

## Appendix C.

# Statistical Methodology

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### MAIL LIST MODEL

Classification analysis was performed to predict the probability that an addressee on the 1992 mail list operated a farm, and thereby separated the preliminary mail list into probable farm and probable nonfarm classes. The analysis was used to reduce the preliminary census mail list of 3.78 million records to a final mail list size of 3.55 million records. All 3.55 million addresses on the final mail list received a census of agriculture report form.

Records from the 1987 final census mail list were used to build a 1992 prediction model for the 1992 analysis. Classification and Regression Trees (CART) software analyzed characteristics of known 1987 farm and nonfarm operations to determine which were most useful in predicting farm and nonfarm classes. Record characteristics such as the source of the mail list record, number of source lists on which the record appeared, expected value of agricultural sales, and geographic location were used to separate mail list records into model groups. (Sources included the previous agriculture census mail list, the Internal Revenue Service administrative records, U.S. Department of Agriculture, and special commodity lists.) The proportion of 1987 census farm records in each model group was calculated to provide an estimate of the probability that an addressee in the group operated a farm.

After the model groups were defined, each address record on the 1992 preliminary 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 according to the classification tree methodology. The model, followed by analyst reviews, was used to remove 229,700 records from the preliminary mail list (those in model groups with the lowest farm probability), and thereby designated the 3.55 million records with the highest farm probability to receive the census report form. This procedure was used to obtain a more complete census enumeration of farm operations without excessive respondent burden and data collection cost.

### CENSUS SAMPLE DESIGN

Each of the 3.55 million name and address records on the census mail list was designated to receive one of three different types of census report forms. The three forms were the nonsample form, the screener form, and the

sample form. Sections 1 through 20 and 27 through 32 of the sample form are identical to sections on the nonsample form. The sample form, sections 21 through 26, contains additional questions on usage of fertilizers and chemicals, farm production expenditures, value of machinery and equipment, value of land and buildings, and farm-related income. The screener form is identical to the nonsample form with questions added in section 1 to allow quick identification of nonfarm addresses. These three 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. Addresses were selected into the sample with certainty (1) if they were expected to have large total value of agricultural products sold or large acreage, (2) if they were multiunit operations (i.e., separate farms in more than one location), (3) if they had other special characteristics, or (4) if they were in a county with less than 100 farms in 1987. Other addresses in counties containing 100 to 199 farms in 1987 were systematically sampled at a rate of 1 in 2, and other addresses in counties containing 200 farms or more in 1987 were systematically sampled at a rate of 1 in 6. This differential sampling scheme was used to provide reliable data for the sample sections of the report form for all counties. When a nonsample large farm was identified during processing, a supplemental form that contained the additional sample data inquiries was mailed.

To determine which mail list records would receive the screener form, all mail list records not designated for the sample were sorted by model group farm probability as specified by the mail list model. The 412,000 mail list records in the model groups with the lowest probability of being farms and with an expected total value of agricultural product sales less than \$25,000 were designated to receive the screener report form. The remaining mail list records received the nonsample report form.

### CENSUS ESTIMATION

The 1992 Census of Agriculture used two types of statistical estimation procedures. These estimation procedures accounted for nonresponse to the data collection and for the sample data collection. These procedures are necessary because some farm operators never respond to

the census despite numerous attempts to contact them, and the estimates for the sample data are based on a sample of farm operators rather than a full enumeration.

### Whole Farm Nonresponse Estimation

A statistical estimation procedure was used to account for nonrespondent farm operators to the census. We excluded large and unique farm operations that received intensive telephone followup during census processing, assuming complete response from them. A stratified systematic sample of remaining census nonrespondents were contacted by enumerators using a computer-assisted telephone interview system. Five sample strata were defined based on expected value of sales, previous census status, and whether the record was identified by the mail list model to receive the screener report form. The nonresponse survey telephone interview was designed to provide sufficient information to determine the farm status of each record.

In situations where the nonresponse survey case could not be contacted, the contact person refused to cooperate, or when no phone number could be obtained, a screener report form was sent by certified mail.

Estimates of the proportion of census nonrespondents that operated farms were made for each stratum in the State using survey results and applied to the total number of census nonrespondents in that stratum. The number of census nonrespondents that operated farms for each county by stratum was then derived. This estimation procedure is based on the assumption that the distribution of farms in a stratum by county is the same for census nonrespondents as for census respondents.

Certain census respondent farms which exhibited "rare" commodities were designated as "ineligible" to represent census nonrespondent farms and were excluded from the nonresponse weighting operation. The procedure explained below was performed with only the eligible respondent cases: Within each stratum in a county, a noninteger nonresponse weight was calculated and assigned to each eligible respondent farm record. 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 to the number of eligible census respondent farms. Stratum controls were established to ensure that this weight was never greater than 2.0. The noninteger nonresponse weight was used in the calculation of the final weight for the sample items. The noninteger nonresponse weight was randomly rounded to an integer weight of either 1 or 2 for each record for tabulating the complete count items for publication.

Table A quantifies the effect of the nonresponse estimation procedure on selected census data items. The percentages in these tables are the 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 these tables do not reflect the effect of item nonresponse to individual census data items. The effect of item nonresponse is discussed in the Census Nonsampling Error section.

**Table A. Percent of State Totals Contributed by Whole Farm Nonresponse Estimation: 1992**

| Item  | Percent of total |
|---|------------------|
| Farms .....number. .  | 14.8             |
| Land in farms.....acres. .  | 10.8             |
| Estimated market value of land and buildings <sup>1</sup> .....\$1,000. . | 4.8              |
| Market value of agricultural products sold ..\$1,000. .                   | 6.1              |
| Harvested cropland .....acres. .  | 9.7              |
| Corn for grain or seed .....acres. .                                      | 8.4              |
| Wheat for grain .....acres. .   | 11.0             |
| Livestock and poultry inventory:  |                  |
| Cattle and calves .....number. .  | 9.2              |
| Hogs and pigs .....number. .  | 5.7              |
| Hens and pullets of laying age.....number. .                              | .6               |

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

### Sample Estimation

Sample data estimates the population totals that would have resulted from a complete census for the items in sections 21 through 26 of the sample report form. The estimates were obtained from a ratio estimation procedure that resulted in the assignment of 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 in the county.

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 would be multiplied by 6. The weight assigned to a sample certainty farm was 1.

Other than certainty farms, within a county, the ratio estimation procedure for farms was performed in three steps using three variables. The first variable contained eight 1992 total value of agricultural production (TVP) groups. Both the second and third variables, Standard Industrial Classification (SIC) code and farm acreage, contained two groups. The three sets of groups were as follows:

| TVP                  | SIC              | Acres      |
|----------------------|------------------|------------|
| \$1 to \$999         | 01 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 was to classify the sample records into 32 mutually exclusive initial post strata formed by the three sets of groups. The total and sample farm counts were expanded to account for nonresponse. Each cell containing sample farm records was assigned an initial sample weight equal to the ratio of the total farm count to the sample farm count. This weight was approximately equal to the inverse of the probability of selecting a farm for the census sample.

The second step in the estimation procedure was to combine, if necessary, the 32 initial post strata to increase the reliability of the ratio estimation procedure. Any stratum that contained less than 10 sample farms after nonresponse adjustment or had a weight greater than two times the mail sample rate was collapsed with another stratum. The mail sample rate was either 2 or 6, depending on whether the county had a 1 in 2 or 1 in 6 sample selection rate. The collapsing occurred within the initial 32 post 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 of the final post strata and were used to calculate final sample weights.

The final step consisted of assigning the noninteger final post stratum weight to the sample farm records in each post stratum. The weight is the ratio of total farm count to sample farm count in each final post stratum. The noninteger sample weight, the product of the noninteger final post stratum weight and the nonresponse weight, was randomly rounded to an integer weight for tabulation. If, for example, the final weight for the farms in a particular post stratum was 7.2, then 0.2 or one-fifth of the sample farms in this post stratum were randomly assigned a weight of 8 and the remaining four-fifths received a weight of 7.

## CENSUS SAMPLING ERROR

The sample for the 1992 Census of Agriculture is only one of a large number of possible samples of the same size that could have been selected using the same sample design. Sample refers to the sample for both the nonresponse survey and the selection of farms to receive the sample report forms. Estimates derived from all the possible samples would differ from each other only by random variation.

The standard error or sampling error of a survey estimate is a measure of the variation among the estimates from all possible samples and thus is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. The percent relative standard error of an estimate is defined as 100 times the standard error of the estimate divided by the value of the estimate.

If all possible samples were selected, each of the samples were surveyed under essentially the same conditions, and an estimate and its standard error were 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 average value of all possible samples.
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 average value of all possible samples.

The following example illustrates the computations necessary for producing a confidence interval 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 .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 figure obtained from a complete enumeration. 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. Complete count items were asked of all farm operators. 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.

Sample count items were asked only of a sample of farm operators. These items appeared only in sections 21 through 26 of the sample report 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, and farm-related income.

Variability, measured as percent relative standard error, in the estimates of complete count items is due only to the nonresponse survey estimation procedure. Variability in the estimates of sample count items is due to both the nonresponse survey estimation procedure and the census sample selection and estimation procedure. Thus, variability in the sample count item estimates tends to be larger than the variability in the complete count item estimates.

Table B provides the generalized reliability estimates of the estimated number of farms in a county reporting complete count and sample count items. The top half of the table shows the percent relative standard error for estimated number of farms in a county reporting a complete count item and the bottom half a sample count item. These are derived from regression equations. Separate regression equations were used for complete count items and sample count items. 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 all counties in the State. For sample count items, only data

from counties sampled at a rate of 1 in 6 are used in the estimation of the regression equation.

**Table B. Reliability Estimates for Number of Farms in a County Reporting a Complete Count Item or Sample Count Item: 1992**

| Farms                      | Relative standard error of estimate (percent) |
|----------------------------|---|
| <b>COMPLETE COUNT ITEM</b> |   |
| Number of farms reporting: |   |
| 25 .....                   | 5.9   |
| 50 .....                   | 3.8   |
| 75 .....                   | 2.9   |
| 100 .....                  | 2.2   |
| 150 .....                  | 1.2   |
| 200 .....                  | 1.1   |
| 300 .....                  | .9  |
| 500 .....                  | .7  |
| 750 .....                  | .6  |
| 1,000 .....                | .5  |
| 1,500 .....                | .4  |
| 2,000 .....                | (X)   |
| <b>SAMPLE COUNT ITEM</b>   |   |
| Number of farms reporting: |   |
| 25 .....                   | 23.6  |
| 50 .....                   | 19.4  |
| 75 .....                   | 17.8  |
| 100 .....                  | 16.9  |
| 150 .....                  | 16.0  |
| 200 .....                  | 15.5  |
| 300 .....                  | 15.0  |
| 500 .....                  | 14.6  |
| 750 .....                  | 14.4  |
| 1,000 .....                | 14.2  |
| 1,500 .....                | 14.1  |
| 2,000 .....                | (X)   |

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 1987 Census of Agriculture, variability in sample count item estimates comes only from nonresponse survey estimation procedures; thus, the estimated relative standard error for a sample count item in these counties may be obtained using the first part of table B.

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 percent standard error for percent change in State totals from 1987 to 1992. 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 1992 and the 1987 estimate for that characteristic to the 1987 estimate. This ratio is multiplied by 100 to obtain the percent change. The percent standard error of a percent change estimate, then, 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 (1) the total number of farms, (2) the number of large farms included with certainty, (3) the size classifications of the farms sampled, (4) the amount of nonresponse, (5) the general agricultural characteristics, and (6) the specific characteristic being measured.

### CENSUS NONSAMPLING ERROR

The accuracy of the census counts are 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 on specific operations. Nonsampling errors arise from incompleteness of the census mail list, duplication in the mail list, incorrect data reporting, errors in editing of reported data, and errors in imputation for missing data. These specific nonsampling errors are further discussed in this section. Evaluation studies will be conducted to measure the extent of certain nonsampling errors such as coverage error and classification error.

### Census Coverage

The main objective of the census of agriculture is to obtain a complete and accurate enumeration of U.S. farms with accurate data on all aspects of the agricultural operation. However, the high cost and availability of resources for enumeration place restrictions on feasible data collection methodologies. The past six agriculture censuses have been conducted by mail enumeration with telephone contact for selected nonrespondents. The completeness of such an enumeration thus depends to a large extent on the coverage of farm operations by the census mail list.

The past five censuses of agriculture have included approximately 91 percent of farms in the United States and approximately 96 percent of agriculture production. Complete enumeration of agricultural operations satisfying the farm definition of \$1,000 or more in agricultural sales is complicated by fluctuations in agricultural operations qualifying for enumeration, the variety of arrangements under which farms are operated, the multiplicity of names used

by an operation, the number of operations in which an operator participates, the accuracy of data reporting, and other factors. A new mail list is compiled for each census because no current single list of agricultural operations is comprehensive.

An evaluation of census coverage has been conducted for each census of agriculture since 1945. The evaluation provides estimates of the completeness of census farm count and major census data items. In addition, the evaluation helps to identify problems in the census enumeration and provide information that can form the basis for improvements. The results of the 1992 Coverage Evaluation program will be published in volume 2, Subject Series (Part 2): Coverage Evaluation.

The evaluation of coverage for the 1992 census was designed to measure four components of error in the census mail list and in farm classification. Mail list error includes two components of error, a measurement of farms not on the census mail list (undercount) and a measurement of farms enumerated more than once in the census (overcount). Classification error includes two components of error, a measurement of farms classified as nonfarms in the census (undercount) and of nonfarms classified as farms in the census (overcount). Classification error arises from reporting and processing errors. Mail list undercount dominates all coverage errors. Net coverage error is defined as the difference between undercounted and overcounted farms. Measurements of these errors, as well as a description of the complete coverage program, will be available in the Coverage Evaluation report.

## Mail List Coverage

A major problem with mail enumeration for the census of agriculture is the difficulty encountered in compiling a complete mail list. The percentage of farms included on the census mail list varies considerably by State. Several reasons have contributed to farm operator names not being included on the census mail list—the operation may have been started after the mail list was developed, the operation may be so small as not to appear in any of the agriculture-related source lists used in compiling the census list, or the operation may have been falsely classified as a nonfarm prior to mailout. A large proportion of the farms not included on the mail list are small in both acres and sales of agricultural products.

The 1992 Census of Agriculture Coverage Evaluation used the area segment sample of the 1992 June Agricultural Survey (JAS) of the National Agricultural Statistical Service (NASS) to estimate farms not on the census mail list. The Census Bureau contracted with NASS to augment the JAS data collection. The survey data collected by NASS will be protected under the confidentiality of title 13, U.S. Code. These JAS survey records were matched to the census mail list. Records that did not match were mailed a census of agriculture report form to estimate mail list

coverage. Estimates of farms not on the census mail list are computed using a capture-recapture dual frame estimator which will be described in the Coverage Evaluation report mentioned earlier.

Table G provides coverage evaluation estimates for one component of coverage error associated with the census of agriculture; that is, the error due to farms not on the census mail list. Also provided are estimates of selected characteristics of farms not on the mail list, estimates of characteristics of farms not on the mail list as a percentage of total farms in the State, and the percent relative standard error associated with each estimate. The estimate of total farms in the State is based on census farm count plus the estimated number of farms not on the census mail list. This estimate of total farms in the State was not adjusted for the components of error associated with classification and list duplication error. Estimates of these errors will be made at the regional, rather than the State level, and will be provided in the Coverage Evaluation report mentioned earlier.

## Respondent and Enumerator Error

Incorrect or incomplete responses to the mailed census report form or to the questions posed by a telephone enumerator introduce error into the census data. Such incorrect information can lead, in some cases, to incorrect classification of farms. This type of reporting error is measured by the Classification Error Survey discussed later in this section. To reduce all types of reporting error, detailed instructions for completing the report form were provided to each addressee. Questions were phrased as clearly as possible based on tests of the census report form and each respondent's answers were checked for completeness and consistency.

## Item Nonresponse

As information flows from data collection to tabulation, various types of item nonresponses are identified on the report forms. Nonresponse to particular questions on the report form that logically should be present may create a type of nonsampling error in both complete count and sample count data. When information from reporting farms is used to edit or impute for item nonresponse, the data may be biased due to characteristics of the nonreporting respondents differing from those reporting the item. Any attempt to correct the data items may not completely reflect this difference either at the element level (individual farm operation) or on the average.

## Processing Error

All phases of processing for each report form are sources for the introduction of nonsampling error. The processing of the report forms includes clerical screening for farm activity, computerized check-in of report forms and follow-up of nonrespondents, keying and transmittal of

completed report forms, computerized editing of inconsistent and missing data, review and correction of individual records referred from the computer edit, review and correction of tabulated data, and electronic data processing. These operations undergo a number of quality control checks to ensure as accurate an application as possible, yet some errors are not detected and corrected.

### **Classification Error**

An evaluation study of classification errors was conducted in the 1992 Census of Agriculture as part of the census coverage evaluation program. A sample of census mail list respondents was selected, and these addresses were reenumerated to determine whether they were a farm or nonfarm. A farm status determination was made based on the evaluation report form and compared with the census farm status which was based on the data reported on the report form. Differences in status were reconciled.

In past censuses, the proportion of farms undercounted due to classification errors was higher for farms with small values of sales. For the 1987 census, the classification error rate was higher for (1) farms with small values of sales, (2) farms with a small number of acres, (3) full-owner farms than part-owner or tenant farms, (4) operators with principal occupation other than farming, and (5) males than females. Results from the 1992 Classification Error Survey will be published in the Coverage Evaluation report.

### **EDITING DATA AND IMPUTATION FOR ITEM NONRESPONSE**

The Census of Agriculture Complex Edit and Imputation System performs the following functions:

- Ensuring reasonable relationships between/among data items, values for various sizes of farms, and combinations of commodities.
- Ensuring necessary consistencies are present. There are more than 70 distinct consistency requirements.
- Ensuring geographic, legal, and physical constraints are met.

The system must perform these and similar functions for 900 data keycodes for sample records and 850 data keycodes for nonsample records.

For the 1992 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 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 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 were 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 classification 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. The computer records were 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 some 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.

After the initial computer edit, keyed reports not meeting the census farm definition were reviewed to ensure that the data were keyed correctly. Edit referrals were generated for about 25 percent of the reports included as farms; they were reviewed for keying accuracy 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 was reedited.

