.4
Chippewa	1	31.7	(D)	(D)	(D)	(D)	2	11.8	(D)	(D)	(D)	(D)
Clare	57	3.9	3 509	2.0	350 065	1.7	42	4.0	1 250	4.9	61 844	5.2
Clinton	545	1.5	57 880	1.0	6 801 104	1.0	420	1.6	20 203	1.3	1 210 421	1.3
Crawford	3	15.7	33	21.4	1 950	21.8	1	—	(D)	(D)	(D)	(D)
Delta	32	4.3	2 152	4.6	170 250	4.4	5	7.1	891	3.9	29 134	4.8
Dickinson	10	5.9	398	3.7	32 691	4.1	—	—	—	—	—	—
Eaton	447	1.2	62 224	.8	7 066 301	.8	264	1.4	22 315	1.0	1 304 944	1.0
Emmet	35	4.4	1 209	6.3	82 815	5.1	5	10.9	38	11.0	1 347	9.5
Genesee	190	2.0	27 126	1.0	2 753 644	1.0	134	2.4	7 648	1.6	421 823	1.6
Gladwin	142	2.4	7 222	3.2	712 171	3.7	64	3.5	2 859	3.3	136 749	4.4
Gogebic	—	—	—	—	—	—	—	—	—	—	—	—
Grand Traverse	81	2.2	7 039	1.7	561 091	2.0	43	2.9	1 876	2.3	69 771	2.1
Gratiot	494	2.0	76 573	1.2	9 491 547	1.1	228	2.4	11 907	2.3	754 464	2.1
Hillsdale	490	2.4	67 985	1.7	7 580 871	1.6	273	2.7	14 179	2.0	771 233	1.8
Houghton	4	10.8	43	11.4	(D)	(D)	—	—	—	—	—	—
Huron	699	2.3	109 087	1.2	13 655 552	1.1	491	2.5	30 967	1.7	2 058 462	1.7
Ingham	296	1.6	49 310	.9	5 403 825	.9	213	1.8	18 481	1.1	1 056 354	1.1
Ionia	521	1.4	63 232	1.0	7 370 009	.9	324	1.7	20 852	1.2	1 161 818	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											
	Corn for grain or seed					Wheat 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)
Iosco	49	3.1	2 837	4.1	260 653	3.9	22	4.5	905	5.5	60 386	5.8
Iron	1	22.9	(D)	(D)	(D)	(D)	2	—	(D)	(D)	(D)	(D)
Isabella	381	2.1	42 012	1.6	4 320 231	1.6	228	2.4	11 156	2.3	573 483	2.3
Jackson	440	1.5	53 883	1.3	5 202 067	1.3	193	2.2	9 598	1.7	464 683	1.8
Kalamazoo	272	1.4	49 764	1.0	5 375 459	.8	106	2.0	7 422	1.5	364 480	1.5
Kalkaska	23	4.9	1 099	3.6	103 904	3.0	4	10.5	(D)	(D)	(D)	(D)
Kent	373	1.4	42 188	1.0	4 550 863	1.0	155	1.9	6 918	1.6	361 368	1.5
Keweenaw	—	—	—	—	—	—	—	—	—	—	—	—
Lake	16	6.1	319	4.4	22 870	4.3	5	10.8	68	11.7	3 850	13.0
Lapeer	316	2.2	40 124	1.4	4 256 713	1.3	191	2.5	7 929	2.5	419 911	2.5
Leelanau	47	2.8	3 826	2.9	349 863	2.8	12	4.1	275	4.2	8 476	3.9
Lenawee	631	1.1	92 720	.8	11 718 484	.8	484	1.3	35 396	1.0	2 308 403	1.0
Livingston	164	2.0	23 948	1.6	2 430 321	1.5	99	2.5	6 184	1.5	292 915	1.7
Luce	4	—	41	—	4 270	—	—	—	—	—	—	—
Mackinac	1	—	(D)	(D)	(D)	(D)	6	9.3	77	6.0	3 096	4.0
Macomb	127	2.3	11 379	2.2	1 241 058	2.2	114	2.6	4 342	3.1	222 756	3.2
Manistee	50	3.4	1 519	7.0	117 319	8.3	5	10.9	500	3.3	20 060	3.3
Marquette	1	—	(D)	(D)	(D)	(D)	1	—	(D)	(D)	(D)	(D)
Mason	123	2.5	10 058	2.2	943 540	2.1	96	2.9	4 284	2.7	222 836	2.5
Mecosta	181	1.8	12 061	2.1	1 105 855	1.8	58	3.1	1 409	3.6	61 037	3.4
Menominee	74	2.5	6 763	1.8	544 167	1.8	2	18.0	(D)	(D)	(D)	(D)
Midland	173	1.8	20 477	1.5	2 249 613	1.5	52	3.4	1 899	4.6	117 079	5.3
Missaukee	72	1.8	6 418	1.1	643 890	1.1	27	3.4	771	3.6	42 958	3.2
Monroe	489	1.8	59 851	1.3	7 843 209	1.3	408	1.9	25 646	1.6	1 630 969	1.5
Montcalm	419	1.6	52 909	1.1	5 920 893	1.1	160	2.3	14 383	1.5	678 115	1.4
Montmorency	13	3.1	1 569	4.5	151 095	4.9	15	3.1	710	7.4	32 061	9.3
Muskegon	128	2.2	14 635	1.8	1 500 850	1.7	41	3.8	1 893	4.3	97 580	4.9
Newaygo	259	1.6	22 778	1.4	2 354 588	1.3	73	2.7	1 802	3.3	83 684	3.5
Oakland	54	3.5	7 073	2.5	654 155	2.5	32	3.9	2 500	2.4	112 663	2.9
Oceana	171	2.0	10 646	1.9	941 491	1.9	58	3.1	1 840	2.8	90 093	3.0
Ogemaw	79	2.4	6 706	1.2	680 743	1.2	27	4.1	1 570	3.9	99 852	3.7
Ontonagon	—	—	—	—	—	—	1	—	(D)	(D)	(D)	(D)
Osceola	74	2.9	4 111	1.4	389 483	1.3	21	4.9	497	3.7	23 135	2.7
Oscoda	8	9.9	388	7.0	27 615	6.3	2	20.8	(D)	(D)	(D)	(D)
Otsego	19	5.1	563	10.3	37 327	11.0	13	5.3	289	5.1	8 695	5.0
Ottawa	410	1.7	42 224	1.1	4 862 900	1.0	199	2.0	6 118	1.6	318 173	1.6
Presque Isle	76	2.4	4 985	2.5	417 090	2.6	32	3.6	1 611	2.8	58 179	2.5
Roscommon	—	—	—	—	—	—	—	—	—	—	—	—
Saginaw	671	1.4	82 406	.9	9 886 948	.9	375	1.5	17 280	1.5	1 093 064	1.6
St. Clair	242	1.8	18 226	1.8	1 881 850	1.8	231	1.8	11 136	1.5	568 561	1.4
St. Joseph	479	1.6	94 519	.9	11 840 274	.8	72	3.3	2 402	3.5	119 090	3.3
Sanilac	669	1.7	90 245	1.0	10 394 096	.9	472	1.8	31 433	1.3	1 808 861	1.3
Schoolcraft	4	10.7	214	8.0	21 740	8.3	2	13.3	(D)	(D)	(D)	(D)
Shiawassee	426	1.7	45 943	1.5	4 846 427	1.4	356	1.9	21 835	1.8	1 188 692	1.8
Tuscola	591	1.4	78 793	.9	9 505 971	.9	276	1.7	16 831	1.3	1 120 706	1.3
Van Buren	229	1.9	34 695	1.4	3 197 253	1.4	50	3.2	2 539	3.8	130 130	3.8
Washtenaw	429	1.3	47 511	1.2	4 951 383	1.2	339	1.5	17 399	1.3	947 230	1.3
Wayne	49	3.5	6 258	1.1	623 444	.8	32	4.0	1 606	1.6	72 113	1.6
Wexford	34	3.5	2 632	1.9	224 342	2.1	7	9.2	69	11.1	2 433	11.2

Geographic area	Selected crops harvested—Con.											