**Table C. Reliability Estimates of State Totals for All Farms: 1992**

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

| Item  | Total      | Relative standard error of estimate (percent) | Item  | Total     | Relative standard error of estimate (percent) |
|---|------------|---|---|-----------|---|
| <b>FARMS AND LAND IN FARMS</b>  |            |   | <b>FARM PRODUCTION EXPENSES<sup>1</sup></b>   |           |   |
| Farms -----number--   | 46 562     | 1.1   | Total farm production expenses -----farms--   | 46 558    | .6  |
| Land in farms -----acres--  | 10 088 170 | 1.1   | -----\$1,000--  | 2 583 189 | .4  |
| Average size of farm -----acres--   | 217        | 1.5   | Average per farm -----dollars--   | 55 483    | .8  |
| <b>MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD</b>   |            |   | Livestock and poultry purchased -----farms--  |           |   |
| Total sales (see text) -----farms--   | 46 562     | 1.1   | -----\$1,000--  | 205 867   | 1.3   |
| -----\$1,000--  | 3 028 547  | .6  | Feed for livestock and poultry -----farms--   | 21 222    | 1.2   |
| Average per farm -----dollars--   | 65 043     | 1.3   | -----\$1,000--  | 333 497   | .8  |
| Farms by value of sales:  |            |   | Commercially mixed formula feeds -----farms--   | 10 357    | 1.8   |
| Less than \$1,000 (see text) -----farms--   | 5 716      | .7  | -----\$1,000--  | 177 647   | .8  |
| \$1,000 to \$2,499 -----farms--   | 1 597      | .8  | Seeds, bulbs, plants, and trees -----farms--  | 30 784    | .9  |
| \$2,500 to \$4,999 -----farms--   | 5 207      | .8  | -----\$1,000--  | 137 278   | .7  |
| \$5,000 to \$9,999 -----farms--   | 8 669      | .8  | Commercial fertilizer -----farms--  | 33 548    | .9  |
| \$10,000 to \$19,999 -----farms--   | 5 579      | .9  | -----\$1,000--  | 218 185   | .9  |
| \$20,000 to \$24,999 -----farms--   | 6 387      | 1.2   | Agricultural chemicals -----farms--   | 33 010    | .9  |
| \$25,000 to \$39,999 -----farms--   | 45 454     | 1.2   | Petroleum products -----farms--   | 149 282   | .8  |
| \$40,000 to \$49,999 -----farms--   | 6 045      | 1.7   | -----\$1,000--  | 44 242    | .7  |
| \$50,000 to \$99,999 -----farms--   | 85 706     | 1.8   | Electricity -----farms--  | 141 653   | .6  |
| \$100,000 to \$249,999 -----farms--   | 1 707      | 2.0   | Hired farm labor -----farms--   | 34 961    | .8  |
| \$250,000 to \$499,999 -----farms--   | 37 974     | 2.1   | -----\$1,000--  | 49 096    | .7  |
| \$500,000 or more -----farms--  | 3 228      | 2.0   | Contract labor -----farms--   | 15 908    | 1.4   |
|   | 102 141    | 2.1   | -----\$1,000--  | 318 276   | .4  |
|   | 1 455      | 2.1   | Repair and maintenance -----farms--   | 4 052     | 3.0   |
|   | 64 521     | 2.1   | -----\$1,000--  | 22 488    | 1.8   |
|   | 4 163      | 1.9   | Customwork, machine hire, and rental of machinery and equipment -----farms--            | 40 611    | .7  |
|   | 296 306    | 1.9   | -----\$1,000--  | 189 820   | .8  |
|   | 4 363      | 1.2   | Interest expense -----farms--   | 15 413    | 1.5   |
|   | 685 054    | 1.0   | -----\$1,000--  | 40 995    | 1.6   |
|   | 1 793      | —   | Secured by real estate -----farms--   | 21 399    | 1.2   |
|   | 617 171    | —   | -----\$1,000--  | 181 417   | .9  |
|   | 919        | —   | Not secured by real estate -----farms--   | 15 890    | 1.5   |
|   | 1 063 739  | —   | -----\$1,000--  | 124 991   | 1.1   |
| Sales by commodity or commodity group:  |            |   | -----\$1,000--  | 12 115    | 1.7   |
| Crops, including nursery and greenhouse crops -----farms--  | 33 778     | 1.2   | -----\$1,000--  | 56 426    | 1.2   |
| -----\$1,000--  | 1 671 563  | .6  | Cash rent -----farms--  | 14 665    | 1.5   |
| Grains -----farms--   | 22 701     | 1.4   | -----\$1,000--  | 132 101   | 1.2   |
| -----\$1,000--  | 766 941    | .9  | Property taxes -----farms--   | 43 651    | .7  |
| Corn for grain -----farms--   | 15 075     | 1.4   | -----\$1,000--  | 170 743   | .8  |
| -----\$1,000--  | 362 334    | .8  | All other farm production expenses -----farms--   | 42 218    | .7  |
| Wheat -----farms--  | 12 186     | 1.6   | -----\$1,000--  | 292 492   | .6  |
| -----\$1,000--  | 85 584     | 1.2   |   |           |   |
| Soybeans -----farms--   | 13 099     | 1.4   | <b>NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)<sup>1</sup></b> |           |   |
| -----\$1,000--  | 220 044    | 1.0   | All farms -----number--   | 46 558    | .6  |
| Sorghum for grain -----farms--  | 5          | 14.8  | -----\$1,000--  | 431 005   | 1.5   |
| -----\$1,000--  | 45         | 21.3  | Average per farm -----dollars--   | 9 257     | 1.7   |
| Barley -----farms--   | 319        | 2.3   | Farms with net gains <sup>2</sup> -----number--   | 19 843    | 1.2   |
| -----\$1,000--  | 1 317      | 2.6   | -----\$1,000--  | 634 583   | .8  |
| Oats -----farms--   | 2 591      | 1.9   | Average net gain -----dollars--   | 31 980    | 1.4   |
| -----\$1,000--  | 5 281      | 1.7   | Farms with net losses -----number--   | 26 715    | 1.0   |
| Other grains -----farms--   | 3 889      | 1.7   | -----\$1,000--  | 203 578   | 1.6   |
| -----\$1,000--  | 92 336     | 1.1   | Average net loss -----dollars--   | 7 620     | 1.9   |
| Cotton and cottonseed -----farms--  | —          | —   | <b>GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME</b>                                |           |   |
| -----\$1,000--  | —          | —   | Government payments -----farms--  | 15 862    | 1.5   |
| Tobacco -----farms--  | —          | —   | -----\$1,000--  | 91 610    | 1.0   |
| -----\$1,000--  | —          | —   | Other farm-related income <sup>1</sup> -----farms--                                     | 11 274    | 1.9   |
| Hay, silage, and field seeds -----farms--   | 10 791     | 1.2   | -----\$1,000--  | 52 101    | 3.3   |
| -----\$1,000--  | 55 317     | 1.3   | Customwork and other agricultural services -----farms--                                 | 3 903     | 3.3   |
| Vegetables, sweet corn, and melons -----farms--   | 3 006      | 1.0   | -----\$1,000--  | 23 737    | 5.6   |
| -----\$1,000--  | 159 144    | .4  | Gross cash rent or share payments -----farms--  | 3 841     | 3.5   |
| Fruits, nuts, and berries -----farms--  | 3 540      | .9  | -----\$1,000--  | 11 651    | 5.7   |
| -----\$1,000--  | 205 459    | .5  | Forest products and Christmas trees -----farms--  | 1 662     | 4.8   |
| Nursery and greenhouse crops -----farms--   | 1 928      | .8  | -----\$1,000--  | 9 036     | 7.4   |
| -----\$1,000--  | 309 521    | .2  | Other farm-related income sources -----farms--  | 3 945     | 3.0   |
| Other crops -----farms--  | 1 996      | 1.2   | -----\$1,000--  | 7 677     | 6.2   |
| -----\$1,000--  | 175 181    | .4  | <b>COMMODITY CREDIT CORPORATION LOANS</b>   |           |   |
| Livestock, poultry, and their products -----farms--   | 22 300     | 1.2   | Total -----farms--  | 2 014     | 1.4   |
| -----\$1,000--  | 1 356 984  | .6  | -----\$1,000--  | 43 087    | .7  |
| Poultry and poultry products -----farms--   | 1 582      | 1.1   |   |           |   |
| -----\$1,000--  | 136 649    | .1  |   |           |   |
| Dairy products -----farms--   | 4 836      | 1.5   |   |           |   |
| -----\$1,000--  | 616 567    | .7  |   |           |   |
| Cattle and calves -----farms--  | 15 780     | 1.3   |   |           |   |
| -----\$1,000--  | 345 457    | .7  |   |           |   |
| Hogs and pigs -----farms--  | 4 770      | .6  |   |           |   |
| -----\$1,000--  | 213 440    | .6  |   |           |   |
| Sheep, lambs, and wool -----farms--   | 1 798      | 1.2   |   |           |   |
| -----\$1,000--  | 5 400      | 1.9   |   |           |   |
| Other livestock and livestock products (see text) -----farms--  | 3 661      | .9  |   |           |   |
| -----\$1,000--  | 39 471     | .8  |   |           |   |
| Value of agricultural products sold directly to individuals for human consumption (see text) -----farms-- | 4 019      | 1.0   |   |           |   |
| -----\$1,000--  | 21 093     | .9  |   |           |   |

See footnotes at end of table.





**Table C. Reliability Estimates of State Totals for All Farms: 1992 — Con.**

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

| Item   | Total     | Relative standard error of estimate (percent) | Item   | Total       | Relative standard error of estimate (percent) |
|--|-----------|---|--|-------------|---|
| <b>FARMS BY SIZE</b>   |           |   | <b>LIVESTOCK—Con.</b>  |             |   |
| 1 to 9 acres ----- farms ..  | 2 562     | .8  | Cattle and calves sold ----- farms ..  | 15 780      | 1.3   |
| ----- acres..  | 10 907    | .9  | ----- number..   | 594 685     | .9  |
| 10 to 49 acres ----- farms ..  | 11 148    | .7  | ----- \$1,000..  | 345 457     | .7  |
| ----- acres..  | 311 060   | .7  | Hogs and pigs inventory ----- farms ..   | 4 774       | 1.2   |
| 50 to 69 acres ----- farms ..  | 3 334     | 1.0   | ----- number..   | 1 231 641   | .7  |
| ----- acres..  | 194 315   | 1.0   | Hogs and pigs sold ----- farms ..  | 4 770       | 1.2   |
| 70 to 99 acres ----- farms ..  | 5 679     | 1.2   | ----- number..   | 2 300 151   | .7  |
| ----- acres..  | 463 983   | 1.2   | ----- \$1,000..  | 213 440     | .6  |
| 100 to 139 acres ----- farms ..  | 4 796     | 1.5   | Sheep and lambs of all ages inventory ----- farms ..   | 1 831       | 1.2   |
| ----- acres..  | 559 470   | 1.5   | ----- number..   | 97 433      | 1.8   |
| 140 to 179 acres ----- farms ..  | 3 640     | 1.7   | Sheep and lambs sold ----- farms ..  | 1 694       | 1.2   |
| ----- acres..  | 572 489   | 1.7   | ----- number..   | 88 882      | 2.2   |
| 180 to 219 acres ----- farms ..  | 2 566     | 1.9   | Horses and ponies inventory ----- farms ..   | 7 846       | .9  |
| ----- acres..  | 505 145   | 1.9   | ----- number..   | 53 991      | 1.2   |
| 220 to 259 acres ----- farms ..  | 1 968     | 2.0   | Horses and ponies sold ----- farms ..  | 2 370       | 1.0   |
| ----- acres..  | 466 247   | 2.0   | ----- number..   | 8 086       | 1.6   |
| 260 to 499 acres ----- farms ..  | 5 755     | 1.9   | <b>POULTRY</b>   |             |   |
| ----- acres..  | 2 043 779 | 1.8   | Chickens 3 months old or older inventory ----- farms ..  | 2 454       | 1.0   |
| 500 to 999 acres ----- farms ..  | 3 576     | 1.2   | ----- number..   | 5 388 894   | .2  |
| ----- acres..  | 2 445 241 | 1.1   | Hens and pullets of laying age ----- farms ..  | 2 417       | 1.0   |
| 1,000 to 1,999 acres ----- farms ..  | 1 234     | —   | ----- number..   | 4 607 549   | .2  |
| 2,000 acres or more ----- farms ..   | 1 609 317 | —   | Broilers and other meat-type chickens sold ----- farms ..  | 386         | 1.9   |
| ----- acres..  | 906 217   | —   | ----- number..   | 400 262     | 11.6  |
| <b>FARMS BY STANDARD INDUSTRIAL CLASSIFICATION</b>                             |           |   | <b>CROPS HARVESTED</b>   |             |   |
| Cash grains (011) ----- farms ..   | 14 418    | 1.5   | Corn for grain or seed ----- farms ..  | 18 962      | 1.4   |
| ----- acres..  | 4 256 772 | 1.2   | ----- acres..  | 2 221 271   | .9  |
| Field crops, except cash grains (013) ----- farms ..                           | 5 274     | .9  | ----- bushels..  | 226 824 263 | .8  |
| ----- acres..  | 865 942   | 1.0   | Corn for silage or green chop ----- farms ..   | 6 031       | 1.5   |
| Vegetables and melons (016) ----- farms ..                                     | 1 561     | 1.1   | ----- acres..  | 304 478     | .9  |
| ----- acres..  | 249 946   | .8  | ----- tons, green..  | 3 704 783   | .9  |
| Fruits and tree nuts (017) ----- farms ..                                      | 3 295     | .9  | Wheat for grain ----- farms ..   | 12 433      | 1.6   |
| ----- acres..  | 392 116   | .7  | ----- acres..  | 583 245     | 1.2   |
| Horticultural specialties (018) ----- farms ..                                 | 1 664     | .8  | ----- bushels..  | 29 350 586  | 1.2   |
| ----- acres..  | 103 544   | .8  | Oats for grain ----- farms ..  | 5 436       | 1.7   |
| General farms, primarily crop (019) ----- farms ..                             | 1 800     | 1.1   | ----- acres..  | 113 359     | 1.6   |
| ----- acres..  | 357 908   | 1.1   | Soybeans for beans ----- farms ..  | 6 650 151   | 1.6   |
| Livestock, except dairy, poultry, and animal specialties (021) ----- farms ..  | 10 602    | 1.2   | ----- acres..  | 13 175      | 1.4   |
| ----- acres..  | 1 772 569 | 1.2   | ----- bushels..  | 1 332 114   | 1.1   |
| Dairy farms (024) ----- farms ..   | 4 271     | 1.5   | ----- bushels..  | 41 633 625  | 1.0   |
| ----- acres..  | 1 729 999 | 1.0   | Dry edible beans, excluding dry limas ----- farms ..   | 3 176       | 1.8   |
| Poultry and eggs (025) ----- farms ..  | 368       | 1.6   | ----- acres..  | 322 334     | 1.3   |
| ----- acres..  | 40 739    | 1.3   | ----- cwt..  | 4 229 224   | 1.2   |
| Animal specialties (027) ----- farms ..  | 2 863     | .8  | Irish potatoes ----- farms ..  | 492         | 1.4   |
| ----- acres..  | 155 440   | 1.1   | ----- acres..  | 47 061      | .6  |
| General farms, primarily livestock and animal specialties (029) ----- farms .. | 446       | 1.7   | Sugar beets for sugar ----- farms ..   | 13 186 117  | .4  |
| ----- acres..  | 163 195   | 1.1   | ----- acres..  | 1 518       | 1.3   |
| <b>LIVESTOCK</b>   |           |   | ----- tons..   | 174 917     | .6  |
| Cattle and calves inventory ----- farms ..                                     | 17 031    | 1.3   | ----- tons..   | 3 026 450   | .6  |
| ----- number..   | 1 113 604 | .9  | Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text) ----- farms .. | 22 285      | 1.2   |
| Beef cows ----- farms ..   | 7 548     | 1.3   | ----- acres..  | 1 283 598   | 1.2   |
| ----- number..   | 116 106   | 1.5   | ----- tons, dry..  | 2 821 347   | 1.1   |
| Milk cows ----- farms ..   | 5 198     | 1.5   | Alfalfa hay ----- farms ..   | 19 379      | 1.3   |
| ----- number..   | 316 954   | .8  | ----- acres..  | 888 691     | 1.3   |
|  |           |   | ----- tons, dry..  | 2 186 202   | 1.2   |
|  |           |   | Vegetables harvested for sale (see text) ----- farms ..  | 3 007       | 1.0   |
|  |           |   | ----- acres..  | 138 851     | .5  |
|  |           |   | Land in orchards ----- farms ..  | 3 531       | .9  |
|  |           |   | ----- acres..  | 162 183     | .6  |

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

<sup>2</sup>Farms with total production expenses equal to market value of agricultural products sold are included as farms with gains of less than \$1,000.

**Table D. Reliability Estimates of State Totals for Farms With Sales of \$10,000 or More: 1992**

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

| Item  | Total     | Relative standard error of estimate (percent) | Item  | Total     | Relative standard error of estimate (percent) |
|---|-----------|---|---|-----------|---|
| <b>FARMS AND LAND IN FARMS</b>  |           |   | <b>FARM PRODUCTION EXPENSES<sup>1</sup></b>   |           |   |
| Farms ----- number ..   | 23 673    | 1.5   | Total farm production expenses ----- farms ..   | 23 542    | .7  |
| Land in farms ----- acres ..  | 8 330 634 | 1.1   | ----- \$1,000 ..  | 2 417 185 | .4  |
| Average size of farm ----- acres ..   | 352       | 1.8   | Average per farm ----- dollars ..   | 102 675   | .8  |
| <b>MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD</b>   |           |   | <b>NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)<sup>1</sup></b> |           |   |
| Total sales (see text) ----- farms ..   | 23 673    | 1.5   | All farms ----- number ..   | 23 542    | .7  |
| ----- \$1,000 ..  | 2 952 612 | .6  | ----- \$1,000 ..  | 520 092   | 1.2   |
| Average per farm ----- dollars ..   | 124 725   | 1.6   | Average per farm ----- dollars ..   | 22 092    | 1.4   |
| Farms by value of sales:  |           |   | Farms with net gains <sup>2</sup> ----- number ..                                       | 15 850    | 1.2   |
| \$10,000 to \$19,999 ----- farms ..   | 6 045     | 1.7   | ----- \$1,000 ..  | 627 411   | .9  |
| ----- \$1,000 ..  | 85 706    | 1.8   | Average net gain ----- dollars ..   | 39 584    | 1.5   |
| \$20,000 to \$24,999 ----- farms ..   | 1 707     | 2.0   | Farms with net losses ----- number ..   | 7 692     | 2.1   |
| ----- \$1,000 ..  | 37 974    | 2.1   | ----- \$1,000 ..  | 107 319   | 2.5   |
| \$25,000 to \$39,999 ----- farms ..   | 3 228     | 2.0   | Average net loss ----- dollars ..   | 13 952    | 3.3   |
| ----- \$1,000 ..  | 102 141   | 2.1   | <b>GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME</b>                                |           |   |
| \$40,000 to \$49,999 ----- farms ..   | 1 455     | 2.1   | Government payments ----- farms ..  | 11 619    | 1.6   |
| ----- \$1,000 ..  | 64 521    | 2.1   | ----- \$1,000 ..  | 84 083    | .9  |
| \$50,000 to \$99,999 ----- farms ..   | 4 163     | 1.9   | Other farm-related income <sup>1</sup> ----- farms ..                                   | 6 744     | 2.0   |
| ----- \$1,000 ..  | 296 306   | 1.9   | ----- \$1,000 ..  | 41 349    | 4.0   |
| \$100,000 to \$249,999 ----- farms ..   | 4 363     | 1.2   | Customwork and other agricultural services ----- farms ..                               | 2 758     | 3.7   |
| ----- \$1,000 ..  | 685 054   | 1.0   | ----- \$1,000 ..  | 21 618    | 6.1   |
| \$250,000 to \$499,999 ----- farms ..   | 1 793     | —   | Gross cash rent or share payments ----- farms ..  | 1 426     | 5.6   |
| ----- \$1,000 ..  | 617 171   | —   | ----- \$1,000 ..  | 6 733     | 8.4   |
| \$500,000 or more ----- farms ..  | 919       | —   | Forest products and Christmas trees ----- farms ..                                      | 988       | 6.4   |
| ----- \$1,000 ..  | 1 063 739 | —   | ----- \$1,000 ..  | 6 982     | 8.8   |
| Sales by commodity or commodity group:  |           |   | Other farm-related income sources ----- farms ..  | 3 062     | 3.2   |
| Crops, including nursery and greenhouse crops ----- farms ..  | 19 937    | 1.5   | ----- \$1,000 ..  | 6 016     | 6.4   |
| ----- \$1,000 ..  | 1 624 825 | .6  | <b>COMMODITY CREDIT CORPORATION LOANS</b>   |           |   |
| Grains ----- farms ..   | 15 459    | 1.6   | Total ----- farms ..  | 1 830     | 1.4   |
| ----- \$1,000 ..  | 741 677   | .9  | ----- \$1,000 ..  | 42 855    | .7  |
| Corn for grain ----- farms ..   | 11 447    | 1.6   |   |           |   |
| ----- \$1,000 ..  | 353 301   | .8  |   |           |   |
| Wheat ----- farms ..  | 9 450     | 1.8   |   |           |   |
| ----- \$1,000 ..  | 80 790    | 1.2   |   |           |   |
| Soybeans ----- farms ..   | 9 843     | 1.6   |   |           |   |
| ----- \$1,000 ..  | 210 493   | 1.0   |   |           |   |
| Sorghum for grain ----- farms ..  | 4         | 17.5  |   |           |   |
| ----- (D) \$1,000 ..  | (D)       | —   |   |           |   |
| Barley ----- farms ..   | 256       | 2.3   |   |           |   |
| ----- (D) \$1,000 ..  | (D)       | —   |   |           |   |
| Oats ----- farms ..   | 1 773     | 2.1   |   |           |   |
| ----- \$1,000 ..  | 4 564     | 1.8   |   |           |   |
| Other grains ----- farms ..   | 3 392     | 1.8   |   |           |   |
| ----- \$1,000 ..  | 91 230    | 1.1   |   |           |   |
| Cotton and cottonseed ----- farms ..  | —         | —   |   |           |   |
| ----- \$1,000 ..  | —         | —   |   |           |   |
| Tobacco ----- farms ..  | —         | —   |   |           |   |
| ----- \$1,000 ..  | —         | —   |   |           |   |
| Hay, silage, and field seeds ----- farms ..   | 4 719     | 1.7   |   |           |   |
| ----- \$1,000 ..  | 42 867    | 1.5   |   |           |   |
| Vegetables, sweet corn, and melons ----- farms ..   | 2 017     | 1.1   |   |           |   |
| ----- \$1,000 ..  | 156 406   | .4  |   |           |   |
| Fruits, nuts, and berries ----- farms ..  | 2 158     | 1.1   |   |           |   |
| ----- \$1,000 ..  | 201 668   | .5  |   |           |   |
| Nursery and greenhouse crops ----- farms ..   | 1 334     | .8  |   |           |   |
| ----- \$1,000 ..  | 307 323   | .2  |   |           |   |
| Other crops ----- farms ..  | 1 843     | 1.3   |   |           |   |
| ----- \$1,000 ..  | 174 883   | .4  |   |           |   |
| Livestock, poultry, and their products ----- farms ..   | 12 302    | 1.6   |   |           |   |
| ----- \$1,000 ..  | 1 327 787 | .6  |   |           |   |
| Poultry and poultry products ----- farms ..   | 550       | 1.8   |   |           |   |
| ----- \$1,000 ..  | 136 129   | .1  |   |           |   |
| Dairy products ----- farms ..   | 4 755     | 1.5   |   |           |   |
| ----- \$1,000 ..  | 616 225   | .7  |   |           |   |
| Cattle and calves ----- farms ..  | 9 840     | 1.6   |   |           |   |
| ----- \$1,000 ..  | 327 605   | .7  |   |           |   |
| Hogs and pigs ----- farms ..  | 3 054     | 1.6   |   |           |   |
| ----- \$1,000 ..  | 209 903   | .6  |   |           |   |
| Sheep, lambs, and wool ----- farms ..   | 618       | 2.0   |   |           |   |
| ----- \$1,000 ..  | 3 971     | 2.4   |   |           |   |
| Other livestock and livestock products (see text) ----- farms ..  | 1 021     | 1.6   |   |           |   |
| ----- \$1,000 ..  | 33 954    | .9  |   |           |   |
| Value of agricultural products sold directly to individuals for human consumption (see text) ----- farms .. | 1 751     | 1.5   |   |           |   |
| ----- \$1,000 ..  | 17 831    | 1.0   |   |           |   |

See footnotes at end of table.