	Soybeans for beans					Dry edible beans						
	Farms		Acres		Quantity	Farms		Acres		Quantity		
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Hundredweight	Relative standard error of estimate (percent)
Michigan	12 561	1.3	1 694 872	1.0	62 242 411	.9	2 172	1.6	302 767	.9	4 878 076	.9
Alcona	5	8.7	215	5.8	4 440	6.8	13	6.2	1 107	7.6	13 628	8.6
Alger	1	24.9	(D)	(D)	(D)	(D)	—	—	(D)	(D)	(D)	(D)
Allegan	235	1.5	33 913	1.2	1 323 641	1.0	1	—	(D)	(D)	(D)	(D)
Alpena	6	7.1	339	6.3	6 063	4.8	17	3.5	3 679	2.3	37 727	1.7
Antrim	—	—	—	—	—	—	1	20.4	(D)	(D)	(D)	(D)
Arenac	98	2.1	8 408	2.5	293 071	2.8	67	2.5	8 663	2.0	134 784	1.9
Baraga	—	—	—	—	—	—	—	—	—	—	—	—
Barry	157	1.8	20 905	1.6	747 937	1.7	1	28.0	(D)	(D)	(D)	(D)
Bay	397	1.3	35 768	1.3	1 405 659	1.4	266	1.5	33 331	1.0	560 713	1.0
Benzie	—	—	—	—	—	—	—	—	—	—	—	—
Berrien	303	1.7	41 765	1.3	1 582 827	1.3	—	—	—	—	—	—
Branch	391	1.7	52 500	1.4	2 126 596	1.3	3	15.3	215	8.3	2 700	9.3
Calhoun	459	1.6	48 722	1.4	1 837 575	1.4	2	12.6	(D)	(D)	(D)	(D)
Cass	288	1.6	37 699	1.5	1 391 697	1.4	—	—	—	—	—	—
Charlevoix	—	—	—	—	—	—	—	—	—	—	—	—
Cheboygan	1	29.0	(D)	(D)	(D)	(D)	2	12.1	(D)	(D)	(D)	(D)
Chippewa	—	—	—	—	—	—	—	—	—	—	—	—
Clare	11	7.0	460	5.8	12 215	3.1	1	31.6	(D)	(D)	(D)	(D)
Clinton	601	1.5	70 045	1.3	2 614 109	1.3	13	5.9	1 221	3.3	17 114	3.3

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						Dry edible beans					
	Farms		Acres		Quantity		Farms		Acres		Quantity	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Hundredweight	Relative standard error of estimate (percent)
Crawford	—	—	—	—	—	—	—	—	—	—	—	—
Delta	3	8.4	590	9.4	13 520	12.0	6	10.7	1 062	8.7	11 290	8.3
Dickinson	—	—	—	—	—	—	—	—	—	—	—	—
Eaton	380	1.2	55 355	.9	2 073 950	.9	19	4.0	1 473	3.4	16 050	3.0
Emmet	—	—	—	—	—	—	—	—	—	—	—	—
Genesee	212	1.9	32 355	1.5	1 021 645	1.4	7	8.0	861	5.5	11 260	5.5
Gladwin	24	5.4	1 415	5.8	44 839	5.9	17	5.9	1 761	4.5	25 726	5.0
Gogebic	—	—	—	—	—	—	—	—	—	—	—	—
Grand Traverse	9	6.0	338	6.0	6 852	6.5	3	11.6	(D)	(D)	(D)	(D)
Gratiot	494	1.9	77 248	1.6	2 947 133	1.5	137	2.4	20 712	1.1	311 063	1.0
Hillsdale	461	2.4	62 120	1.9	2 384 960	1.9	—	—	—	—	—	—
Houghton	—	—	—	—	—	—	2	17.2	(D)	(D)	(D)	(D)
Huron	356	2.5	35 377	1.7	1 225 714	1.5	577	2.3	91 450	1.4	1 539 326	1.4
Ingham	305	1.6	48 705	1.2	1 755 431	1.1	4	9.1	(D)	(D)	(D)	(D)
Ionia	375	1.6	49 949	1.2	1 988 723	1.2	7	9.6	1 021	3.1	14 523	3.5
Iosco	17	6.3	801	10.1	26 776	11.8	1	24.7	(D)	(D)	(D)	(D)
Iron	—	—	—	—	—	—	—	—	—	—	—	—
Isabella	289	2.2	32 446	1.9	1 122 410	2.0	74	3.6	7 920	2.8	109 863	3.5
Jackson	231	2.0	26 859	1.7	930 885	1.7	1	27.0	(D)	(D)	(D)	(D)
Kalamazoo	229	1.5	32 025	1.3	1 208 891	1.2	4	6.0	484	2.7	6 026	2.6
Kalkaska	—	—	—	—	—	—	2	14.0	(D)	(D)	(D)	(D)
Kent	123	2.1	14 120	1.6	526 560	1.6	17	5.6	2 876	2.3	50 270	2.2
Keweenaw	—	—	—	—	—	—	—	—	—	—	—	—
Lake	—	—	—	—	—	—	—	—	—	—	—	—
Lapeer	207	2.4	28 400	2.0	940 492	1.9	20	5.3	2 863	2.5	87 742	1.2
Leelanau	—	—	—	—	—	—	—	—	—	—	—	—
Lenawee	692	1.1	124 489	.9	5 141 670	.9	4	11.8	217	4.9	3 916	4.9
Livingston	112	2.3	13 693	2.1	504 644	2.0	1	—	(D)	(D)	(D)	(D)
Luce	—	—	—	—	—	—	—	—	—	—	—	—
Mackinac	1	—	(D)	(D)	(D)	(D)	1	—	(D)	(D)	(D)	(D)
Macomb	172	2.0	23 844	2.4	808 061	2.4	—	—	—	—	—	—
Manistee	1	28.7	(D)	(D)	(D)	(D)	4	6.8	956	2.8	15 895	2.0
Marquette	2	17.5	(D)	(D)	(D)	(D)	—	—	—	—	—	—
Mason	22	6.2	1 090	6.6	36 515	7.2	2	15.3	(D)	(D)	(D)	(D)
Mecosta	4	6.3	152	19.9	(D)	(D)	14	5.6	2 406	5.7	38 395	6.4
Menominee	4	9.7	104	6.2	3 120	5.4	1	27.5	(D)	(D)	(D)	(D)
Midland	152	2.0	16 244	2.2	619 812	2.2	40	3.6	4 892	2.4	82 263	2.3
Missaukee	1	—	(D)	(D)	(D)	(D)	3	9.4	(D)	(D)	(D)	(D)
Monroe	639	1.6	91 890	1.4	3 563 077	1.4	4	10.7	300	3.4	3 884	5.3
Montcalm	118	2.6	14 081	2.6	496 302	2.3	119	2.4	17 675	1.6	273 964	1.5
Montmorency	5	6.5	111	7.2	3 460	7.8	5	7.4	471	7.8	4 870	9.3
Muskegon	23	5.3	3 453	2.9	112 720	2.9	—	—	—	—	—	—
Newaygo	33	4.3	1 604	4.6	52 597	4.6	2	17.9	(D)	(D)	(D)	(D)
Oakland	25	4.8	4 432	3.6	138 161	4.1	1	21.2	(D)	(D)	(D)	(D)
Oceana	14	6.8	803	7.4	20 162	8.5	4	12.9	255	8.9	(D)	(D)
Ogemaw	4	12.5	308	18.2	3 800	12.9	—	—	—	—	—	—
Ontonagon	—	—	—	—	—	—	—	—	—	—	—	—
Osceola	2	14.2	(D)	(D)	(D)	(D)	—	—	—	—	—	—
Oscoda	—	—	—	—	—	—	—	—	—	—	—	—
Otsego	3	13.6	19	15.4	155	15.1	1	—	(D)	(D)	(D)	(D)
Ottawa	132	2.4	9 232	1.9	369 525	1.9	2	14.2	(D)	(D)	(D)	(D)
Presque Isle	8	5.7	653	4.4	19 357	3.5	28	4.1	2 737	3.6	30 688	3.6
Roscommon	—	—	—	—	—	—	—	—	—	—	—	—
Saginaw	777	1.3	110 723	1.1	3 836 000	1.0	153	2.0	15 606	1.4	266 520	1.3
St. Clair	386	1.5	64 317	1.4	2 117 505	1.5	7	8.3	1 094	1.1	(D)	(D)
St. Joseph	345	1.7	47 485	1.4	1 912 228	1.4	1	—	(D)	(D)	(D)	(D)
Sanilac	638	1.7	103 213	1.3	3 666 136	1.2	176	2.5	19 103	1.8	286 008	1.8
Schoolcraft	3	8.9	(D)	(D)	6 455	1.9	1	—	(D)	(D)	(D)	(D)
Shiawassee	535	1.6	81 564	1.5	2 578 669	1.5	7	10.1	145	11.5	2 171	11.9