**Table D. Reliability Estimates of State Totals for Farms With Sales of \$10,000 or More: 1992—Con.**

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

| Item   | Total     | Relative standard error of estimate (percent) | Item   | Total     | Relative standard error of estimate (percent) |
|--|-----------|---|--|-----------|---|
| <b>LAND IN FARMS ACCORDING TO USE</b>  |           |   | <b>FARMS BY TYPE OF ORGANIZATION</b>   |           |   |
| Total cropland ----- farms ..  | 23 124    | 1.5   | Individual or family (sole proprietorship) ----- farms ..                      | 19 179    | 1.6   |
| Harvested cropland ----- acres..   | 7 088 682 | 1.0   | Partnership ----- farms ..   | 5 840 599 | 1.3   |
| Harvested cropland ----- farms ..  | 22 684    | 1.5   | Partnership ----- farms ..   | 3 262     | 1.1   |
| Harvested cropland ----- acres..   | 6 025 895 | 1.0   | Partnership ----- acres..  | 1 806 160 | .6  |
| Cropland:  |           |   | Corporation:   |           |   |
| Pasture or grazing only ----- farms ..   | 6 986     | 1.7   | Family held ----- farms ..   | 1 058     | .7  |
| Pasture or grazing only ----- acres..  | 329 560   | 1.5   | Family held ----- farms ..   | 599 073   | .4  |
| Total woodland ----- farms ..  | 13 227    | 1.6   | More than 10 stockholders ----- farms ..                                       | 22        | 3.4   |
| Total woodland ----- acres..   | 760 463   | 1.3   | 10 or less stockholders ----- farms ..   | 1 036     | .8  |
| Pastureland and rangeland other than cropland and woodland pastured ----- farms .. | 2 507     | 1.6   | Other than family held ----- farms ..  | 96        | 2.3   |
| Pastureland and rangeland other than cropland and woodland pastured ----- acres..  | 129 550   | 1.1   | Other than family held ----- acres..   | 41 559    | .9  |
| Land in house lots, ponds, roads, wasteland, etc. ----- farms ..                   | 15 743    | 1.5   | More than 10 stockholders ----- farms ..                                       | 11        | 4.3   |
| Land in house lots, ponds, roads, wasteland, etc. ----- acres..                    | 351 939   | 1.2   | 10 or less stockholders ----- farms ..   | 85        | 2.5   |
| Irrigated land ----- farms ..  | 2 929     | .9  | Other—cooperative, estate or trust, institutional, etc. ----- farms ..         | 78        | 3.0   |
| Irrigated land ----- acres..   | 360 463   | .4  | Other—cooperative, estate or trust, institutional, etc. ----- acres..          | 43 243    | 1.0   |
| Harvested cropland irrigated ----- farms ..  | 2 908     | .9  |  |           |   |
| Harvested cropland irrigated ----- acres..   | 359 137   | .4  | <b>HIRED FARM LABOR</b>  |           |   |
| Pasture and other land irrigated ----- farms ..                                    | 75        | 2.9   | Hired workers by days worked:  |           |   |
| Pasture and other land irrigated ----- acres..                                     | 1 326     | 3.7   | 150 days or more ----- farms ..  | 5 509     | 15.4  |
|  |           |   | 150 days or more ----- workers..   | 19 068    | 6.8   |
| Land under federal acreage reduction programs:                                     |           |   | Less than 150 days ----- farms ..  | 9 999     | 23.3  |
| Diverted under annual commodity programs ----- farms ..                            | 8 857     | 1.6   | Less than 150 days ----- workers..   | 73 191    | 17.5  |
| Diverted under annual commodity programs ----- acres..                             | 132 098   | .9  |  |           |   |
| Conservation Reserve or Wetlands Reserve Programs ----- farms ..                   | 1 680     | 1.8   | <b>INJURIES AND DEATHS</b>   |           |   |
| Conservation Reserve or Wetlands Reserve Programs ----- acres..                    | 77 686    | 1.7   | Farm-related injuries:   |           |   |
|  |           |   | Operator and family members ----- farms ..                                     | 278       | 1.8   |
| <b>VALUE OF LAND AND BUILDINGS <sup>1</sup></b>                                    |           |   | Operator and family members ----- number..                                     | 317       | 1.9   |
| Estimated market value of land and buildings ----- farms ..                        | 23 542    | .7  | Hired workers ----- farms ..   | 426       | .8  |
| Estimated market value of land and buildings ----- \$1,000..                       | 8 998 951 | .8  | Hired workers ----- number..   | 821       | .5  |
| Average per farm ----- dollars   | 382 251   | 1.1   | Farm-related deaths:   |           |   |
| Average per acre ----- dollars   | 1 074     | 1.1   | Operator and family members ----- farms ..                                     | 16        | 5.9   |
|  |           |   | Operator and family members ----- (D)  | (D)       | (D)   |
| <b>VALUE OF MACHINERY AND EQUIPMENT <sup>1</sup></b>                               |           |   | Hired workers ----- farms ..   | 2         | -   |
| Estimated market value of all machinery and equipment ----- farms ..               | 23 530    | .7  | Hired workers ----- number..   | (D)       | (D)   |
| Estimated market value of all machinery and equipment ----- \$1,000..              | 2 148 503 | .9  |  |           |   |
| Average per farm ----- dollars   | 91 309    | 1.1   | <b>FARMS BY SIZE</b>   |           |   |
|  |           |   | 1 to 9 acres ----- farms ..  | 685       | 1.3   |
| <b>AGRICULTURAL CHEMICALS<sup>1</sup></b>  |           |   | 10 to 49 acres ----- farms ..  | 1 902     | 1.2   |
| Commercial fertilizer ----- farms ..   | 20 798    | .9  | 50 to 69 acres ----- farms ..  | 918       | 1.6   |
| Commercial fertilizer ----- acres on which used ..                                 | 5 337 217 | .8  | 70 to 99 acres ----- farms ..  | 1 959     | 1.7   |
|  |           |   | 100 to 139 acres ----- farms ..  | 2 489     | 2.0   |
| <b>TENURE OF OPERATOR</b>  |           |   | 140 to 179 acres ----- farms ..  | 2 294     | 2.0   |
| All operators ----- farms ..   | 23 673    | 1.5   | 180 to 219 acres ----- farms ..  | 1 822     | 2.1   |
| All operators ----- acres..  | 8 330 634 | 1.1   | 220 to 259 acres ----- farms ..  | 1 552     | 2.1   |
| Full owners ----- farms ..   | 9 283     | 1.6   | 260 to 499 acres ----- farms ..  | 5 066     | 1.9   |
| Full owners ----- acres..  | 1 695 093 | 1.5   | 500 to 999 acres ----- farms ..  | 3 460     | 1.2   |
| Part owners ----- farms ..   | 12 511    | 1.5   | 1,000 to 1,999 acres ----- farms ..  | 1 225     | -   |
| Part owners ----- acres..  | 6 056 509 | 1.0   | 2,000 acres or more ----- farms ..   | 301       | -   |
| Tenants ----- farms ..   | 1 879     | 1.5   |  |           |   |
| Tenants ----- acres..  | 579 032   | 1.1   | <b>FARMS BY STANDARD INDUSTRIAL CLASSIFICATION</b>                             |           |   |
|  |           |   | Cash grains (011) ----- farms ..   | 8 802     | 1.8   |
| <b>OWNED AND RENTED LAND</b>   |           |   | Field crops, except cash grains (013) ----- farms ..                           | 1 342     | 1.6   |
| Land owned ----- farms ..  | 21 845    | 1.5   | Vegetables and melons (016) ----- farms ..                                     | 925       | 1.4   |
| Land owned ----- acres..   | 4 968 562 | 1.2   | Fruits and tree nuts (017) ----- farms ..                                      | 1 747     | 1.1   |
| Owned land in farms ----- farms ..   | 21 794    | 1.5   | Horticultural specialties (018) ----- farms ..                                 | 1 145     | .8  |
| Owned land in farms ----- acres..  | 4 792 213 | 1.2   | General farms, primarily crop (019) ----- farms ..                             | 544       | 2.0   |
| Land rented or leased from others ----- farms ..                                   | 14 423    | 1.4   | Livestock, except dairy, poultry, and animal specialties (021) ----- farms ..  | 4 191     | 1.7   |
| Land rented or leased from others ----- landlords..                                | 3 554 674 | .9  | Dairy farms (024) ----- farms ..   | 4 216     | 1.5   |
| Land rented or leased from others ----- farms ..                                   | 55 428    | 1.1   | Poultry and eggs (025) ----- farms ..  | 128       | 1.6   |
| Rented or leased land in farms ----- farms ..                                      | 14 390    | 1.4   | Animal specialties (027) ----- farms ..  | 392       | 1.9   |
| Rented or leased land in farms ----- acres..                                       | 3 538 421 | .9  | General farms, primarily livestock and animal specialties (029) ----- farms .. | 241       | 2.2   |
| Land rented or leased to others ----- farms ..                                     | 2 212     | 1.6   |  |           |   |
| Land rented or leased to others ----- acres..                                      | 192 602   | 1.6   | <b>LIVESTOCK</b>   |           |   |
|  |           |   | Cattle and calves inventory ----- farms ..                                     | 9 910     | 1.6   |
| <b>OPERATOR CHARACTERISTICS</b>  |           |   | Cattle and calves inventory ----- number..                                     | 1 010 071 | .9  |
| Operators by place of residence:   |           |   | Beef cows ----- farms ..   | 2 923     | 1.8   |
| On farm operated ----- farms ..  | 19 653    | 1.6   | Beef cows ----- number..   | 73 788    | 1.6   |
| Not on farm operated ----- farms ..  | 2 802     | 1.3   | Milk cows ----- farms ..   | 4 818     | 1.5   |
| Not reported ----- farms ..  | 1 218     | 1.4   | Milk cows ----- number..   | 316 008   | .8  |
| Operators by principal occupation:   |           |   | Cattle and calves sold ----- farms ..  | 9 840     | 1.6   |
| Farming ----- farms ..   | 17 054    | 1.5   | Cattle and calves sold ----- number..  | 553 909   | .8  |
| Other ----- farms ..   | 6 619     | 1.6   | Hogs and pigs inventory ----- \$1,000..  | 327 605   | .7  |
| Operators by days worked off farm:   |           |   | Hogs and pigs inventory ----- farms ..   | 2 925     | 1.6   |
| Any ----- farms ..   | 9 974     | 1.6   | Hogs and pigs sold ----- number..  | 1 193 329 | .7  |
| 200 days or more ----- farms ..  | 6 103     | 1.6   | Hogs and pigs sold ----- farms ..  | 3 054     | 1.6   |
| Operators by sex:  |           |   | Hogs and pigs sold ----- number..  | 2 252 910 | .7  |
| Male ----- farms ..  | 22 715    | 1.5   | Sheep and lambs of all ages inventory ----- farms ..                           | 611       | 2.0   |
| Female ----- farms ..  | 958       | 1.6   | Sheep and lambs of all ages inventory ----- number..                           | 60 502    | 2.5   |
| Average age of operator ----- years ..   | 50.9      | 2.1   | Sheep and lambs sold ----- farms ..  | 588       | 2.1   |
|  |           |   | Sheep and lambs sold ----- number..  | 60 819    | 3.0   |
|  |           |   | Horses and ponies inventory ----- farms ..                                     | 2 017     | 1.7   |
|  |           |   | Horses and ponies inventory ----- number..                                     | 15 339    | 1.8   |
|  |           |   | Horses and ponies sold ----- farms ..  | 601       | 1.8   |
|  |           |   | Horses and ponies sold ----- number..  | 3 847     | 2.8   |

See footnotes at end of table.

Table D. **Reliability Estimates of State Totals for Farms With Sales of \$10,000 or More: 1992—Con.**

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

| Item   | Total       | Relative standard error of estimate (percent) | Item   | Total      | Relative standard error of estimate (percent) |
|--|-------------|---|--|------------|---|
| <b>POULTRY</b>   |             |   | <b>CROPS HARVESTED—Con.</b>                            |            |   |
| Chickens 3 months old or older inventory -----farms -- | 729         | 1.8   | Soybeans for beans ----- farms ..                      | 9 875      | 1.6   |
| -----number..  | 5 327 826   | .2  | -----acres..   | 1 245 826  | 1.1   |
| Hens and pullets of laying age -----farms --           | 718         | 1.8   | -----bushels..   | 39 581 642 | 1.0   |
| -----number..  | 4 560 993   | .2  | Dry edible beans, excluding dry limas -----farms --    | 2 864      | 1.9   |
| -----farms --  | 115         | 3.6   | -----acres..   | 316 657    | 1.3   |
| -----number..  | 373 304     | 12.4  | -----cwt..   | 4 176 032  | 1.2   |
| <b>CROPS HARVESTED</b>                                 |             |   | Irish potatoes ----- farms ..                          | 374        | 1.5   |
| -----farms --  | 14 270      | 1.6   | -----acres..   | 46 885     | .6  |
| -----acres..   | 2 137 034   | .9  | Sugar beets for sugar ----- farms ..                   | 13 163 494 | .4  |
| -----bushels..   | 220 432 118 | .8  | -----cwt..   | 1 485      | 1.3   |
| Corn for silage or green chop -----farms --            | 5 148       | 1.6   | -----acres..   | 174 654    | .6  |
| -----acres..   | 293 054     | .9  | -----tons..  | 3 022 251  | .6  |
| -----farms --  | 3 597 191   | .8  | Hay—alfalfa, other tame, small grain, wild, grass      |            |   |
| -----tons, green..                                     | 9 535       | 1.8   | -----farms --  | 11 074     | 1.7   |
| -----farms --  | 537 010     | 1.2   | -----acres..   | 986 503    | 1.2   |
| -----acres..   | 27 504 640  | 1.2   | -----tons, dry..                                       | 2 384 704  | 1.2   |
| -----bushels..   | 3 905       | 1.9   | -----farms --  | 10 017     | 1.7   |
| Oats for grain -----farms --                           | 96 923      | 1.6   | -----acres..   | 670 658    | 1.4   |
| -----acres..   | 5 871 437   | 1.7   | -----tons, dry..                                       | 1 834 465  | 1.2   |
| -----bushels..   |             |   | Vegetables harvested for sale (see text) -----farms -- | 2 017      | 1.1   |
|  |             |   | -----acres..   | 134 806    | .5  |
|  |             |   | -----farms --  | 1 856      | 1.1   |
|  |             |   | -----acres..   | 147 407    | .6  |

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

<sup>2</sup>Farms with total production expenses equal to market value of agricultural products sold are included as farms with gains of less than \$1,000.

**Table E. Reliability Estimates of Percent Change in State Totals: 1987 to 1992**

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

| Item   | All farms                        |                            | Farms with sales of \$10,000 or more |                            |
|--|----------------------------------|----------------------------|--------------------------------------|----------------------------|
|  | Percent change from 1987 to 1992 | Standard error of estimate | Percent change from 1987 to 1992     | Standard error of estimate |
| Farms..... number..  | -9.0                             | 1.3                        | -2.1                                 | 1.8                        |
| Land in farms..... acres..   | -2.2                             | 1.3                        | 1.2                                  | 1.3                        |
| Average size of farm..... acres..  | 7.4                              | 2.1                        | 3.5                                  | 2.4                        |
| Estimated market value of land and buildings <sup>1</sup> :  |                                  |                            |                                      |                            |
| Average per farm.....dollars..   | 26.2                             | 2.1                        | 20.1                                 | 2.2                        |
| Average per acre.....dollars..   | 16.5                             | 1.9                        | 15.1                                 | 2.0                        |
| Estimated market value of all machinery and equipment <sup>1</sup> :                               |                                  |                            |                                      |                            |
| Average per farm.....dollars..   | 19.7                             | 2.1                        | 15.9                                 | 2.2                        |
| Farms by size:   |                                  |                            |                                      |                            |
| 1 to 9 acres.....  | -10.6                            | 1.4                        | -7.9                                 | 1.8                        |
| 10 to 49 acres.....  | -8.4                             | 1.3                        | 12.3                                 | 2.0                        |
| 50 to 179 acres.....   | -11.8                            | 1.4                        | .8                                   | 2.2                        |
| 180 to 499 acres.....  | -9.2                             | 2.0                        | -8.7                                 | 2.1                        |
| 500 to 999 acres.....  | -2.5                             | 1.4                        | -2.8                                 | 1.4                        |
| 1,000 to 1,999 acres.....  | 8.8                              | -                          | 9.6                                  | -                          |
| 2,000 acres or more.....   | 36.3                             | -                          | 36.8                                 | -                          |
| Total cropland..... farms..  | -8.9                             | 1.3                        | -1.7                                 | 1.8                        |
| Harvested cropland..... acres..  | -3                               | 1.3                        | 2.9                                  | 1.3                        |
| ..... farms..  | -10.2                            | 1.3                        | -2.1                                 | 1.8                        |
| ..... acres..  | 6.7                              | 1.3                        | 10.4                                 | 1.4                        |
| Irrigated land..... farms..  | 1.8                              | 1.1                        | 1.1                                  | 1.1                        |
| ..... acres..  | 16.4                             | .8                         | 17.0                                 | .8                         |
| Market value of agricultural products sold.....\$1,000..   | 19.0                             | .9                         | 20.3                                 | 1.0                        |
| Average per farm.....dollars..   | 30.8                             | 2.2                        | 22.9                                 | 2.5                        |
| Crops, including nursery and greenhouse crops.....\$1,000..  | 31.3                             | 1.0                        | 33.7                                 | 1.0                        |
| Livestock, poultry, and their products.....\$1,000..   | 6.7                              | .9                         | 7.1                                  | .9                         |
| Farms by value of sales:   |                                  |                            |                                      |                            |
| Less than \$2,500.....   | -13.8                            | 1.0                        | (X)                                  | (X)                        |
| \$2,500 to \$4,999.....  | -17.6                            | 1.3                        | (X)                                  | (X)                        |
| \$5,000 to \$9,999.....  | -15.4                            | 1.4                        | (X)                                  | (X)                        |
| \$10,000 to \$24,999.....  | -8.4                             | 1.9                        | -8.4                                 | 1.9                        |
| \$25,000 to \$49,999.....  | -6.4                             | 2.4                        | -6.4                                 | 2.4                        |
| \$50,000 to \$99,999.....  | -3.7                             | 2.4                        | -3.7                                 | 2.4                        |
| \$100,000 to \$249,999.....  | .6                               | 1.4                        | .6                                   | 1.4                        |
| \$250,000 to \$499,999.....  | 22.1                             | -                          | 22.1                                 | -                          |
| \$500,000 or more.....   | 56.3                             | -                          | 56.3                                 | -                          |
| Total farm production expenses <sup>1</sup> .....\$1,000..   | 16.8                             | 1.0                        | 18.4                                 | 1.1                        |
| Average per farm.....dollars..   | 28.4                             | 1.8                        | 21.4                                 | 1.9                        |
| Net cash return from agricultural sales for the farm unit (see text) <sup>1</sup> ..... farms..    | -9.0                             | 1.1                        | -2.5                                 | 1.3                        |
| .....\$1,000..   | 34.7                             | 3.0                        | 30.2                                 | 2.3                        |
| Average per farm.....dollars..   | 48.1                             | 3.7                        | 33.5                                 | 3.0                        |
| Operators by principal occupation:   |                                  |                            |                                      |                            |
| Farming.....   | -6.6                             | 1.5                        | -4.0                                 | 1.7                        |
| Other.....   | -11.5                            | 1.3                        | 3.2                                  | 2.1                        |
| Operators by days worked off farm:   |                                  |                            |                                      |                            |
| Any.....   | -12.7                            | 4.5                        | -4.3                                 | 5.0                        |
| 200 days or more.....  | -13.6                            | 4.4                        | .4                                   | 5.3                        |
| Livestock and poultry:   |                                  |                            |                                      |                            |
| Cattle and calves inventory..... farms..   | -12.4                            | 1.4                        | -7.6                                 | 1.9                        |
| ..... number..   | -4.3                             | 1.1                        | -3.2                                 | 1.1                        |
| Beef cows..... farms..   | -7.5                             | 1.5                        | 8.6                                  | 2.3                        |
| ..... number..   | 5.4                              | 1.9                        | 14.8                                 | 2.3                        |
| Milk cows..... farms..   | -20.0                            | 1.5                        | -16.3                                | 1.7                        |
| ..... number..   | -8.0                             | 1.1                        | -7.5                                 | 1.1                        |
| Cattle and calves sold..... farms..  | -13.1                            | 1.4                        | -8.4                                 | 1.8                        |
| ..... number..   | -9.0                             | .9                         | -8.1                                 | .9                         |
| Hogs and pigs inventory..... farms..   | -14.4                            | 1.4                        | -17.1                                | 1.7                        |
| ..... number..   | .4                               | .9                         | .8                                   | .9                         |
| Hogs and pigs sold..... farms..  | -14.9                            | 1.4                        | -16.9                                | 1.7                        |
| ..... number..   | 3.8                              | 1.0                        | 4.3                                  | 1.0                        |
| Sheep and lambs inventory..... farms..   | -11.0                            | 1.5                        | -15.1                                | 2.2                        |
| ..... number..   | -3.8                             | 2.2                        | 1.1                                  | 3.1                        |
| Chickens 3 months old or older inventory..... farms..  | -30.9                            | 1.1                        | -31.8                                | 1.6                        |
| ..... number..   | -36.1                            | .2                         | -36.2                                | .2                         |
| Broilers and other meat-type chickens sold..... farms..  | -22.0                            | 2.0                        | -35.4                                | 2.9                        |
| ..... number..   | -43.0                            | 7.8                        | -43.8                                | 8.2                        |
| Selected crops harvested:  |                                  |                            |                                      |                            |
| Corn for grain or seed..... farms..  | -24.6                            | 1.3                        | -13.2                                | 1.7                        |
| ..... acres..  | 12.0                             | 1.3                        | 17.0                                 | 1.3                        |
| ..... bushels..  | 19.5                             | 1.3                        | 23.5                                 | 1.3                        |
| Wheat for grain..... farms..   | 20.4                             | 2.3                        | 24.0                                 | 2.6                        |
| ..... acres..  | 63.8                             | 2.4                        | 67.6                                 | 2.5                        |
| ..... bushels..  | 78.3                             | 2.5                        | 81.8                                 | 2.6                        |
| Soybeans for beans..... farms..  | 3.5                              | 1.8                        | 13.9                                 | 2.2                        |
| ..... acres..  | 30.1                             | 1.8                        | 34.7                                 | 1.9                        |
| ..... bushels..  | 14.8                             | 1.6                        | 18.1                                 | 1.6                        |
| Dry edible beans, excluding dry limas..... farms..   | -22.5                            | 1.7                        | -15.6                                | 2.0                        |
| ..... acres..  | -16.0                            | 1.3                        | -14.0                                | 1.3                        |
| ..... cwt..  | -14.2                            | 1.3                        | -12.5                                | 1.3                        |
| Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text)..... farms.. | -14.2                            | 1.3                        | -10.2                                | 1.8                        |
| ..... acres..  | -10.7                            | 1.3                        | -10.6                                | 1.4                        |
| ..... tons, dry..  | -15.1                            | 1.2                        | -14.2                                | 1.2                        |
| Vegetables harvested for sale (see text)..... farms..  | -8.0                             | 1.2                        | -3.8                                 | 1.4                        |
| ..... acres..  | -2                               | .7                         | 1.1                                  | .7                         |
| Land in orchards..... farms..  | -6.9                             | 1.2                        | -3.4                                 | 1.4                        |
| ..... acres..  | .4                               | .9                         | 1.1                                  | .9                         |

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

**Table F. Reliability Estimates for the State and County Totals: 1992**

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

| Geographic area       | Farms          |   | Land in farms     |   | Average size of farm |   | Average market value of land and buildings per farm <sup>1</sup> |   | Estimated market value of all machinery and equipment <sup>1</sup> |   |
|-----------------------|----------------|---|-------------------|---|----------------------|---|--|---|--|---|
|                       | Total (number) | Relative standard error of estimate (percent) | Total (acres)     | Relative standard error of estimate (percent) | Total (acres)        | Relative standard error of estimate (percent) | Value (dollars)  | Relative standard error of estimate (percent) | Total (\$1,000)  | Relative standard error of estimate (percent) |
| <b>Michigan -----</b> | <b>46 562</b>  | <b>1.1</b>                                    | <b>10 088 170</b> | <b>1.1</b>                                    | <b>217</b>           | <b>1.5</b>                                    | <b>247 370</b>   | <b>1.0</b>                                    | <b>2 558 206</b>   | <b>.8</b>                                     |
| Alcona -----          | 209            | .9  | 42 572            | 1.9   | 204                  | 2.1   | 148 051  | 14.5  | 5 582  | 8.9   |
| Alger -----           | 58             | .8  | 16 099            | 3.3   | 278                  | 3.4   | 164 828  | 6.7   | 1 836  | 5.5   |
| Allegan -----         | 1 469          | .5  | 246 403           | .6  | 168                  | .8  | 236 460  | 3.9   | 85 546   | 2.4   |
| Alpena -----          | 379            | .9  | 77 493            | 1.5   | 204                  | 1.8   | 133 297  | 7.3   | 10 246   | 4.8   |
| Antrim -----          | 247            | .5  | 51 517            | 1.3   | 209                  | 1.4   | 202 299  | 7.1   | 10 823   | 8.4   |
| Arenac -----          | 276            | .9  | 82 418            | 1.4   | 299                  | 1.7   | 270 205  | 7.5   | 19 125   | 9.8   |
| Baraga -----          | 57             | .5  | 14 104            | 2.5   | 247                  | 2.6   | 117 918  | 6.1   | 2 039  | 5.7   |
| Barry -----           | 833            | .6  | 165 371           | .9  | 199                  | 1.1   | 199 439  | 4.0   | 35 252   | 6.9   |
| Bay -----             | 795            | .5  | 181 052           | .7  | 228                  | .8  | 293 678  | 4.6   | 67 064   | 5.2   |
| Benzie -----          | 120            | .5  | 19 844            | 1.6   | 165                  | 1.7   | 173 486  | 3.7   | 5 356  | 6.9   |
| Berrien -----         | 1 312          | .5  | 166 886           | .7  | 127                  | .9  | 186 559  | 3.0   | 60 263   | 2.8   |
| Branch -----          | 935            | 1.0   | 227 665           | 1.2   | 243                  | 1.6   | 248 478  | 8.4   | 59 328   | 5.5   |
| Calhoun -----         | 1 080          | .5  | 244 927           | .6  | 227                  | .7  | 212 228  | 4.2   | 48 124   | 4.7   |
| Cass -----            | 735            | .5  | 186 431           | .7  | 254                  | .8  | 253 121  | 3.1   | 46 452   | 3.5   |
| Charlevoix -----      | 196            | .7  | 41 037            | 1.6   | 209                  | 1.7   | 161 439  | 7.7   | 6 447  | 13.2  |
| Cheboygan -----       | 170            | .9  | 40 871            | 2.1   | 240                  | 2.3   | 144 930  | 5.3   | 6 501  | 8.3   |
| Chippewa -----        | 332            | .6  | 92 809            | 1.1   | 280                  | 1.3   | 142 856  | 11.5  | 14 070   | 10.5  |
| Clare -----           | 292            | .8  | 64 084            | 1.2   | 219                  | 1.4   | 121 363  | 5.1   | 7 633  | 7.5   |
| Clinton -----         | 1 207          | .7  | 256 236           | .9  | 212                  | 1.1   | 213 723  | 2.7   | 60 652   | 2.9   |
| Crawford -----        | 17             | 1.9   | 1 402             | 6.8   | 82                   | 7.0   | 101 459  | 9.0   | 366  | 7.0   |
| Delta -----           | 237            | .6  | 72 777            | 1.3   | 307                  | 1.4   | 147 978  | 10.4  | 9 868  | 9.0   |
| Dickinson -----       | 99             | .7  | 28 415            | 2.0   | 287                  | 2.1   | 158 663  | 4.8   | 7 134  | 7.0   |
| Eaton -----           | 1 069          | .8  | 233 921           | 1.0   | 219                  | 1.3   | 236 304  | 3.3   | 53 384   | 5.4   |
| Emmet -----           | 188            | .8  | 40 365            | 1.7   | 215                  | 1.9   | 236 632  | 14.3  | 6 199  | 6.8   |
| Genesee -----         | 799            | .6  | 137 082           | .7  | 172                  | .9  | 241 367  | 3.5   | 33 066   | 5.0   |
| Gladwin -----         | 400            | .8  | 61 535            | 1.1   | 154                  | 1.4   | 121 819  | 9.0   | 9 158  | 6.2   |
| Gogebic -----         | 50             | .9  | 5 965             | 2.8   | 119                  | 3.0   | 81 769   | 7.2   | 1 269  | 5.6   |
| Grand Traverse -----  | 409            | .5  | 66 789            | 1.1   | 163                  | 1.2   | 262 220  | 6.4   | 16 981   | 8.4   |
| Gratiot -----         | 914            | .9  | 277 400           | .9  | 304                  | 1.2   | 307 824  | 4.1   | 62 032   | 3.6   |
| Hillsdale -----       | 1 018          | 1.0   | 231 557           | 1.2   | 227                  | 1.5   | 214 815  | 3.7   | 49 707   | 4.6   |
| Houghton -----        | 139            | .6  | 29 161            | 1.8   | 210                  | 1.9   | 116 879  | 17.5  | 3 538  | 9.0   |
| Huron -----           | 1 325          | 1.3   | 438 914           | 1.0   | 331                  | 1.7   | 380 024  | 2.9   | 130 606  | 2.7   |
| Ingham -----          | 835            | .5  | 193 688           | .6  | 232                  | .7  | 276 681  | 4.7   | 48 054   | 6.4   |
| Ionia -----           | 1 007          | .8  | 254 793           | .9  | 253                  | 1.2   | 232 784  | 4.1   | 63 547   | 4.9   |
| Iosco -----           | 206            | .8  | 47 308            | 2.0   | 230                  | 2.1   | 146 607  | 7.7   | 9 349  | 24.2  |
| Iron -----            | 75             | .8  | 29 763            | 1.0   | 397                  | 1.2   | 197 774  | 4.6   | 2 844  | 3.3   |
| Isabella -----        | 883            | 1.0   | 199 733           | 1.1   | 226                  | 1.5   | 184 391  | 4.2   | 46 907   | 6.3   |
| Jackson -----         | 1 041          | .8  | 210 638           | 1.0   | 202                  | 1.2   | 190 716  | 3.5   | 46 187   | 5.7   |
| Kalamazoo -----       | 745            | .5  | 154 482           | .7  | 207                  | .8  | 349 106  | 4.7   | 43 359   | 7.0   |
| Kalkaska -----        | 79             | .9  | 16 076            | 2.2   | 203                  | 2.3   | 147 289  | 5.0   | 2 654  | 4.8   |
| Kent -----            | 1 190          | .6  | 190 706           | .6  | 160                  | .8  | 301 712  | 3.9   | 70 464   | 2.6   |
| Keweenaw -----        | 3              | —   | 264               | —   | 88                   | —   | 72 635   | —   | 25   | —   |
| Lake -----            | 101            | .8  | 18 047            | 2.2   | 179                  | 2.4   | 117 678  | 7.2   | 3 354  | 11.7  |
| Lapeer -----          | 1 119          | .8  | 193 956           | 1.1   | 173                  | 1.4   | 249 654  | 4.0   | 55 546   | 5.1   |
| Leelanau -----        | 374            | .5  | 64 973            | .8  | 174                  | .9  | 277 323  | 5.5   | 20 671   | 5.5   |
| Lenawee -----         | 1 259          | .5  | 336 273           | .5  | 267                  | .7  | 325 229  | 2.5   | 78 041   | 3.0   |
| Livingston -----      | 683            | .5  | 118 764           | .8  | 174                  | 1.0   | 268 868  | 4.4   | 27 567   | 6.5   |
| Luce -----            | 31             | .6  | 9 391             | 2.5   | 303                  | 2.5   | 157 328  | 6.3   | 1 348  | 4.0   |
| Mackinac -----        | 70             | .8  | 22 178            | 1.6   | 317                  | 1.8   | 186 037  | 7.6   | 3 037  | 4.7   |
| Macomb -----          | 558            | .6  | 70 306            | 1.1   | 126                  | 1.3   | 357 988  | 7.7   | 29 683   | 5.2   |
| Manistee -----        | 252            | .5  | 48 029            | 1.3   | 191                  | 1.4   | 175 584  | 10.0  | 10 737   | 8.6   |
| Marquette -----       | 84             | .8  | 23 290            | 2.0   | 277                  | 2.2   | 142 591  | 6.7   | 2 048  | 6.3   |
| Mason -----           | 402            | .9  | 73 437            | 1.2   | 183                  | 1.5   | 182 482  | 5.1   | 17 486   | 5.4   |
| Mecosta -----         | 592            | .8  | 121 153           | 1.2   | 205                  | 1.5   | 151 212  | 7.2   | 23 525   | 7.0   |
| Menominee -----       | 309            | .5  | 110 014           | .8  | 356                  | 1.0   | 224 315  | 15.7  | 15 540   | 8.9   |
| Midland -----         | 442            | .9  | 89 173            | 1.4   | 202                  | 1.7   | 242 242  | 8.2   | 18 529   | 7.6   |
| Missaukee -----       | 289            | .4  | 88 322            | .9  | 306                  | 1.0   | 228 032  | 4.5   | 16 798   | 3.7   |
| Monroe -----          | 1 135          | .6  | 217 095           | .7  | 191                  | .9  | 328 448  | 3.9   | 64 375   | 5.1   |
| Montcalm -----        | 900            | .6  | 224 030           | .8  | 249                  | 1.0   | 218 459  | 3.6   | 57 481   | 3.9   |
| Montmorency -----     | 112            | 1.0   | 22 056            | 2.7   | 197                  | 2.9   | 147 426  | 5.7   | 3 956  | 8.9   |
| Muskegon -----        | 417            | .6  | 73 661            | .8  | 177                  | 1.0   | 217 472  | 6.5   | 21 631   | 7.3   |
| Newaygo -----         | 667            | .6  | 115 338           | .9  | 173                  | 1.0   | 167 660  | 4.7   | 33 530   | 4.2   |
| Oakland -----         | 503            | .7  | 48 236            | 1.6   | 96                   | 1.8   | 250 153  | 5.3   | 19 527   | 5.0   |
| Oceana -----          | 594            | .6  | 129 083           | .6  | 217                  | .8  | 207 896  | 3.8   | 30 703   | 3.8   |
| Ogemaw -----          | 261            | 1.1   | 75 345            | 1.5   | 289                  | 1.9   | 211 837  | 13.4  | 18 351   | 9.1   |
| Ontonagon -----       | 95             | .5  | 32 980            | 1.3   | 347                  | 1.4   | 122 305  | 6.4   | 3 748  | 6.1   |
| Osceola -----         | 458            | .8  | 108 726           | 1.2   | 237                  | 1.5   | 162 554  | 4.7   | 22 354   | 7.6   |
| Oscoda -----          | 76             | 1.2   | 14 081            | 3.6   | 185                  | 3.7   | 133 743  | 6.6   | 1 555  | 5.6   |
| Otsego -----          | 133            | .8  | 36 272            | 1.8   | 273                  | 2.0   | 206 806  | 6.2   | 6 010  | 11.0  |
| Ottawa -----          | 1 367          | .5  | 176 305           | .6  | 129                  | .8  | 268 234  | 3.1   | 84 413   | 2.9   |
| Presque Isle -----    | 278            | 1.0   | 79 921            | 1.5   | 287                  | 1.8   | 214 969  | 9.4   | 17 456   | 14.6  |
| Roscommon -----       | 36             | .8  | 3 786             | 5.6   | 105                  | 5.6   | 95 425   | 7.8   | 727  | 7.4   |
| Saginaw -----         | 1 294          | .5  | 318 125           | .6  | 246                  | .8  | 286 240  | 2.8   | 83 700   | 3.5   |
| St. Clair -----       | 988            | .6  | 181 569           | .8  | 184                  | 1.0   | 234 789  | 4.2   | 53 433   | 7.0   |
| St. Joseph -----      | 855            | .7  | 234 823           | .7  | 275                  | 1.0   | 323 109  | 4.5   | 60 403   | 5.2   |
| Sanilac -----         | 1 433          | .9  | 444 407           | .8  | 310                  | 1.2   | 275 080  | 2.5   | 106 460  | 2.7   |
| Schoolcraft -----     | 49             | .9  | 13 908            | 3.5   | 284                  | 3.6   | 126 328  | 6.4   | 1 976  | 5.4   |
| Shiawassee -----      | 1 086          | .9  | 236 799           | 1.1   | 218                  | 1.4   | 233 064  | 3.4   | 57 909   | 8.0   |
| Tuscola -----         | 1 128          | .6  | 324 111           | .5  | 287                  | .8  | 383 843  | 3.3   | 82 449   | 4.2   |
| Van Buren -----       | 1 164          | .6  | 206 781           | .6  | 178                  | .9  | 219 656  | 3.7   | 62 020   | 3.9   |
| Washtenaw -----       | 1 057          | .6  | 188 958           | .8  | 179                  | 1.0   | 357 056  | 3.9   | 55 682   | 3.7   |
| Wayne -----           | 303            | .9  | 22 488            | 2.3   | 74                   | 2.5   | 252 642  | 7.5   | 10 146   | 6.0   |
| Wexford -----         | 178            | .6  | 31 427            | 1.6   | 177                  | 1.8   | 141 567  | 6.9   | 5 265  | 7.5   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 —Con.**