Tuscola	475	1.5	57 939	1.2	2 138 823	1.2	305	1.7	54 397	1.0	868 803	1.0
Van Buren	154	2.2	24 702	2.0	811 635	1.8	1	26.8	(D)	(D)	(D)	(D)
Washtenaw	353	1.4	38 716	1.2	1 389 030	1.2	—	—	—	—	—	—
Wayne	57	3.5	10 498	2.1	313 781	1.4	—	—	—	—	—	—
Wexford	1	28.4	(D)	(D)	(D)	(D)	—	—	—	—	—	—

Geographic area	Selected crops harvested—Con.									
	Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)					Vegetables harvested for sale (see text)				
	Farms		Acres		Quantity	Farms		Acres		
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons, dry	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Michigan	20 858	.9	1 264 350	.9	2 830 915	.9	2 498	1.0	128 349	.5
Alcona	155	1.0	13 757	1.6	24 116	1.7	5	10.7	24	14.8
Alger	45	2.4	5 744	4.2	8 345	4.1	5	12.0	7	12.5
Allegan	590	1.1	32 306	1.0	82 285	1.1	86	2.5	6 982	1.3
Alpena	290	.8	21 386	1.4	38 426	1.3	18	5.1	133	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	Selected crops harvested—Con.									
	Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)						Vegetables harvested for sale (see text)			
	Farms		Acres		Quantity		Farms		Acres	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons, dry	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
Antrim	133	1.4	9 979	1.7	17 502	2.0	20	4.6	174	6.3
Arenac	121	1.9	9 751	2.0	20 428	2.3	27	4.0	1 857	2.7
Baraga	44	2.0	5 001	5.4	6 763	5.0	2	12.5	(D)	(D)
Barry	461	1.0	27 239	1.3	73 242	1.4	19	6.0	128	10.7
Bay	140	1.8	5 930	1.5	15 690	1.8	67	2.5	2 559	2.0
Benzie	53	2.1	1 704	3.5	2 569	3.0	6	7.1	82	8.3
Berrien	241	1.8	7 403	2.2	21 074	2.6	185	2.0	5 903	1.2
Branch	387	1.6	11 855	1.6	32 200	1.7	30	4.5	1 305	3.2
Calhoun	474	1.3	17 979	1.6	44 728	1.6	24	5.9	447	8.2
Cass	327	1.4	12 210	1.9	27 160	2.2	38	4.1	1 222	2.9
Charlevoix	126	1.4	8 396	2.4	15 100	2.7	7	10.0	111	13.9
Cheboygan	151	1.2	13 631	1.5	21 675	1.4	9	7.9	25	9.0
Chippewa	273	.9	43 590	1.5	48 743	1.6	2	21.4	(D)	(D)
Clare	248	1.6	18 077	2.1	35 017	1.8	3	19.1	19	19.0
Clinton	460	1.4	24 176	1.1	75 406	.9	32	4.4	582	4.3
Crawford	13	6.5	291	9.7	364	9.5	3	15.7	23	20.5
Delta	188	1.3	20 473	2.0	33 311	1.9	13	7.4	78	9.0
Dickinson	78	1.8	5 866	2.4	10 594	2.5	4	10.7	(D)	(D)
Eaton	456	1.1	15 887	1.5	42 155	1.7	30	4.0	727	5.3
Emmet	134	1.6	11 712	2.2	18 176	2.5	17	6.4	197	8.2
Genesee	365	1.4	12 565	2.2	27 010	2.7	53	4.0	631	5.9
Gladwin	295	1.4	15 667	2.7	28 027	3.3	14	7.6	96	22.9
Gogebic	32	2.6	1 136	4.8	1 561	5.9	2	—	(D)	(D)