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

| Geographic area | Average market value of all machinery and equipment per farm <sup>1</sup> |   | Market value of agricultural products sold |   | Average market value of agricultural products sold per farm |   | Farm production expenses <sup>1</sup> |   |                  |   |
|-----------------|---|---|--|---|---|---|---------------------------------------|---|------------------|---|
|                 | Value (dollars)   | Relative standard error of estimate (percent) | Total (\$1,000)                            | Relative standard error of estimate (percent) | Value (dollars)   | Relative standard error of estimate (percent) | Total farm production expenses        |   |                  |   |
|                 |   |   |  |   |   |   | Farms                                 |   | Value            |   |
|                 |   |   |  |   |   |   | Number                                | Relative standard error of estimate (percent) | Total (\$1,000)  | Relative standard error of estimate (percent) |
| <b>Michigan</b> | <b>55 028</b>   | <b>1.0</b>                                    | <b>3 028 547</b>                           | <b>.6</b>                                     | <b>65 043</b>   | <b>1.3</b>                                    | <b>46 558</b>                         | <b>.6</b>                                     | <b>2 583 189</b> | <b>.4</b>                                     |
| Alcona          | 26 838  | 9.0   | 4 360                                      | 2.7   | 20 863  | 2.8   | 208                                   | 1.3   | 3 450            | 7.5   |
| Alger           | 31 658  | 7.0   | 1 601                                      | 5.4   | 27 602  | 5.5   | 58                                    | 4.3   | 1 505            | 4.9   |
| Allegan         | 58 274  | 2.5   | 154 039                                    | .3  | 104 860   | .6  | 1 468                                 | .7  | 126 332          | .9  |
| Alpena          | 27 106  | 5.0   | 10 334                                     | 1.9   | 27 267  | 2.1   | 378                                   | 1.3   | 7 468            | 3.5   |
| Antrim          | 43 817  | 8.5   | 13 057                                     | 1.0   | 52 862  | 1.1   | 247                                   | 1.0   | 10 159           | 4.1   |
| Arenac          | 69 294  | 9.9   | 19 651                                     | 1.2   | 71 198  | 1.5   | 276                                   | 1.3   | 13 588           | 5.2   |
| Baraga          | 35 775  | 6.8   | 1 008                                      | 7.5   | 17 681  | 7.6   | 57                                    | 3.6   | 760              | 7.7   |
| Barry           | 42 730  | 7.0   | 38 354                                     | .8  | 46 043  | .9  | 833                                   | .7  | 36 541           | 2.4   |
| Bay             | 84 464  | 5.2   | 60 966                                     | .5  | 76 687  | .7  | 794                                   | .8  | 49 035           | 3.1   |
| Benzie          | 44 636  | 7.2   | 4 568                                      | 1.7   | 38 063  | 1.8   | 120                                   | 2.1   | 4 152            | 5.1   |
| Berrien         | 46 073  | 2.9   | 68 223                                     | .5  | 51 999  | .7  | 1 313                                 | .6  | 59 168           | 1.5   |
| Branch          | 64 487  | 5.7   | 66 203                                     | .8  | 70 806  | 1.3   | 935                                   | 1.2   | 55 298           | 1.8   |
| Calhoun         | 44 518  | 4.8   | 52 793                                     | .5  | 48 883  | .7  | 1 081                                 | .7  | 46 928           | 2.7   |
| Cass            | 63 807  | 3.7   | 72 885                                     | .4  | 99 163  | .7  | 735                                   | .8  | 61 867           | 1.8   |
| Charlevoix      | 33 060  | 13.2  | 4 907                                      | 2.3   | 25 036  | 2.4   | 195                                   | 1.2   | 3 244            | 5.8   |
| Cheboygan       | 38 240  | 8.5   | 4 602                                      | 2.6   | 27 072  | 2.8   | 170                                   | 1.7   | 4 087            | 4.2   |
| Chippewa        | 42 253  | 10.6  | 6 124                                      | 2.2   | 18 446  | 2.3   | 333                                   | .9  | 6 522            | 10.2  |
| Clare           | 26 141  | 7.6   | 10 651                                     | 1.3   | 36 476  | 1.5   | 292                                   | 1.2   | 7 930            | 5.2   |
| Clinton         | 50 250  | 3.0   | 72 396                                     | .6  | 59 980  | 1.0   | 1 207                                 | .8  | 61 948           | 2.3   |
| Crawford        | 21 522  | 8.8   | (D)  | (D)   | (D)   | (D)   | 17                                    | 5.4   | 164              | 8.1   |
| Delta           | 41 812  | 9.0   | 8 379                                      | 1.7   | 35 356  | 1.8   | 236                                   | 1.0   | 7 263            | 6.4   |
| Dickinson       | 72 797  | 7.3   | 3 987                                      | 2.8   | 40 275  | 2.9   | 98                                    | 2.2   | 3 382            | 5.1   |
| Eaton           | 49 938  | 5.5   | 47 218                                     | .9  | 44 170  | 1.3   | 1 069                                 | 1.0   | 39 994           | 2.2   |
| Emmet           | 32 974  | 6.9   | 4 848                                      | 2.2   | 25 787  | 2.3   | 188                                   | 1.3   | 4 238            | 11.8  |
| Genesee         | 41 436  | 5.1   | 30 897                                     | .6  | 38 669  | .9  | 798                                   | .8  | 30 582           | 2.7   |
| Gladwin         | 22 896  | 6.3   | 7 120                                      | 1.5   | 17 800  | 1.7   | 400                                   | 1.0   | 6 758            | 8.4   |
| Gogebic         | 25 382  | 7.2   | 414  | 7.1   | 8 275   | 7.2   | 50                                    | 4.4   | 429              | 5.9   |
| Grand Traverse  | 42 136  | 8.6   | 14 891                                     | 1.2   | 36 409  | 1.3   | 409                                   | .8  | 12 274           | 4.8   |
| Gratiot         | 67 868  | 3.8   | 78 632                                     | .6  | 86 031  | 1.0   | 914                                   | .9  | 60 069           | 2.1   |
| Hillsdale       | 48 829  | 4.7   | 56 053                                     | .9  | 55 062  | 1.3   | 1 018                                 | 1.2   | 50 943           | 2.1   |
| Houghton        | 25 637  | 9.2   | 2 528                                      | 3.8   | 18 190  | 3.9   | 138                                   | 1.9   | 1 941            | 8.8   |
| Huron           | 98 719  | 3.0   | 180 246                                    | .6  | 136 035   | 1.5   | 1 324                                 | 1.3   | 153 967          | 1.1   |
| Ingham          | 57 412  | 6.4   | 45 725                                     | .6  | 54 760  | .7  | 837                                   | .7  | 42 502           | 3.8   |
| Ionia           | 63 168  | 4.9   | 75 770                                     | .7  | 75 244  | 1.1   | 1 006                                 | .9  | 66 749           | 1.9   |
| Iosco           | 45 165  | 24.3  | 9 574                                      | 1.5   | 46 474  | 1.7   | 207                                   | 1.0   | 8 653            | 5.9   |
| Iron            | 37 914  | 4.7   | 1 832                                      | 3.1   | 24 429  | 3.2   | 75                                    | 3.3   | 1 851            | 2.9   |
| Isabella        | 53 122  | 6.4   | 49 110                                     | 1.0   | 55 617  | 1.4   | 883                                   | 1.0   | 42 245           | 3.8   |
| Jackson         | 44 411  | 5.7   | 44 654                                     | .8  | 42 895  | 1.1   | 1 041                                 | .9  | 41 613           | 1.7   |
| Kalamazoo       | 58 911  | 7.1   | 87 635                                     | .2  | 117 631   | .5  | 745                                   | .7  | 73 246           | 1.7   |
| Kalkaska        | 33 598  | 6.0   | 3 096                                      | 2.5   | 39 186  | 2.7   | 79                                    | 3.5   | 2 849            | 2.2   |
| Kent            | 59 263  | 2.6   | 105 990                                    | .3  | 89 067  | .6  | 1 189                                 | .7  | 88 084           | 1.2   |
| Keweenaw        | 8 183   | —   | (D)  | (D)   | (D)   | (D)   | 3                                     | —   | 8                | —   |
| Lake            | 32 887  | 11.9  | 1 148                                      | 4.0   | 11 366  | 4.1   | 102                                   | 1.7   | 1 314            | 5.7   |
| Lapeer          | 49 595  | 5.2   | 48 103                                     | .8  | 42 987  | 1.2   | 1 120                                 | 1.0   | 44 836           | 2.1   |
| Leelanau        | 55 269  | 5.6   | 25 039                                     | .8  | 66 949  | .9  | 374                                   | .9  | 17 739           | 3.2   |
| Lenawee         | 61 937  | 3.0   | 88 993                                     | .4  | 70 685  | .6  | 1 260                                 | .7  | 77 057           | 1.2   |
| Livingston      | 40 420  | 6.5   | 29 189                                     | .7  | 42 736  | .9  | 682                                   | .8  | 25 846           | 3.8   |
| Luce            | 43 496  | 5.6   | 1 001                                      | 4.3   | 32 291  | 4.3   | 31                                    | 3.9   | 829              | 4.5   |
| Mackinac        | 43 383  | 6.0   | 3 128                                      | 2.3   | 44 679  | 2.5   | 70                                    | 3.8   | 2 548            | 3.4   |
| Macomb          | 53 387  | 5.3   | 34 223                                     | .6  | 61 332  | .8  | 556                                   | .9  | 29 846           | 2.8   |
| Manistee        | 42 778  | 8.6   | 7 774                                      | 1.1   | 30 851  | 1.2   | 251                                   | 1.1   | 7 164            | 4.1   |
| Marquette       | 25 284  | 7.0   | 1 743                                      | 1.4   | 20 746  | 1.6   | 84                                    | 2.6   | 1 464            | 5.1   |
| Mason           | 43 607  | 5.5   | 20 373                                     | 1.0   | 50 679  | 1.3   | 401                                   | 1.2   | 17 411           | 2.7   |
| Mecosta         | 39 604  | 7.1   | 22 062                                     | 1.2   | 37 267  | 1.4   | 594                                   | 1.0   | 19 373           | 3.2   |
| Menominee       | 51 629  | 9.3   | 16 732                                     | 1.2   | 54 147  | 1.3   | 309                                   | 1.1   | 13 880           | 4.8   |
| Midland         | 41 920  | 7.7   | 20 347                                     | 1.1   | 46 033  | 1.4   | 442                                   | 1.1   | 19 069           | 4.8   |
| Missaukee       | 57 924  | 3.8   | 29 085                                     | .7  | 100 640   | .8  | 290                                   | .9  | 21 324           | 2.9   |
| Monroe          | 56 818  | 5.1   | 66 291                                     | .4  | 58 406  | .7  | 1 133                                 | .8  | 60 065           | 1.6   |
| Montcalm        | 63 939  | 4.0   | 64 873                                     | .5  | 72 081  | .8  | 899                                   | .8  | 53 343           | 2.0   |
| Montmorency     | 35 318  | 9.3   | 2 564                                      | 3.2   | 22 892  | 3.3   | 112                                   | 2.5   | 2 761            | 9.5   |
| Muskegon        | 51 872  | 7.4   | 29 658                                     | .7  | 71 123  | .9  | 417                                   | 1.0   | 25 252           | 3.9   |
| Newaygo         | 50 270  | 4.2   | 39 451                                     | .7  | 59 147  | .9  | 667                                   | .8  | 33 799           | 2.5   |
| Oakland         | 38 821  | 5.2   | 25 009                                     | .7  | 49 720  | 1.0   | 503                                   | 1.3   | 23 381           | 2.6   |
| Oceana          | 51 601  | 3.9   | 44 054                                     | .5  | 74 166  | .7  | 595                                   | .8  | 36 479           | 1.7   |
| Ogemaw          | 70 309  | 9.2   | 15 724                                     | 1.7   | 60 245  | 2.0   | 261                                   | 1.5   | 12 285           | 4.7   |
| Ontonagon       | 39 042  | 6.5   | 1 981                                      | 2.1   | 20 855  | 2.2   | 96                                    | 2.2   | 1 563            | 6.2   |
| Osceola         | 49 346  | 7.7   | 17 112                                     | 1.5   | 37 362  | 1.7   | 458                                   | 1.1   | 16 244           | 7.2   |
| Oscoda          | 20 465  | 7.2   | 1 870                                      | 4.4   | 24 605  | 4.5   | 76                                    | 4.4   | 1 709            | 5.0   |
| Otsego          | 44 850  | 11.2  | 2 853                                      | 2.8   | 21 451  | 2.9   | 134                                   | 1.6   | 2 798            | 3.6   |
| Ottawa          | 61 705  | 3.0   | 232 853                                    | .2  | 170 339   | .5  | 1 368                                 | .7  | 196 812          | .6  |
| Presque Isle    | 62 791  | 14.6  | 10 891                                     | 1.6   | 39 176  | 1.9   | 278                                   | 1.3   | 10 512           | 7.8   |
| Roscommon       | 20 196  | 8.5   | 237  | 6.8   | 6 591   | 6.9   | 36                                    | 4.3   | 278              | 8.0   |
| Saginaw         | 64 633  | 3.6   | 74 553                                     | .5  | 57 614  | .7  | 1 295                                 | .6  | 60 352           | 2.1   |
| St. Clair       | 54 082  | 7.0   | 36 448                                     | .7  | 36 891  | .9  | 988                                   | .7  | 32 785           | 2.5   |
| St. Joseph      | 70 647  | 5.2   | 66 660                                     | .5  | 77 965  | .9  | 855                                   | 1.0   | 57 800           | 3.3   |
| Sanilac         | 74 240  | 2.9   | 116 977                                    | .6  | 81 631  | 1.1   | 1 434                                 | 1.0   | 94 707           | 1.7   |
| Schoolcraft     | 40 321  | 6.9   | 1 522                                      | 3.1   | 31 064  | 3.2   | 49                                    | 4.3   | 1 298            | 4.5   |
| Shiawassee      | 53 274  | 8.1   | 42 186                                     | 1.1   | 38 845  | 1.4   | 1 087                                 | 1.0   | 38 226           | 2.8   |
| Tuscola         | 73 093  | 4.2   | 97 374                                     | .4  | 86 324  | .7  | 1 128                                 | .7  | 79 039           | 3.0   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 —Con.**

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

| Geographic area                             | Average market value of all machinery and equipment per farm <sup>1</sup> |   | Market value of agricultural products sold |   | Average market value of agricultural products sold per farm |   | Farm production expenses <sup>1</sup> |   |                                 |   |                 |   |
|---|---|---|--|---|---|---|---------------------------------------|---|---------------------------------|---|-----------------|---|
|   | Value (dollars)   | Relative standard error of estimate (percent) | Total (\$1,000)                            | Relative standard error of estimate (percent) | Value (dollars)   | Relative standard error of estimate (percent) | Total farm production expenses        |   |                                 |   |                 |   |
|   |   |   |  |   |   |   | Farms                                 |   | Value                           |   |                 |   |
|   |   |   |  |   |   |   | Number                                | Relative standard error of estimate (percent) | Total (\$1,000)                 | Relative standard error of estimate (percent) |                 |   |
| Van Buren .....                             | 53 374  | 4.0   | 84 931                                     | .4  | 72 965  | .7  | 1 162                                 | .8  | 70 840                          | 1.3   |                 |   |
| Washtenaw .....                             | 52 679  | 3.8   | 52 585                                     | .7  | 49 749  | .9  | 1 057                                 | .7  | 49 962                          | 1.5   |                 |   |
| Wayne .....                                 | 33 596  | 6.2   | 21 465                                     | .7  | 70 842  | 1.1   | 303                                   | 1.4   | 17 863                          | 2.8   |                 |   |
| Wexford .....                               | 29 748  | 7.8   | 4 065                                      | 2.4   | 22 835  | 2.5   | 177                                   | 1.8   | 3 547                           | 6.0   |                 |   |
| Farm production expenses <sup>1</sup> —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) |
|   |   |   |  |   |   |   |                                       |   |                                 |   |                 |   |
| <b>Michigan</b> .....                       | <b>13 767</b>   | <b>1.6</b>                                    | <b>205 867</b>                             | <b>1.3</b>                                    | <b>21 222</b>   | <b>1.2</b>                                    | <b>333 497</b>                        | <b>.8</b>                                     | <b>30 784</b>                   | <b>.9</b>                                     | <b>137 278</b>  | <b>.7</b>                                     |
| Alcona .....                                | 59  | 24.0  | 526  | 14.7  | 98  | 17.5  | 644                                   | 20.1  | 69                              | 20.6  | 87              | 24.7  |
| Alger .....                                 | 21  | 6.6   | 101  | 6.1   | 28  | 6.1   | 320                                   | 6.7   | 23                              | 6.5   | 25              | 7.9   |
| Allegan .....                               | 524   | 6.8   | 14 259                                     | 4.8   | 745   | 5.0   | 26 623                                | 1.5   | 979                             | 3.5   | 4 490           | 2.4   |
| Alpena .....                                | 122   | 19.4  | 351  | 26.7  | 168   | 14.0  | 968                                   | 3.5   | 184                             | 14.2  | 408             | 7.9   |
| Antrim .....                                | 84  | 16.8  | 789  | 11.8  | 115   | 13.2  | 1 013                                 | 12.5  | 121                             | 12.5  | 378             | 5.4   |
| Arenac .....                                | 75  | 21.6  | 395  | 22.1  | 120   | 14.8  | 1 576                                 | 13.7  | 213                             | 6.3   | 784             | 9.1   |
| Baraga .....                                | 17  | 7.1   | 42   | 13.1  | 34  | 4.8   | 186                                   | 12.2  | 24                              | 6.0   | 16              | 8.9   |
| Barry .....                                 | 329   | 8.3   | 4 168                                      | 13.6  | 516   | 5.8   | 7 597                                 | 4.5   | 420                             | 7.0   | 1 390           | 6.6   |
| Bay .....                                   | 74  | 27.6  | 512  | 23.5  | 126   | 18.2  | 861                                   | 12.1  | 679                             | 2.8   | 3 491           | 4.3   |
| Benzie .....                                | 14  | 25.6  | 246  | 1.5   | 30  | 16.6  | 49                                    | 26.8  | 56                              | 10.7  | 74              | 13.1  |
| Berrien .....                               | 141   | 17.9  | 965  | 22.2  | 316   | 11.6  | 3 065                                 | 10.9  | 746                             | 5.1   | 2 846           | 3.1   |
| Branch .....                                | 297   | 10.7  | 6 457                                      | 6.2   | 453   | 7.5   | 7 205                                 | 6.7   | 763                             | 3.8   | 3 178           | 3.6   |
| Calhoun .....                               | 364   | 9.9   | 3 822                                      | 13.1  | 597   | 6.3   | 5 207                                 | 12.9  | 736                             | 4.3   | 2 642           | 5.8   |
| Cass .....                                  | 271   | 9.2   | 2 799                                      | 8.0   | 392   | 6.5   | 21 333                                | 3.4   | 547                             | 3.1   | 2 179           | 4.8   |
| Charlevoix .....                            | 93  | 15.5  | 265  | 38.4  | 127   | 10.9  | 327                                   | 12.3  | 61                              | 22.5  | 80              | 5.2   |
| Cheboygan .....                             | 37  | 15.2  | 170  | 21.3  | 70  | 8.5   | 1 003                                 | 6.3   | 68                              | 10.1  | 64              | 12.7  |
| Chippewa .....                              | 102   | 19.2  | 965  | 32.6  | 193   | 11.8  | 1 058                                 | 16.0  | 125                             | 14.7  | 36              | 19.9  |
| Clare .....                                 | 121   | 14.7  | 1 145                                      | 20.3  | 177   | 9.9   | 1 539                                 | 10.9  | 150                             | 10.2  | 197             | 17.2  |
| Clinton .....                               | 381   | 8.3   | 4 928                                      | 8.3   | 503   | 6.6   | 9 234                                 | 3.9   | 951                             | 2.7   | 3 027           | 4.0   |
| Crawford .....                              | 8   | 7.9   | 20   | 12.7  | 14  | 6.6   | 26                                    | 10.3  | 7                               | 11.2  | 2               | 16.1  |
| Delta .....                                 | 69  | 23.6  | 235  | 12.3  | 160   | 10.6  | 1 165                                 | 10.8  | 136                             | 11.3  | 259             | 14.1  |
| Dickinson .....                             | 24  | 13.5  | 38   | 25.0  | 53  | 8.2   | 429                                   | 13.2  | 51                              | 7.8   | 158             | 7.8   |
| Eaton .....                                 | 260   | 11.5  | 2 544                                      | 12.3  | 382   | 8.8   | 3 475                                 | 9.6   | 762                             | 3.8   | 2 863           | 4.0   |
| Emmet .....                                 | 59  | 25.1  | 648  | 52.8  | 113   | 13.4  | 426                                   | 14.9  | 106                             | 14.0  | 101             | 12.2  |
| Genesee .....                               | 214   | 11.3  | 4 738                                      | 4.4   | 340   | 8.2   | 2 501                                 | 6.9   | 516                             | 5.3   | 1 805           | 4.5   |
| Gladwin .....                               | 159   | 12.4  | 308  | 17.9  | 242   | 9.3   | 1 518                                 | 16.4  | 193                             | 9.4   | 187             | 12.9  |
| Gogebic .....                               | 17  | 7.6   | 34   | 13.2  | 32  | 5.7   | 71                                    | 8.5   | 9                               | 9.7   | 4               | 15.3  |
| Grand Traverse .....                        | 86  | 21.0  | 304  | 24.2  | 140   | 16.1  | 472                                   | 15.9  | 208                             | 10.9  | 453             | 21.6  |
| Gratiot .....                               | 270   | 12.0  | 3 472                                      | 5.1   | 364   | 9.7   | 6 219                                 | 4.1   | 747                             | 2.7   | 4 107           | 4.1   |
| Hillsdale .....                             | 328   | 10.6  | 3 943                                      | 8.2   | 480   | 7.8   | 6 153                                 | 5.1   | 791                             | 3.0   | 3 868           | 4.2   |
| Houghton .....                              | 36  | 12.4  | 131  | 23.4  | 72  | 4.8   | 391                                   | 21.3  | 51                              | 11.7  | 52              | 8.5   |
| Huron .....                                 | 482   | 7.7   | 36 190                                     | 1.7   | 635   | 6.3   | 19 657                                | 1.5   | 1 125                           | 2.9   | 6 757           | 3.7   |
| Ingham .....                                | 286   | 10.7  | 2 684                                      | 7.5   | 440   | 6.7   | 4 870                                 | 3.3   | 583                             | 4.6   | 2 210           | 4.9   |
| Ionia .....                                 | 391   | 9.1   | 3 619                                      | 9.3   | 511   | 7.5   | 13 085                                | 3.8   | 750                             | 3.5   | 2 917           | 6.3   |
| Iosco .....                                 | 88  | 20.9  | (D)  | (D)   | 98  | 13.7  | 1 607                                 | 3.3   | 143                             | 10.8  | 231             | 28.7  |
| Iron .....                                  | 23  | 5.6   | 82   | 5.7   | 53  | 3.7   | 209                                   | 5.3   | 31                              | 4.5   | 74              | 4.6   |
| Isabella .....                              | 262   | 11.9  | 4 546                                      | 15.7  | 477   | 6.3   | 7 091                                 | 7.2   | 579                             | 5.3   | 1 797           | 8.1   |
| Jackson .....                               | 326   | 9.7   | 7 792                                      | 8.1   | 510   | 7.1   | 3 873                                 | 3.4   | 655                             | 4.4   | 2 023           | 3.6   |
| Kalamazoo .....                             | 253   | 10.7  | 5 860                                      | 6.2   | 318   | 8.6   | 10 101                                | 1.8   | 490                             | 4.9   | 3 943           | 2.4   |
| Kalkaska .....                              | 30  | 5.6   | 99   | 9.6   | 44  | 4.7   | 270                                   | 6.0   | 50                              | 4.3   | 151             | 1.1   |
| Kent .....                                  | 373   | 8.7   | 2 986                                      | 6.1   | 581   | 5.9   | 5 557                                 | 5.5   | 729                             | 4.2   | 6 872           | 1.2   |
| Keweenaw .....                              | 1   | —   | (D)  | (D)   | 2   | —   | (D)                                   | —   | —                               | —   | —               | —   |
| Lake .....                                  | 29  | 17.9  | 74   | 15.8  | 64  | 10.5  | 261                                   | 11.1  | 53                              | 12.4  | 33              | 8.3   |
| Lapeer .....                                | 323   | 10.3  | 4 184                                      | 11.7  | 586   | 6.6   | 3 713                                 | 6.2   | 655                             | 4.9   | 2 647           | 7.2   |
| Leelanau .....                              | 54  | 28.3  | 1 158                                      | 6.4   | 80  | 21.9  | 368                                   | 8.3   | 157                             | 12.7  | 406             | 9.2   |
| Lenawee .....                               | 333   | 9.2   | 5 829                                      | 2.1   | 483   | 7.4   | 5 366                                 | 6.1   | 992                             | 2.6   | 5 039           | 2.4   |
| Livingston .....                            | 180   | 15.1  | 1 873                                      | 6.2   | 309   | 8.2   | 2 511                                 | 20.7  | 413                             | 6.9   | 1 148           | 6.0   |
| Luce .....                                  | 13  | 5.8   | 300  | 5.7   | 18  | 5.7   | 73                                    | 6.9   | 15                              | 6.3   | 17              | 4.4   |
| Mackinac .....                              | 28  | 6.1   | 155  | 6.0   | 50  | 4.5   | 667                                   | 4.0   | 31                              | 5.8   | 46              | 8.5   |
| Macomb .....                                | 81  | 17.6  | 1 778                                      | 2.4   | 160   | 11.0  | 1 310                                 | 8.0   | 363                             | 4.6   | 1 712           | 6.5   |
| Manistee .....                              | 72  | 19.5  | 210  | 16.3  | 134   | 10.1  | 225                                   | 24.3  | 136                             | 11.6  | 313             | 6.4   |
| Marquette .....                             | 21  | 15.4  | 47   | 24.3  | 41  | 8.3   | 291                                   | 3.3   | 23                              | 13.9  | 23              | 14.6  |
| Mason .....                                 | 77  | 22.8  | 1 348                                      | 3.3   | 168   | 12.4  | 1 776                                 | 9.1   | 257                             | 5.0   | 732             | 3.9   |
| Mecosta .....                               | 259   | 10.2  | 2 581                                      | 12.4  | 365   | 7.5   | 3 533                                 | 8.2   | 299                             | 8.8   | 633             | 5.4   |
| Menominee .....                             | 100   | 17.8  | 361  | 11.0  | 224   | 7.4   | 3 743                                 | 7.4   | 202                             | 8.4   | 395             | 14.3  |
| Midland .....                               | 120   | 14.7  | 2 487                                      | 1.2   | 183   | 9.0   | 1 397                                 | 9.7   | 286                             | 7.3   | 1 073           | 8.3   |
| Missaukee .....                             | 152   | 10.2  | 1 771                                      | 4.9   | 232   | 6.6   | 6 595                                 | 4.4   | 152                             | 9.3   | 469             | 6.2   |
| Monroe .....                                | 213   | 14.7  | 2 976                                      | 8.2   | 277   | 13.0  | 1 659                                 | 6.8   | 907                             | 3.3   | 4 811           | 2.8   |
| Montcalm .....                              | 325   | 9.0   | 1 938                                      | 9.9   | 443   | 7.3   | 3 464                                 | 5.9   | 587                             | 5.0   | 4 196           | 3.1   |
| Montmorency .....                           | 33  | 12.6  | 228  | 44.9  | 62  | 9.4   | 325                                   | 12.0  | 68                              | 7.3   | 85              | 9.3   |
| Muskegon .....                              | 143   | 15.7  | 2 932                                      | 6.7   | 251   | 7.1   | 1 988                                 | 12.1  | 229                             | 7.7   | 930             | 7.0   |
| Newaygo .....                               | 257   | 10.8  | 2 829                                      | 6.4   | 398   | 7.1   | 6 850                                 | 3.7   | 450                             | 6.0   | 1 140           | 5.0   |
| Oakland .....                               | 124   | 15.8  | 356  | 20.3  | 232   | 10.0  | 1 032                                 | 29.8  | 167                             | 12.4  | 1 093           | 3.7   |
| Oceana .....                                | 139   | 15.1  | 1 171                                      | 7.5   | 207   | 11.5  | 2 479                                 | 4.7   | 395                             | 6.5   | 1 307           | 2.7   |