Grand Traverse	161	1.5	9 832	1.5	19 222	1.7	40	3.0	1 537	1.9
Gratiot	260	1.9	13 640	1.9	36 937	1.7	37	3.3	4 522	1.5
Hillsdale	443	2.1	19 977	2.2	57 829	2.2	15	7.2	85	10.3
Houghton	84	1.8	7 630	2.5	11 036	2.6	14	6.0	46	7.0
Huron	445	2.4	25 601	2.0	69 902	2.1	10	8.4	35	16.9
Ingham	396	1.3	18 466	1.4	50 741	1.6	24	5.7	457	6.1
Ionia	488	1.3	27 609	1.2	77 753	1.3	18	6.3	527	5.7
Iosco	153	1.5	11 841	2.2	23 606	2.5	4	15.6	17	17.4
Iron	57	1.7	6 081	3.0	9 699	2.8	3	13.5	12	16.1
Isabella	508	1.6	38 157	1.7	94 320	1.8	14	5.8	1 941	.6
Jackson	504	1.3	22 544	1.7	55 752	1.7	39	4.5	1 086	4.1
Kalamazoo	260	1.3	10 797	2.3	27 096	2.3	49	3.2	1 728	5.6
Kalkaska	56	3.1	3 361	4.6	4 328	5.4	9	8.5	691	.6
Kent	553	1.1	30 713	1.3	78 350	1.2	80	2.7	3 747	1.2
Keweenaw	5	—	45	—	51	—	—	—	—	—
Lake	85	1.7	6 848	3.4	12 387	3.1	2	8.3	(D)	(D)
Lapeer	585	1.5	30 884	1.9	75 668	2.0	53	3.9	3 041	1.8
Leelanau	104	1.7	5 595	2.1	10 768	2.4	18	4.8	273	3.1
Lenawee	343	1.4	13 047	1.5	37 800	1.6	42	3.3	4 135	1.1
Livingston	311	1.4	15 683	1.7	36 663	1.7	37	4.4	1 569	1.0
Luce	18	2.8	2 734	1.6	4 661	1.0	1	—	(D)	(D)
Mackinac	53	1.9	7 945	2.3	9 802	1.4	4	8.7	23	1.0
Macomb	125	2.5	4 853	3.4	11 220	3.8	83	2.9	3 524	1.8
Manistee	145	1.6	6 458	3.0	9 800	3.7	25	4.3	945	2.8
Marquette	52	2.7	5 617	2.7	10 055	3.0	4	16.1	18	18.6
Mason	199	1.8	12 975	2.3	27 507	2.5	81	3.0	5 470	2.3
Mecosta	408	1.1	32 852	1.7	65 233	2.1	33	4.5	1 637	2.2
Menominee	247	1.2	31 999	1.6	65 061	1.5	13	6.8	40	12.1
Midland	164	1.8	5 980	2.9	10 960	3.2	17	6.4	178	4.2
Missaukee	233	1.0	33 692	1.1	73 135	1.0	5	10.1	25	13.8
Monroe	205	2.1	4 008	3.1	12 263	4.4	72	3.2	2 964	1.3
Montcalm	537	1.2	28 816	1.5	66 365	1.6	48	3.2	5 240	.6
Montmorency	72	1.1	5 677	1.4	10 393	1.5	5	6.6	11	4.7
Muskegon	205	1.6	13 198	1.5	32 999	1.9	44	4.0	3 098	2.3
Newaygo	439	1.1	29 786	1.5	67 821	1.8	46	3.2	4 988	2.4
Oakland	164	2.1	8 293	3.2	17 371	3.5	21	5.9	503	3.4
Oceana	258	1.6	13 665	1.9	31 707	1.9	191	1.9	14 607	1.1
Ogemaw	211	1.1	25 035	1.5	53 911	1.6	1	38.7	(D)	(D)
Ontonagon	81	1.3	10 760	2.3	19 443	2.6	—	—	—	—
Osceola	384	1.2	41 531	1.5	76 871	1.7	2	25.4	(D)	(D)
Oscoda	60	1.9	4 225	4.0	6 822	3.9	6	10.6	14	14.6
Otsego	89	1.6	9 656	2.0	13 166	2.4	4	15.6	(D)	(D)
Ottawa	535	1.3	29 015	1.3	71 942	1.5	103	2.7	3 362	2.0
Presque Isle	223	1.2	18 869	1.4	35 075	1.5	10	7.8	89	6.1
Roscommon	20	3.1	1 689	3.0	2 417	4.5	1	—	(D)	(D)
Saginaw	265	1.7	8 073	2.3	23 815	2.3	44	3.8	3 125	4.1