See footnotes at end of table.



Table F. Reliability Estimates for the State and County Totals: 1992 — Con.

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

| Geographic area | Farm production expenses <sup>1</sup> —Con. |   |                 |   |                                |   |                 |   |                                 |   |                 |   |
|-----------------|---|---|-----------------|---|--------------------------------|---|-----------------|---|---------------------------------|---|-----------------|---|
|                 | Livestock and poultry purchased             |   |                 |   | Feed for livestock and poultry |   |                 |   | Seeds, bulbs, plants, and trees |   |                 |   |
|                 | Farms                                       |   | Value           |   | Farms                          |   | Value           |   | Farms                           |   | Value           |   |
|                 | Number                                      | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number                         | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number                          | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) |
| Ogemaw          | 72  | 26.7  | 1 189           | 22.2  | 150                            | 13.9  | 2 584           | 9.2   | 154                             | 13.3  | 423             | 7.5   |
| Ontonagon       | 24  | 16.8  | 134             | 24.0  | 59                             | 6.2   | 269             | 15.7  | 39                              | 9.4   | 40              | 13.1  |
| Osceola         | 186   | 12.0  | 1 115           | 17.4  | 271                            | 6.9   | 5 029           | 16.7  | 193                             | 10.5  | 342             | 3.2   |
| Oscoda          | 41  | 5.8   | 189             | 9.4   | 59                             | 5.0   | 433             | 5.8   | 44                              | 5.6   | 40              | 6.7   |
| Otsego          | 35  | 15.5  | 332             | 9.7   | 69                             | 10.1  | 331             | 7.5   | 74                              | 6.6   | 107             | 7.7   |
| Ottawa          | 510   | 7.8   | 17 208          | 2.6   | 671                            | 6.0   | 51 970          | 1.2   | 896                             | 4.0   | 10 168          | 1.4   |
| Presque Isle    | 95  | 20.5  | 653             | 38.5  | 146                            | 13.0  | 961             | 18.2  | 209                             | 6.8   | 500             | 9.5   |
| Roscommon       | 11  | 7.3   | 13              | 11.3  | 15                             | 6.3   | (D)             | (D)   | 7                               | 11.0  | 8               | 27.8  |
| Saginaw         | 216   | 12.8  | 1 618           | 8.1   | 308                            | 10.1  | 1 932           | 7.9   | 1 036                           | 2.5   | 4 620           | 3.1   |
| St. Clair       | 285   | 9.9   | 2 264           | 6.8   | 380                            | 8.3   | 2 659           | 5.1   | 702                             | 4.2   | 2 255           | 4.9   |
| St. Joseph      | 352   | 9.9   | 2 315           | 12.2  | 507                            | 6.1   | 6 514           | 7.4   | 641                             | 4.3   | 2 906           | 4.7   |
| Sanilac         | 465   | 7.5   | 4 537           | 6.3   | 713                            | 5.1   | 10 383          | 3.1   | 1 151                           | 3.1   | 6 112           | 3.4   |
| Schoolcraft     | 17  | 7.3   | 129             | 16.6  | 33                             | 5.4   | 183             | 5.7   | 21                              | 6.8   | 70              | 5.0   |
| Shiawassee      | 252   | 12.3  | 1 198           | 12.7  | 358                            | 9.9   | 2 839           | 9.8   | 850                             | 3.2   | 2 475           | 4.3   |
| Tuscola         | 319   | 10.8  | 3 615           | 38.5  | 448                            | 8.6   | 5 826           | 7.4   | 904                             | 3.1   | 4 998           | 3.6   |
| Van Buren       | 197   | 14.4  | 1 715           | 12.0  | 380                            | 9.1   | 5 786           | 3.4   | 541                             | 6.7   | 3 933           | 3.2   |
| Washtenaw       | 323   | 9.5   | 4 657           | 11.0  | 605                            | 5.6   | 5 913           | 7.6   | 660                             | 4.1   | 2 578           | 3.0   |
| Wayne           | 47  | 39.1  | 232             | 56.7  | 113                            | 21.8  | 576             | 49.3  | 136                             | 16.9  | 1 111           | 1.7   |
| Wexford         | 73  | 8.5   | 338             | 26.3  | 101                            | 6.0   | 688             | 14.3  | 62                              | 9.2   | 120             | 8.0   |

  

| Geographic area | Farm production expenses <sup>1</sup> —Con. |   |                 |   |                        |   |                 |   |                    |   |                 |   |
|-----------------|---|---|-----------------|---|------------------------|---|-----------------|---|--------------------|---|-----------------|---|
|                 | Commercial fertilizer                       |   |                 |   | Agricultural chemicals |   |                 |   | Petroleum products |   |                 |   |
|                 | Farms                                       |   | Value           |   | Farms                  |   | Value           |   | Farms              |   | Value           |   |
|                 | Number                                      | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number                 | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number             | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) |
| <b>Michigan</b> | <b>33 548</b>                               | <b>.9</b>                                     | <b>218 185</b>  | <b>.9</b>                                     | <b>33 010</b>          | <b>.9</b>                                     | <b>149 282</b>  | <b>.8</b>                                     | <b>44 242</b>      | <b>.7</b>                                     | <b>141 653</b>  | <b>.6</b>                                     |
| Alcona          | 103   | 15.7  | 154             | 16.7  | 90                     | 16.9  | 87              | 12.6  | 201                | 3.4   | 175             | 7.5   |
| Alger           | 26  | 6.2   | 47              | 9.8   | 39                     | 5.2   | 28              | 8.5   | 56                 | 4.4   | 80              | 4.8   |
| Allegan         | 1 072                                       | 3.0   | 6 733           | 3.8   | 1 092                  | 2.8   | 4 490           | 4.4   | 1 392              | 1.6   | 5 754           | 2.2   |
| Alpena          | 268   | 9.1   | 688             | 10.6  | 164                    | 13.8  | 339             | 5.9   | 368                | 2.8   | 462             | 5.1   |
| Antrim          | 160   | 8.8   | 688             | 4.9   | 181                    | 6.9   | 964             | 7.5   | 220                | 4.9   | 601             | 4.8   |
| Arenac          | 228   | 7.2   | 1 538           | 6.1   | 206                    | 8.1   | 796             | 5.4   | 259                | 3.9   | 822             | 4.8   |
| Baraga          | 27  | 5.6   | 23              | 8.4   | 15                     | 7.2   | (D)             | (D)   | 52                 | 3.8   | 68              | 7.1   |
| Barry           | 452   | 6.7   | 2 289           | 6.7   | 546                    | 5.6   | 1 410           | 5.5   | 776                | 2.4   | 1 807           | 3.7   |
| Bay             | 689   | 2.3   | 8 413           | 5.4   | 634                    | 3.8   | 4 045           | 4.0   | 773                | 1.6   | 3 301           | 4.4   |
| Benzie          | 79  | 6.5   | 188             | 7.7   | 93                     | 5.3   | 569             | 6.6   | 102                | 5.1   | 234             | 5.1   |
| Berrien         | 1 107                                       | 2.5   | 3 728           | 3.5   | 1 125                  | 2.7   | 5 837           | 3.6   | 1 276              | 1.0   | 3 511           | 4.0   |
| Branch          | 717   | 4.4   | 4 374           | 5.3   | 737                    | 4.0   | 2 886           | 4.3   | 893                | 2.2   | 3 463           | 4.3   |
| Calhoun         | 767   | 4.4   | 4 064           | 5.5   | 778                    | 4.1   | 2 967           | 5.6   | 1 044              | 1.6   | 2 828           | 3.7   |
| Cass            | 570   | 4.0   | 3 779           | 3.8   | 575                    | 3.3   | 2 874           | 3.5   | 721                | 1.4   | 2 710           | 3.6   |
| Charlevoix      | 84  | 19.2  | 194             | 7.8   | 99                     | 14.7  | 112             | 9.7   | 180                | 4.9   | 206             | 7.6   |
| Cheboygan       | 107   | 6.3   | 200             | 7.4   | 84                     | 8.8   | 82              | 10.8  | 157                | 3.1   | 235             | 4.4   |
| Chippewa        | 156   | 11.9  | 423             | 23.3  | 118                    | 18.0  | 81              | 37.1  | 332                | .9  | 396             | 10.1  |
| Clare           | 179   | 8.6   | 454             | 15.5  | 160                    | 8.2   | 169             | 15.3  | 284                | 2.7   | 393             | 5.8   |
| Clinton         | 976   | 2.9   | 5 908           | 3.8   | 971                    | 2.9   | 3 766           | 4.4   | 1 186              | 1.2   | 3 109           | 3.3   |
| Crawford        | 9   | 7.0   | 4               | 7.9   | 8                      | 9.8   | (D)             | (D)   | 17                 | 5.4   | 14              | 8.2   |
| Delta           | 157   | 9.9   | 594             | 10.5  | 160                    | 9.8   | 341             | 21.0  | 234                | 1.0   | 644             | 7.2   |
| Dickinson       | 55  | 7.4   | 319             | 8.4   | 44                     | 9.7   | 192             | 13.5  | 94                 | 2.5   | 221             | 8.3   |
| Eaton           | 830   | 3.3   | 4 923           | 4.9   | 747                    | 4.2   | 2 957           | 5.4   | 1 040              | 1.3   | 2 547           | 3.2   |
| Emmet           | 127   | 11.0  | 449             | 12.0  | 102                    | 13.8  | 142             | 12.6  | 174                | 4.6   | 301             | 9.4   |
| Genesee         | 501   | 4.7   | 2 755           | 5.5   | 586                    | 4.4   | 2 087           | 5.0   | 740                | 2.3   | 1 505           | 3.9   |
| Gladwin         | 231   | 9.4   | 423             | 11.7  | 179                    | 12.4  | 227             | 17.4  | 370                | 3.7   | 406             | 8.5   |
| Gogebic         | 17  | 7.3   | 9               | 10.1  | 14                     | 7.7   | 10              | 13.5  | 48                 | 4.5   | 42              | 4.4   |
| Grand Traverse  | 311   | 5.9   | 777             | 5.2   | 324                    | 5.8   | 1 398           | 8.5   | 385                | 2.7   | 673             | 5.4   |
| Gratiot         | 702   | 4.2   | 7 590           | 4.0   | 712                    | 4.0   | 4 519           | 5.3   | 885                | 1.4   | 4 079           | 5.5   |
| Hillsdale       | 784   | 3.0   | 5 420           | 5.3   | 749                    | 3.8   | 3 238           | 6.6   | 982                | 1.8   | 2 923           | 4.0   |
| Houghton        | 71  | 8.4   | 58              | 15.3  | 87                     | 6.6   | 35              | 12.1  | 138                | 1.9   | 131             | 7.5   |
| Huron           | 1 161                                       | 2.5   | 15 075          | 2.9   | 1 081                  | 3.3   | 6 187           | 4.3   | 1 242              | 1.9   | 7 055           | 2.4   |
| Ingham          | 625   | 4.0   | 4 900           | 17.1  | 576                    | 4.7   | 2 639           | 5.1   | 807                | 1.4   | 2 377           | 3.3   |
| Ionia           | 742   | 3.6   | 6 241           | 5.1   | 714                    | 4.0   | 3 617           | 8.2   | 955                | 1.5   | 3 280           | 3.5   |
| Iosco           | 141   | 11.8  | 321             | 27.2  | 124                    | 15.8  | 112             | 10.1  | 191                | 5.6   | 324             | 16.9  |
| Iron            | 39  | 4.0   | 136             | 6.1   | 19                     | 6.3   | 74              | 5.3   | 69                 | 3.4   | 127             | 3.9   |
| Isabella        | 635   | 4.5   | 3 416           | 4.1   | 522                    | 6.0   | 1 649           | 6.6   | 822                | 2.2   | 2 110           | 5.1   |
| Jackson         | 672   | 4.6   | 3 684           | 3.7   | 729                    | 4.0   | 2 356           | 4.1   | 982                | 1.7   | 2 408           | 3.4   |
| Kalamazoo       | 515   | 5.1   | 4 124           | 7.1   | 520                    | 5.2   | 2 344           | 3.8   | 697                | 2.4   | 4 218           | 2.6   |
| Kalkaska        | 48  | 4.5   | 267             | 2.2   | 44                     | 4.5   | 137             | 1.5   | 67                 | 3.9   | 122             | 3.7   |
| Kent            | 842   | 3.2   | 4 071           | 3.9   | 858                    | 3.3   | 5 848           | 4.0   | 1 102              | 1.7   | 5 042           | 1.4   |
| Keweenaw        | —   | —   | —               | —   | 1                      | —   | (D)             | (D)   | 2                  | —   | (D)             | (D)   |
| Lake            | 40  | 10.5  | 61              | 14.6  | 46                     | 14.5  | 23              | 11.6  | 98                 | 3.6   | 92              | 9.3   |
| Lapeer          | 703   | 4.5   | 4 294           | 4.5   | 698                    | 5.3   | 2 773           | 4.7   | 1 056              | 1.7   | 2 559           | 3.0   |
| Leelanau        | 292   | 5.8   | 1 041           | 4.7   | 320                    | 5.6   | 2 375           | 4.0   | 362                | 2.5   | 864             | 4.6   |
| Lenawee         | 991   | 2.5   | 8 787           | 2.9   | 1 008                  | 2.8   | 6 324           | 3.2   | 1 242              | 1.2   | 4 314           | 3.2   |
| Livingston      | 402   | 6.9   | 1 996           | 7.8   | 387                    | 7.7   | 1 135           | 8.3   | 625                | 2.6   | 1 516           | 5.4   |
| Luce            | 15  | 5.8   | 32              | 10.3  | 20                     | 4.3   | 14              | 8.2   | 31                 | 3.9   | 47              | 4.8   |
| Mackinac        | 36  | 5.2   | 88              | 7.5   | 39                     | 5.0   | (D)             | (D)   | 70                 | 3.8   | 150             | 3.9   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 — Con.**

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

| Geographic area | Farm production expenses <sup>1</sup> —Con. |   |                 |   |                        |   |                 |   |                    |   |                 |   |
|-----------------|---|---|-----------------|---|------------------------|---|-----------------|---|--------------------|---|-----------------|---|
|                 | Commercial fertilizer                       |   |                 |   | Agricultural chemicals |   |                 |   | Petroleum products |   |                 |   |
|                 | Farms                                       |   | Value           |   | Farms                  |   | Value           |   | Farms              |   | Value           |   |
|                 | Number                                      | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number                 | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number             | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) |
| Macomb          | 418   | 2.9   | 2 129           | 7.0   | 473                    | 3.5   | 1 468           | 7.2   | 523                | 2.1   | 2 467           | 6.3   |
| Manistee        | 179   | 7.3   | 473             | 7.0   | 181                    | 6.8   | 705             | 3.1   | 238                | 3.0   | 470             | 7.2   |
| Marquette       | 37  | 10.6  | 84              | 11.1  | 41                     | 9.5   | 29              | 7.0   | 81                 | 3.1   | 132             | 5.0   |
| Mason           | 258   | 5.6   | 1 122           | 12.0  | 303                    | 6.4   | 1 437           | 5.7   | 381                | 3.5   | 968             | 6.2   |
| Mecosta         | 367   | 7.7   | 1 248           | 7.9   | 332                    | 8.7   | 715             | 9.0   | 517                | 3.8   | 968             | 5.4   |
| Menominee       | 211   | 9.3   | 851             | 7.9   | 186                    | 10.4  | 278             | 10.7  | 283                | 3.2   | 779             | 6.3   |
| Midland         | 282   | 7.3   | 1 870           | 10.2  | 281                    | 7.3   | 1 296           | 9.7   | 435                | 1.5   | 1 049           | 5.5   |
| Missaukee       | 168   | 9.7   | 1 037           | 4.7   | 152                    | 10.0  | 393             | 4.5   | 253                | 4.3   | 826             | 4.7   |
| Monroe          | 897   | 4.0   | 6 804           | 4.2   | 936                    | 3.2   | 4 726           | 3.5   | 1 108              | 1.1   | 4 016           | 2.6   |
| Montcalm        | 627   | 4.3   | 6 103           | 5.1   | 660                    | 4.1   | 4 847           | 2.5   | 864                | 1.6   | 3 119           | 2.5   |
| Montmorency     | 82  | 6.2   | 262             | 18.9  | 35                     | 15.4  | 78              | 33.5  | 105                | 3.6   | 209             | 16.5  |
| Muskegon        | 252   | 7.0   | 1 432           | 5.5   | 258                    | 7.7   | 1 701           | 6.3   | 344                | 3.2   | 1 360           | 3.6   |
| Newaygo         | 520   | 4.3   | 2 047           | 4.6   | 448                    | 6.2   | 1 700           | 4.9   | 640                | 2.2   | 1 616           | 3.0   |
| Oakland         | 216   | 9.3   | 664             | 8.7   | 251                    | 8.6   | 575             | 3.0   | 469                | 3.1   | 1 346           | 4.9   |
| Oceana          | 483   | 3.7   | 2 464           | 4.5   | 484                    | 4.1   | 3 234           | 2.2   | 561                | 2.4   | 1 570           | 3.3   |
| Ogemaw          | 165   | 12.9  | 905             | 9.7   | 132                    | 16.5  | 310             | 8.8   | 251                | 3.4   | 711             | 4.6   |
| Ontonagon       | 36  | 13.7  | 65              | 8.7   | 36                     | 12.5  | 48              | 16.1  | 89                 | 3.5   | 106             | 7.4   |
| Osceola         | 248   | 9.0   | 715             | 6.2   | 237                    | 9.7   | 334             | 9.2   | 409                | 3.9   | 770             | 7.3   |
| Oscoda          | 47  | 5.5   | 103             | 6.5   | 41                     | 5.6   | 57              | 6.9   | 67                 | 4.7   | 94              | 6.3   |
| Otsego          | 85  | 7.0   | 193             | 8.0   | 62                     | 9.4   | 96              | 8.2   | 116                | 4.2   | 172             | 6.0   |
| Ottawa          | 1 093                                       | 3.1   | 4 618           | 4.5   | 1 121                  | 3.0   | 4 471           | 4.0   | 1 324              | 1.4   | 6 936           | 2.1   |
| Presque Isle    | 231   | 6.5   | 880             | 9.7   | 175                    | 10.7  | 753             | 18.8  | 270                | 2.4   | 778             | 8.8   |
| Roscommon       | 17  | 6.6   | 9               | 8.3   | 16                     | 5.6   | 12              | 18.4  | 34                 | 4.2   | (D)             | (D)   |
| Saginaw         | 1 095                                       | 2.4   | 9 021           | 2.6   | 1 090                  | 2.6   | 5 795           | 3.3   | 1 255              | 1.1   | 4 112           | 3.8   |
| St. Clair       | 716   | 3.6   | 3 630           | 6.9   | 686                    | 4.7   | 2 373           | 5.8   | 977                | 1.2   | 2 137           | 3.5   |
| St. Joseph      | 592   | 5.0   | 6 757           | 4.5   | 589                    | 5.4   | 4 776           | 7.2   | 825                | 1.7   | 3 082           | 4.6   |
| Sanilac         | 1 167                                       | 2.8   | 12 207          | 3.3   | 1 061                  | 3.5   | 5 929           | 3.6   | 1 355              | 1.7   | 5 711           | 2.2   |
| Schoolcraft     | 24  | 6.1   | 78              | 4.8   | 33                     | 4.8   | 40              | 6.7   | 48                 | 4.4   | 77              | 4.9   |
| Shiawassee      | 867   | 3.5   | 5 227           | 6.1   | 876                    | 3.4   | 3 213           | 4.7   | 1 050              | 1.6   | 2 831           | 4.8   |
| Tuscola         | 883   | 3.3   | 10 199          | 3.8   | 793                    | 3.7   | 5 074           | 3.6   | 1 078              | 1.4   | 4 741           | 3.6   |
| Van Buren       | 899   | 3.5   | 4 333           | 5.2   | 986                    | 2.9   | 5 743           | 3.5   | 1 092              | 2.0   | 3 664           | 3.4   |
| Washtenaw       | 682   | 4.9   | 4 267           | 4.9   | 693                    | 4.9   | 2 400           | 5.2   | 968                | 2.4   | 2 955           | 3.1   |
| Wayne           | 173   | 13.9  | 408             | 4.8   | 149                    | 13.4  | 246             | 5.2   | 282                | 4.9   | 1 424           | 2.7   |
| Wexford         | 70  | 7.7   | 241             | 10.0  | 88                     | 7.3   | 115             | 7.5   | 151                | 3.2   | 173             | 5.6   |

| Geographic area | Farm production expenses <sup>1</sup> —Con. |   |                 |   |                  |   |                 |   |                |   |                 |   |
|-----------------|---|---|-----------------|---|------------------|---|-----------------|---|----------------|---|-----------------|---|
|                 | Electricity                                 |   |                 |   | Hired farm labor |   |                 |   | Contract labor |   |                 |   |
|                 | Farms                                       |   | Value           |   | Farms            |   | Value           |   | Farms          |   | Value           |   |
|                 | Number                                      | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number           | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number         | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) |
| <b>Michigan</b> | <b>34 961</b>                               | <b>.8</b>                                     | <b>49 096</b>   | <b>.7</b>                                     | <b>15 908</b>    | <b>1.4</b>                                    | <b>318 276</b>  | <b>.4</b>                                     | <b>4 052</b>   | <b>3.0</b>                                    | <b>22 488</b>   | <b>1.8</b>                                    |
| Alcona          | 138   | 11.8  | 99              | 18.6  | 67               | 17.4  | 147             | 11.0  | 7              | 77.3  | 3               | 33.8  |
| Alger           | 44  | 5.0   | 52              | 4.0   | 26               | 6.0   | 237             | 1.5   | 6              | 14.4  | 5               | 19.9  |
| Allegan         | 1 203                                       | 2.8   | 2 857           | 3.2   | 570              | 6.3   | 18 802          | 1.4   | 153            | 15.5  | 661             | 11.8  |
| Alpena          | 268   | 8.8   | 173             | 6.1   | 73               | 22.5  | 323             | 1.4   | 27             | 40.5  | (D)             | (D)   |
| Antrim          | 224   | 4.1   | 213             | 8.3   | 80               | 14.3  | 1 690           | 10.5  | 30             | 27.0  | 122             | 2.5   |
| Arenac          | 210   | 9.0   | 267             | 9.2   | 114              | 16.4  | 994             | 7.9   | 25             | 32.4  | 309             | 5.6   |
| Baraga          | 42  | 4.3   | 31              | 9.3   | 13               | 8.2   | 56              | 21.8  | 3              | 11.4  | (D)             | (D)   |
| Barry           | 660   | 4.2   | 691             | 4.8   | 270              | 10.4  | 2 532           | 4.8   | 49             | 25.5  | 214             | 6.5   |
| Bay             | 624   | 4.4   | 594             | 5.0   | 312              | 9.4   | 4 363           | 4.5   | 94             | 20.6  | 670             | 9.8   |
| Benzie          | 94  | 4.9   | 76              | 8.3   | 44               | 10.3  | 923             | 9.1   | 18             | 20.1  | 80              | 29.3  |
| Berrien         | 914   | 3.9   | 938             | 3.8   | 557              | 7.0   | 13 302          | 2.1   | 166            | 15.4  | 932             | 13.3  |
| Branch          | 679   | 4.1   | 893             | 2.8   | 281              | 10.4  | 5 210           | 2.1   | 60             | 26.6  | 491             | 10.0  |
| Calhoun         | 718   | 4.8   | 768             | 5.4   | 338              | 9.7   | 5 633           | 5.6   | 102            | 22.2  | 224             | 30.6  |
| Cass            | 584   | 4.0   | 830             | 2.3   | 345              | 7.9   | 4 800           | 6.3   | 51             | 22.9  | 223             | 2.6   |
| Charlevoix      | 162   | 7.7   | 85              | 6.7   | 64               | 22.7  | 399             | 7.1   | 9              | 61.8  | 16              | 21.4  |
| Cheboygan       | 119   | 5.0   | 121             | 6.0   | 40               | 11.3  | 493             | 3.9   | 15             | 23.0  | 43              | 20.7  |
| Chippewa        | 258   | 7.8   | 166             | 21.1  | 122              | 14.9  | 383             | 15.9  | 12             | 60.0  | 19              | 30.2  |
| Clare           | 177   | 9.6   | 185             | 6.9   | 84               | 19.6  | 537             | 3.2   | 6              | 3.8   | 121             | 2.9   |
| Clinton         | 887   | 3.8   | 1 207           | 2.9   | 348              | 8.5   | 6 273           | 3.6   | 81             | 22.0  | 145             | 15.1  |
| Crawford        | 15  | 6.2   | 3               | 8.2   | 5                | 8.8   | 1               | 9.1   | 2              | 22.0  | (D)             | (D)   |
| Delta           | 210   | 5.7   | 233             | 7.2   | 124              | 11.3  | 659             | 13.9  | 32             | 31.6  | 32              | 31.6  |
| Dickinson       | 81  | 4.0   | 92              | 5.5   | 53               | 6.4   | 510             | 9.9   | 9              | 23.8  | 28              | 8.4   |
| Eaton           | 778   | 3.7   | 632             | 4.1   | 280              | 9.8   | 2 591           | 2.6   | 54             | 28.5  | 177             | 24.9  |
| Emmet           | 140   | 8.4   | 93              | 9.6   | 62               | 21.3  | 345             | 4.1   | 6              | 6.1   | 29              | .3  |
| Genesee         | 588   | 4.4   | 461             | 4.2   | 260              | 10.6  | 2 569           | 2.0   | 75             | 22.7  | 251             | 16.8  |
| Gladwin         | 303   | 5.8   | 169             | 14.1  | 94               | 20.5  | 275             | 22.8  | 12             | 49.8  | 33              | 2.5   |
| Gogebic         | 36  | 5.1   | 18              | 7.2   | 20               | 6.8   | 28              | 8.7   | 5              | 11.4  | 4               | 10.9  |
| Grand Traverse  | 298   | 6.6   | 199             | 5.8   | 165              | 10.9  | 2 237           | 10.1  | 96             | 18.4  | 280             | 14.9  |
| Gratiot         | 652   | 4.9   | 980             | 3.6   | 295              | 9.9   | 4 313           | 1.8   | 90             | 17.6  | 590             | 3.7   |
| Hillsdale       | 709   | 4.7   | 827             | 3.2   | 308              | 10.7  | 3 921           | 1.8   | 75             | 25.3  | 145             | 50.1  |
| Houghton        | 104   | 5.3   | 64              | 9.6   | 39               | 11.2  | 324             | 4.5   | 22             | 18.5  | 40              | 12.7  |
| Huron           | 1 086                                       | 3.3   | 2 028           | 4.5   | 522              | 6.6   | 8 282           | 3.6   | 207            | 14.0  | 803             | 12.7  |
| Ingham          | 619   | 4.1   | 1 002           | 2.6   | 289              | 9.3   | 3 992           | 2.8   | 59             | 24.6  | 235             | 29.1  |
| Ionia           | 797   | 4.0   | 1 336           | 4.0   | 318              | 9.7   | 7 281           | 4.2   | 67             | 23.4  | 966             | 1.8   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 — Con.**

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

| Geographic area    | Farm production expenses <sup>1</sup> —Con. |   |                 |   |                  |   |                 |   |                |   |                 |   |
|--------------------|---|---|-----------------|---|------------------|---|-----------------|---|----------------|---|-----------------|---|
|                    | Electricity                                 |   |                 |   | Hired farm labor |   |                 |   | Contract labor |   |                 |   |
|                    | Farms                                       |   | Value           |   | Farms            |   | Value           |   | Farms          |   | Value           |   |
|                    | Number                                      | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number           | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number         | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) |
| Iosco .....        | 161   | 7.3   | 124             | 15.7  | 71               | 25.8  | 450             | 18.9  | 14             | 88.8  | (D)             | (D)   |
| Iron .....         | 58  | 3.4   | 43              | 3.8   | 26               | 5.4   | 254             | 2.8   | 1              | 26.1  | (D)             | (D)   |
| Isabella .....     | 598   | 5.5   | 814             | 5.6   | 316              | 10.1  | 3 649           | 6.7   | 34             | 30.6  | 131             | 4.5   |
| Jackson .....      | 717   | 4.3   | 729             | 2.5   | 301              | 11.5  | 3 368           | 3.7   | 69             | 23.9  | 121             | 7.6   |
| Kalamazoo .....    | 579   | 4.3   | 1 414           | 1.7   | 282              | 9.3   | 13 786          | .4  | 78             | 21.9  | 387             | 12.9  |
| Kalkaska .....     | 57  | 4.3   | 74              | 4.0   | 23               | 6.5   | 647             | .3  | 3              | 14.0  | (D)             | (D)   |
| Kent .....         | 914   | 3.0   | 1 706           | 2.3   | 473              | 6.5   | 18 785          | 1.8   | 114            | 13.9  | 1 537           | 11.5  |
| Keweenaw .....     | 3   | —   | (Z)             | —   | —                | —   | —               | —   | —              | —   | —               | —   |
| Lake .....         | 60  | 8.5   | 47              | 6.2   | 25               | 19.8  | 28              | 7.8   | 4              | 76.4  | (Z)             | 76.4  |
| Lapeer .....       | 859   | 3.7   | 1 076           | 5.4   | 382              | 9.1   | 5 183           | 2.8   | 70             | 28.0  | 165             | 18.1  |
| Leelanau .....     | 342   | 3.5   | 286             | 5.3   | 223              | 9.0   | 3 719           | 5.3   | 69             | 25.7  | 406             | 33.8  |
| Lenawee .....      | 955   | 3.5   | 1 014           | 4.2   | 382              | 8.0   | 5 014           | 4.8   | 71             | 17.3  | 408             | 8.9   |
| Livingston .....   | 486   | 4.9   | 648             | 9.2   | 178              | 11.1  | 3 774           | .6  | 57             | 27.7  | 53              | 17.4  |
| Luce .....         | 22  | 4.9   | 13              | 6.9   | 16               | 5.2   | 43              | 5.2   | 2              | 18.0  | (D)             | (D)   |
| Mackinac .....     | 57  | 4.2   | 75              | 4.5   | 23               | 6.3   | 224             | 2.7   | 1              | 31.3  | (D)             | (D)   |
| Macomb .....       | 398   | 5.0   | 775             | 3.7   | 181              | 9.5   | 6 554           | 2.0   | 34             | 28.9  | 204             | 13.0  |
| Manistee .....     | 174   | 7.0   | 223             | 5.7   | 81               | 15.8  | 1 298           | .9  | 13             | 32.5  | 154             | 19.3  |
| Marquette .....    | 55  | 6.5   | 50              | 5.8   | 28               | 13.2  | 106             | 12.0  | 7              | 33.4  | 21              | 11.2  |
| Mason .....        | 260   | 7.3   | 341             | 4.6   | 152              | 12.3  | 2 675           | 2.9   | 37             | 31.1  | 246             | 5.7   |
| Mecosta .....      | 437   | 5.6   | 497             | 6.4   | 224              | 11.9  | 1 319           | 5.4   | 52             | 25.0  | 136             | 9.4   |
| Menominee .....    | 265   | 4.5   | 458             | 6.9   | 71               | 18.1  | 1 200           | 2.2   | 24             | 35.4  | 125             | 2.8   |
| Midland .....      | 306   | 6.4   | 231             | 9.3   | 117              | 16.8  | 1 247           | 3.0   | 39             | 27.9  | 70              | 17.1  |
| Missaukee .....    | 245   | 4.5   | 545             | 5.4   | 100              | 12.6  | 1 773           | .8  | 24             | 2.0   | 184             | .8  |
| Monroe .....       | 710   | 5.4   | 858             | 4.0   | 235              | 12.2  | 6 269           | 1.4   | 90             | 18.6  | 237             | 9.0   |
| Montcalm .....     | 659   | 4.6   | 1 281           | 2.6   | 286              | 8.6   | 5 997           | 4.2   | 53             | 25.2  | 244             | 31.4  |
| Montmorency .....  | 96  | 4.3   | 76              | 10.4  | 32               | 15.6  | 207             | 10.6  | 18             | 19.9  | 17              | 16.7  |
| Muskegon .....     | 278   | 7.9   | 570             | 6.0   | 109              | 15.9  | 5 335           | .6  | 33             | 38.9  | 160             | 24.3  |
| Newaygo .....      | 579   | 3.6   | 926             | 3.8   | 218              | 9.9   | 3 853           | 4.6   | 38             | 25.8  | 379             | 27.7  |
| Oakland .....      | 321   | 7.3   | 591             | 4.3   | 193              | 12.2  | 8 737           | 1.9   | 60             | 21.2  | 693             | .9  |
| Oceana .....       | 430   | 5.6   | 672             | 14.6  | 338              | 6.3   | 9 548           | 1.1   | 107            | 18.0  | 891             | 13.1  |
| Ogemaw .....       | 196   | 9.1   | 333             | 5.3   | 71               | 23.3  | 1 166           | 13.6  | 9              | 5.0   | 27              | 1.5   |
| Ontonagon .....    | 73  | 6.3   | 77              | 10.1  | 41               | 11.4  | 129             | 4.5   | 4              | 27.6  | 2               | 20.5  |
| Osceola .....      | 326   | 5.4   | 430             | 5.8   | 153              | 14.4  | 1 105           | 2.1   | 33             | 23.5  | 139             | 10.3  |
| Oscoda .....       | 67  | 4.7   | 40              | 6.4   | 31               | 6.2   | 127             | 7.0   | 2              | 29.7  | (D)             | (D)   |
| Otsego .....       | 117   | 3.9   | 77              | 4.0   | 41               | 13.9  | 230             | 7.1   | 6              | 30.5  | 6               | 17.5  |
| Ottawa .....       | 1 097                                       | 3.0   | 3 168           | 1.9   | 639              | 5.9   | 41 739          | .9  | 146            | 13.8  | 3 270           | .5  |
| Presque Isle ..... | 238   | 5.7   | 348             | 7.9   | 148              | 12.9  | 1 527           | 18.3  | 9              | 60.0  | 31              | 31.5  |
| Roscommon .....    | 23  | 5.7   | 7               | 6.2   | 8                | 9.0   | 14              | 26.7  | 1              | 36.9  | (D)             | (D)   |
| Saginaw .....      | 985   | 3.2   | 771             | 4.6   | 435              | 6.9   | 4 587           | 4.4   | 138            | 15.3  | 254             | 8.1   |
| St. Clair .....    | 737   | 4.5   | 660             | 6.9   | 217              | 13.0  | 2 573           | 2.8   | 37             | 27.5  | 62              | 15.2  |
| St. Joseph .....   | 596   | 5.7   | 1 016           | 3.4   | 253              | 10.9  | 4 147           | 5.1   | 63             | 25.3  | 404             | 12.6  |
| Sanilac .....      | 1 204                                       | 2.9   | 2 292           | 3.2   | 512              | 6.7   | 7 057           | 2.7   | 140            | 15.1  | 612             | 3.9   |
| Schoolcraft .....  | 39  | 5.0   | 36              | 3.4   | 18               | 6.6   | 220             | 3.4   | 4              | 11.1  | (D)             | (D)   |
| Shiawassee .....   | 866   | 3.7   | 727             | 6.8   | 274              | 11.7  | 1 569           | 6.8   | 67             | 28.2  | 87              | 19.6  |
| Tuscola .....      | 907   | 2.8   | 1 440           | 5.5   | 411              | 8.1   | 6 403           | 4.3   | 115            | 20.2  | 488             | 6.7   |
| Van Buren .....    | 822   | 4.5   | 1 325           | 2.3   | 553              | 6.6   | 15 207          | 2.6   | 192            | 13.3  | 1 664           | 5.7   |
| Washtenaw .....    | 829   | 3.7   | 1 215           | 4.3   | 295              | 10.0  | 5 324           | 2.1   | 110            | 20.5  | 163             | 23.4  |
| Wayne .....        | 217   | 9.6   | 499             | 7.8   | 93               | 17.5  | 5 459           | .3  | 21             | 43.2  | 117             | 2.2   |
| Wexford .....      | 120   | 4.7   | 94              | 10.1  | 47               | 11.4  | 225             | 8.5   | 14             | 21.1  | 13              | 11.2  |