St. Clair	462	1.2	20 088	2.0	41 743	2.4	43	4.3	827	4.3
St. Joseph	335	1.7	11 425	2.0	27 689	2.2	68	2.4	9 763	.9
Sanilac	744	1.5	54 697	1.3	154 177	1.3	28	6.0	1 238	1.0
Schoolcraft	30	2.9	3 801	1.4	5 815	1.9	4	10.7	18	4.2
Shiawassee	362	1.5	16 172	1.7	39 063	1.7	22	5.9	87	8.2
Tuscola	443	1.3	21 020	1.5	55 655	1.6	36	4.1	2 474	2.6
Van Buren	312	1.5	12 456	2.6	31 733	3.3	104	2.5	12 069	.7
Washtenaw	496	1.1	22 311	1.4	62 206	1.5	56	3.3	2 229	1.7
Wayne	54	3.7	2 053	3.2	4 142	5.3	38	5.0	887	5.3
Wexford	147	1.4	10 864	1.9	17 302	1.8	6	10.1	15	13.2

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.				
	Land in orchards				
	Farms		Acres		
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	
Michigan	2 863	.9	139 607	.8	
Alcona	5	10.1	17	15.0	
Alger	4	15.7	9	20.3	
Allegan	97	2.6	4 314	2.1	
Alpena	19	5.0	95	6.6	
Antrim	63	2.4	4 587	1.3	
Arenac	4	14.0	31	18.3	
Baraga	5	14.0	33	19.7	
Barry	17	5.7	43	8.5	
Bay	11	6.6	35	7.7	
Benzie	47	2.2	3 205	1.9	
Berrien	479	1.4	19 768	1.5	
Branch	14	8.2	193	15.1	
Calhoun	12	8.4	98	13.5	
Cass	36	4.2	2 246	2.5	
Charlevoix	15	6.6	797	11.3	
Cheboygan	3	14.5	(D)	(D)	
Chippewa	7	9.6	15	10.4	
Clare	7	12.6	21	15.6	
Clinton	30	5.2	391	8.2	
Crawford	1	—	(D)	(D)	
Delta	18	6.1	90	20.3	
Dickinson	5	11.7	39	12.8	
Eaton	22	5.4	145	6.4	
Emmet	11	8.7	47	15.6	
Genesee	34	5.1	391	8.2	
Gladwin	6	13.2	15	17.4	
Gogebic	—	—	—	—	
Grand Traverse	154	1.5	8 682	1.5	
Gratiot	7	9.6	173	2.1	
Hillsdale	13	8.3	260	12.3	
Houghton	6	12.3	9	14.0	
Huron	7	13.3	36	15.6	
Ingham	21	6.0	302	1.7	
Ionia	34	4.5	1 518	4.7	
Iosco	11	7.6	48	8.9	
Iron	8	7.4	21	12.8	
Isabella	6	12.2	57	23.2	
Jackson	16	8.2	159	13.8	
Kalamazoo	34	4.1	1 150	3.9	
Kalkaska	—	—	—	—	
Kent	184	1.8	15 143	1.3	
Keweenaw	—	—	—	—	
Lake	6	10.2	30	11.4	
Lapeer	35	5.1	658	4.9	
Leelanau	232	1.1	16 698	1.1	
Lenawee	42	4.0	836	4.5	
Livingston	21	6.2	546	2.2	
Luce	2	18.6	(D)	(D)	
Mackinac	4	14.0	7	17.7	
Macomb	33	5.4	816	5.5	
Manistee	55	3.1	3 789	2.0	
Marquette	10	8.1	45	10.3	
Mason	51	3.8	5 004	3.7	
Mecosta	13	7.7	177	18.9	
Menominee	20	4.9	61	6.4	
Midland	12	8.1	24	13.0	
Missaukee	7	10.2	15	11.5	
Monroe	35	4.9	318	6.4	
Montcalm	19	6.3	966	6.2	
Montmorency	3	6.5	8	6.3	
Muskegon	31	4.8	3 734	2.0	
Newaygo	40	3.8	2 297	3.8	
Oakland	33	5.1	519	5.3	
Oceana	142	2.1	15 159	1.3	
Ogemaw	5	16.2	42	23.7	
Ontonagon	2	14.4	(D)	(D)	
Osceola	16	6.4	48	7.8	
Oscoda	2	20.5	(D)	(D)	
Otsego	6	9.9	14	10.8	
Ottawa	65	2.9	6 170	1.0	
Presque Isle	12	8.0	29	9.8	
Roscommon	4	15.5	73	20.4	
Saginaw	24	5.4	169	9.8	
St. Clair	19	7.1	89	12.3	
St. Joseph	14	7.5	284	6.2	
Sanilac	23	6.6	388	15.7	
Schoolcraft	6	9.6	16	10.1	
Shiawassee	26	5.0	163	6.9	
Tuscola	10	7.7	144	5.6	

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.				
	Land in orchards				
	Farms		Acres		
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	
Van Buren	256	1.9	15 480	1.6	
Washtenaw	30	4.9	341	4.7	
Wayne.....	16	8.1	197	9.3	
Wexford	8	9.6	39	12.0	

¹Data are based on a sample of farms.

Table G. Coverage Estimates: 1997

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

Item	Census total	Coverage total ¹	Adjusted census		Coverage adjustment (percent)
			Total	Relative standard error (percent)	
Farms number..	46 027	7 481	53 508	2.4	14.0
Land in farms acres..	9 872 812	602 242	10 475 054	2.5	5.7
Average size of farm acres..	215	81	196	(X)	(X)
Farms by size of farm:					
Less than 10 acres	2 611	903	3 514	7.5	25.7
10 to 49 acres	12 075	3 360	15 435	4.9	21.8
50 to 179 acres	17 439	2 678	20 117	4.2	13.3
180 acres or more	13 902	540	14 442	2.6	3.7
Farms by value of sales:					
Less than \$2,500	12 557	4 032	16 589	4.6	24.3
\$2,500 to \$9,999	10 849	1 288	12 137	4.0	10.6
\$10,000 or more	22 621	2 161	24 782	3.4	8.7
Market value of agricultural products sold \$1,000..	3 567 825	44 736	3 612 561	2.0	1.2
Farms by type of organization:					
Individual or family	40 190	7 300	47 490	2.6	15.4
Partnership, corporation, or other	5 837	181	6 018	4.5	3.0
Farms by tenure of operator:					
Full owners	27 933	6 187	34 120	3.4	18.1
Part owners	15 497	1 205	16 702	2.9	7.2
Tenants	2 597	89	2 686	3.9	3.3
Operators by place of residence:					
On farm operated	37 077	6 814	43 891	2.7	15.5
Not on farm operated	6 043	543	6 586	5.9	8.2
Not reported	2 907	124	3 031	4.7	4.1
Operators by principal occupation:					
Farming	22 043	1 174	23 217	2.6	5.1
Other	23 984	6 307	30 291	3.7	20.8
Operators by sex:					
Male	42 094	6 568	48 662	2.5	13.5
Female.....	3 933	913	4 846	6.6	18.8
Operators by race:					
White	45 708	7 426	53 134	2.4	14.0
Black and other races	319	55	374	30.5	14.7
Operators by years on present farm:					
4 years or less	4 342	1 609	5 951	7.9	27.0
5 years or more	34 466	4 019	38 485	2.5	10.4
Not reported	7 219	1 853	9 072	7.2	20.4

¹ See text in Appendix C regarding coverage estimates.