| Geographic area       | Farm production expenses <sup>1</sup> —Con. |   |                 |   |   |   |                 |   |                  |   |                 |   |
|-----------------------|---|---|-----------------|---|---|---|-----------------|---|------------------|---|-----------------|---|
|                       | Repair and maintenance                      |   |                 |   | Customwork, machine hire, and rental of machinery and equipment |   |                 |   | Interest expense |   |                 |   |
|                       | 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) |
| <b>Michigan .....</b> | <b>40 611</b>                               | <b>.7</b>                                     | <b>189 820</b>  | <b>.8</b>                                     | <b>15 413</b>   | <b>1.5</b>                                    | <b>40 995</b>   | <b>1.6</b>                                    | <b>21 399</b>    | <b>1.2</b>                                    | <b>181 417</b>  | <b>.9</b>                                     |
| Alcona .....          | 165   | 7.3   | 284             | 18.4  | 37  | 31.9  | 54              | 9.4   | 78               | 19.7  | 359             | 19.2  |
| Alger .....           | 46  | 4.9   | 88              | 5.1   | 11  | 9.8   | 5               | 12.4  | 23               | 6.6   | 113             | 7.9   |
| Allegan .....         | 1 336                                       | 1.8   | 6 809           | 2.3   | 621   | 6.2   | 1 366           | 6.5   | 776              | 5.0   | 7 770           | 3.0   |
| Alpena .....          | 336   | 5.0   | 783             | 6.5   | 93  | 22.3  | (D)             | (D)   | 136              | 14.9  | 706             | 11.0  |
| Antrim .....          | 234   | 3.3   | 806             | 4.6   | 42  | 21.4  | 114             | 14.6  | 98               | 12.6  | 663             | 8.1   |
| Arenac .....          | 246   | 5.5   | 1 099           | 7.0   | 117   | 17.6  | 290             | 22.1  | 128              | 13.8  | 1 416           | 16.6  |
| Baraga .....          | 48  | 3.9   | 85              | 6.7   | 13  | 7.6   | 6               | 11.5  | 21               | 5.8   | 48              | 10.3  |
| Barry .....           | 741   | 2.7   | 2 700           | 7.0   | 281   | 10.7  | 601             | 10.2  | 408              | 8.1   | 3 127           | 7.5   |
| Bay .....             | 729   | 2.2   | 4 607           | 5.3   | 301   | 10.8  | 766             | 8.5   | 391              | 7.6   | 3 510           | 6.9   |
| Benzie .....          | 100   | 4.3   | 380             | 6.7   | 40  | 10.9  | 145             | 26.2  | 46               | 9.0   | 314             | 6.7   |
| Berrien .....         | 1 182                                       | 2.0   | 4 296           | 3.4   | 528   | 6.9   | 1 447           | 5.3   | 449              | 8.1   | 3 453           | 5.4   |
| Branch .....          | 756   | 3.5   | 4 204           | 4.4   | 329   | 10.2  | 859             | 9.1   | 485              | 7.5   | 3 557           | 8.3   |
| Calhoun .....         | 910   | 3.1   | 3 540           | 7.9   | 382   | 9.3   | 742             | 11.3  | 458              | 8.1   | 2 897           | 7.4   |
| Cass .....            | 657   | 2.7   | 3 812           | 3.5   | 298   | 9.9   | 816             | 11.0  | 392              | 6.8   | 5 031           | 4.7   |
| Charlevoix .....      | 168   | 7.0   | 295             | 7.9   | 35  | 30.4  | 49              | 7.4   | 65               | 16.5  | 329             | 9.6   |
| Cheboygan .....       | 138   | 4.4   | 405             | 8.9   | 37  | 15.2  | 28              | 6.9   | 63               | 10.7  | 276             | 6.8   |
| Chippewa .....        | 299   | 4.5   | 840             | 11.6  | 74  | 25.9  | 36              | 36.5  | 130              | 17.0  | 404             | 24.3  |
| Clare .....           | 211   | 8.0   | 694             | 8.6   | 72  | 22.3  | 80              | 8.6   | 159              | 10.8  | 667             | 7.4   |
| Clinton .....         | 1 062                                       | 2.4   | 5 311           | 4.9   | 508   | 6.7   | 1 388           | 16.9  | 517              | 6.9   | 3 995           | 7.6   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 — Con.**

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

| Geographic area | Farm production expenses <sup>1</sup> —Con. |   |                 |   |   |   |                 |   |                  |   |                 |   |
|-----------------|---|---|-----------------|---|---|---|-----------------|---|------------------|---|-----------------|---|
|                 | Repair and maintenance                      |   |                 |   | Customwork, machine hire, and rental of machinery and equipment |   |                 |   | Interest expense |   |                 |   |
|                 | 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        | 16  | 5.8   | (D)             | (D)   | 1   | —   | (D)             | (D)   | 9                | 10.3  | 17              | 19.9  |
| Delta           | 212   | 5.4   | 763             | 9.1   | 81  | 20.9  | 51              | 18.5  | 146              | 12.1  | 680             | 13.3  |
| Dickinson       | 86  | 3.2   | 300             | 10.0  | 19  | 19.5  | 12              | 28.3  | 43               | 9.4   | 232             | 9.7   |
| Eaton           | 957   | 2.4   | 3 607           | 4.4   | 363   | 9.0   | 727             | 11.3  | 544              | 6.2   | 3 116           | 7.2   |
| Emmet           | 167   | 5.8   | 488             | 16.2  | 24  | 37.6  | 20              | 18.0  | 56               | 21.6  | 256             | 18.6  |
| Genesee         | 678   | 3.0   | 2 589           | 6.1   | 191   | 13.1  | 419             | 12.1  | 304              | 9.4   | 1 890           | 6.8   |
| Gladwin         | 345   | 4.9   | 622             | 12.9  | 147   | 14.7  | 149             | 18.9  | 165              | 13.2  | 498             | 14.7  |
| Gogebic         | 47  | 4.6   | 77              | 7.7   | 11  | 8.9   | 4               | 4.1   | 15               | 8.4   | 17              | 11.3  |
| Grand Traverse  | 296   | 6.6   | 1 040           | 8.0   | 149   | 14.5  | 234             | 20.5  | 152              | 13.6  | 991             | 7.4   |
| Gratiot         | 835   | 1.6   | 5 281           | 4.8   | 290   | 10.1  | 921             | 8.6   | 528              | 6.9   | 5 463           | 4.7   |
| Hillsdale       | 895   | 3.1   | 3 643           | 3.6   | 406   | 8.5   | 810             | 10.1  | 526              | 6.7   | 4 002           | 6.8   |
| Houghton        | 118   | 4.5   | 153             | 8.5   | 32  | 13.1  | 10              | 10.3  | 46               | 11.4  | 122             | 17.9  |
| Huron           | 1 299                                       | 1.4   | 10 350          | 2.4   | 535   | 7.2   | 2 041           | 7.1   | 813              | 4.6   | 11 518          | 2.6   |
| Ingham          | 712   | 3.0   | 3 278           | 4.1   | 257   | 11.0  | 863             | 18.7  | 350              | 7.8   | 3 328           | 7.7   |
| Ionia           | 915   | 2.3   | 5 131           | 5.1   | 403   | 9.6   | 868             | 8.8   | 475              | 7.5   | 4 780           | 5.8   |
| Iosco           | 189   | 5.6   | 686             | 17.4  | 47  | 38.8  | 143             | 3.3   | 93               | 18.4  | 656             | 6.7   |
| Iron            | 67  | 3.5   | 187             | 3.6   | 10  | 8.5   | (D)             | (D)   | 24               | 4.9   | 106             | 6.0   |
| Isabella        | 777   | 2.7   | 3 495           | 9.3   | 331   | 10.1  | 621             | 7.5   | 451              | 6.9   | 3 310           | 8.0   |
| Jackson         | 887   | 3.0   | 3 421           | 4.7   | 367   | 10.0  | 747             | 28.1  | 366              | 10.0  | 2 522           | 6.3   |
| Kalamazoo       | 638   | 3.5   | 4 139           | 5.4   | 239   | 11.2  | 880             | 5.7   | 337              | 8.7   | 3 849           | 6.9   |
| Kalkaska        | 70  | 3.8   | 180             | 3.8   | 10  | 9.1   | (D)             | (D)   | 25               | 6.5   | 107             | 7.1   |
| Kent            | 1 023                                       | 2.4   | 5 285           | 2.3   | 292   | 9.7   | 887             | 4.5   | 508              | 6.6   | 5 339           | 6.5   |
| Keweenaw        | 2   | —   | (D)             | (D)   | 1   | —   | (D)             | (D)   | —                | —   | —               | —   |
| Lake            | 85  | 4.9   | 121             | 8.6   | 11  | 20.9  | 5               | 4.5   | 34               | 14.5  | 92              | 14.6  |
| Lapeer          | 954   | 3.4   | 3 466           | 4.4   | 279   | 12.2  | 334             | 10.5  | 521              | 6.8   | 3 151           | 6.9   |
| Leelanau        | 333   | 4.4   | 1 593           | 8.0   | 143   | 11.9  | 694             | 22.0  | 193              | 11.6  | 1 269           | 5.8   |
| Lenawee         | 1 140                                       | 2.0   | 5 359           | 3.2   | 540   | 6.5   | 2 096           | 8.7   | 667              | 5.1   | 6 469           | 3.4   |
| Livingston      | 553   | 4.2   | 2 003           | 5.4   | 156   | 15.3  | 286             | 7.6   | 264              | 10.8  | 1 838           | 6.8   |
| Luce            | 28  | 4.2   | 50              | 5.3   | 6   | 8.4   | (D)             | (D)   | 10               | 6.9   | 77              | 3.7   |
| Mackinac        | 60  | 4.0   | 162             | 4.5   | 13  | 8.0   | 56              | 3.8   | 34               | 5.2   | 313             | 4.2   |
| Macomb          | 463   | 4.0   | 2 452           | 5.1   | 161   | 12.7  | 278             | 8.4   | 158              | 12.3  | 912             | 7.3   |
| Manistee        | 201   | 5.8   | 636             | 8.0   | 63  | 24.4  | 78              | 8.1   | 83               | 11.3  | 676             | 5.7   |
| Marquette       | 70  | 5.3   | 165             | 3.9   | 9   | 24.5  | 38              | 36.0  | 30               | 12.5  | 163             | 8.5   |
| Mason           | 328   | 5.9   | 1 446           | 9.4   | 126   | 15.9  | 278             | 30.5  | 157              | 11.3  | 1 032           | 5.4   |
| Mecosta         | 488   | 3.9   | 1 538           | 5.0   | 155   | 15.9  | 223             | 11.9  | 239              | 10.6  | 1 705           | 7.3   |
| Menominee       | 265   | 4.7   | 1 102           | 8.3   | 100   | 17.5  | 162             | 23.3  | 174              | 10.7  | 1 383           | 15.1  |
| Midland         | 329   | 5.7   | 1 827           | 7.7   | 146   | 15.9  | 312             | 7.6   | 162              | 13.7  | 1 366           | 8.0   |
| Missaukee       | 248   | 4.5   | 1 578           | 5.8   | 80  | 14.8  | 162             | 4.7   | 166              | 9.3   | 1 806           | 9.1   |
| Monroe          | 1 008                                       | 2.7   | 4 244           | 3.5   | 418   | 10.1  | 1 100           | 7.5   | 512              | 7.9   | 4 561           | 5.6   |
| Montcalm        | 796   | 2.5   | 4 457           | 3.0   | 252   | 9.1   | 1 404           | 8.5   | 481              | 6.4   | 4 017           | 4.6   |
| Montmorency     | 103   | 4.3   | 359             | 11.7  | 48  | 12.3  | 74              | 14.0  | 43               | 11.3  | 190             | 17.3  |
| Muskegon        | 342   | 3.8   | 1 734           | 6.3   | 69  | 22.0  | 223             | 17.6  | 182              | 13.4  | 1 607           | 12.9  |
| Newaygo         | 592   | 3.3   | 2 564           | 4.6   | 197   | 12.1  | 371             | 14.5  | 344              | 8.0   | 2 224           | 10.0  |
| Oakland         | 425   | 4.8   | 1 407           | 4.4   | 93  | 20.0  | 132             | 15.0  | 154              | 14.0  | 978             | 11.2  |
| Oceana          | 503   | 4.0   | 2 428           | 3.7   | 255   | 9.1   | 647             | 6.8   | 322              | 7.0   | 2 556           | 4.7   |
| Ogemaw          | 177   | 8.4   | 1 234           | 3.6   | 21  | 4.5   | 77              | 9.4   | 86               | 19.3  | 620             | 8.6   |
| Ononagon        | 79  | 4.2   | 137             | 11.6  | 18  | 21.3  | 7               | 18.4  | 36               | 11.5  | 106             | 17.8  |
| Osceola         | 368   | 4.4   | 1 363           | 6.1   | 120   | 17.2  | 122             | 16.2  | 214              | 10.8  | 1 079           | 7.0   |
| Oscoda          | 67  | 4.6   | 138             | 6.0   | 16  | 8.8   | (D)             | (D)   | 35               | 6.6   | 147             | 6.8   |
| Otsego          | 116   | 4.1   | 254             | 6.4   | 10  | 31.2  | 4               | 28.0  | 35               | 13.0  | 221             | 11.1  |
| Ottawa          | 1 242                                       | 2.1   | 7 798           | 3.4   | 525   | 7.4   | 2 022           | 2.3   | 623              | 6.6   | 8 272           | 2.7   |
| Presque Isle    | 263   | 3.0   | 844             | 12.0  | 84  | 21.1  | 142             | 30.9  | 96               | 18.0  | 726             | 16.2  |
| Roscommon       | 24  | 5.2   | 28              | 9.2   | 5   | 14.1  | 3               | 27.5  | 13               | 8.0   | 20              | 11.9  |
| Saginaw         | 1 137                                       | 2.2   | 5 722           | 5.7   | 395   | 8.8   | 1 073           | 8.2   | 606              | 5.9   | 5 187           | 6.1   |
| St. Clair       | 880   | 2.6   | 2 774           | 5.6   | 322   | 11.2  | 775             | 10.0  | 470              | 7.3   | 2 450           | 8.3   |
| St. Joseph      | 745   | 3.3   | 3 971           | 4.1   | 356   | 8.5   | 1 840           | 6.9   | 495              | 7.0   | 5 876           | 5.1   |
| Sanilac         | 1 281                                       | 2.3   | 8 223           | 3.6   | 587   | 6.9   | 1 448           | 8.0   | 808              | 4.6   | 7 777           | 4.0   |
| Schoolcraft     | 41  | 4.7   | 97              | 6.4   | 14  | 8.3   | (D)             | (D)   | 21               | 6.9   | 76              | 8.6   |
| Shiawassee      | 1 039                                       | 1.8   | 4 293           | 4.6   | 322   | 11.2  | 521             | 13.1  | 514              | 7.6   | 3 123           | 6.1   |
| Tuscola         | 998   | 2.4   | 6 470           | 4.2   | 388   | 8.9   | 1 599           | 8.1   | 554              | 6.0   | 7 467           | 5.3   |
| Van Buren       | 951   | 3.4   | 4 960           | 3.8   | 398   | 9.2   | 2 339           | 6.8   | 487              | 7.9   | 4 409           | 5.0   |
| Washtenaw       | 927   | 2.7   | 3 747           | 3.8   | 432   | 7.9   | 639             | 9.5   | 435              | 7.4   | 3 299           | 5.9   |
| Wayne           | 233   | 8.8   | 999             | 4.6   | 30  | 40.8  | 66              | 17.9  | 82               | 20.3  | 502             | 18.6  |
| Wexford         | 134   | 4.3   | 298             | 7.2   | 25  | 17.8  | 11              | 25.3  | 60               | 10.0  | 238             | 12.5  |

| Geographic area | Farm production expenses <sup>1</sup> —Con. |   |                 |   |                     |   |                 |   |                                    |   |                 |   |
|-----------------|---|---|-----------------|---|---------------------|---|-----------------|---|------------------------------------|---|-----------------|---|
|                 | Cash rent                                   |   |                 |   | Property taxes paid |   |                 |   | All other farm production expenses |   |                 |   |
|                 | Farms                                       |   | Value           |   | Farms               |   | Value           |   | Farms                              |   | Value           |   |
|                 | Number                                      | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number              | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number                             | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) |
| <b>Michigan</b> | <b>14 665</b>                               | <b>1.5</b>                                    | <b>132 101</b>  | <b>1.2</b>                                    | <b>43 651</b>       | <b>.7</b>                                     | <b>170 743</b>  | <b>.8</b>                                     | <b>42 218</b>                      | <b>.7</b>                                     | <b>292 492</b>  | <b>.6</b>                                     |
| Alcona          | 43  | 28.6  | 78              | 30.8  | 208                 | 1.3   | 358             | 7.9   | 194                                | 3.8   | 393             | 5.2   |
| Alger           | 15  | 7.3   | 21              | 10.0  | 53                  | 4.6   | 117             | 6.4   | 54                                 | 4.5   | 266             | 6.7   |
| Allegan         | 412   | 6.5   | 4 417           | 3.9   | 1 405               | 1.3   | 5 437           | 2.6   | 1 373                              | 1.6   | 15 864          | 1.5   |
| Alpena          | 98  | 21.4  | 291             | 13.4  | 360                 | 3.5   | 677             | 8.1   | 304                                | 6.5   | 985             | 4.0   |

See footnotes at end of table.

Table F. Reliability Estimates for the State and County Totals: 1992 — Con.

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

| Geographic area | Farm production expenses <sup>1</sup> —Con. |   |                 |   |                     |   |                 |   |                                    |   |                 |   |
|-----------------|---|---|-----------------|---|---------------------|---|-----------------|---|------------------------------------|---|-----------------|---|
|                 | Cash rent                                   |   |                 |   | Property taxes paid |   |                 |   | All other farm production expenses |   |                 |   |
|                 | Farms                                       |   | Value           |   | Farms               |   | Value           |   | Farms                              |   | Value           |   |
|                 | Number                                      | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number              | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) | Number                             | Relative standard error of estimate (percent) | Total (\$1,000) | Relative standard error of estimate (percent) |
| Antrim          | 61  | 19.1  | 127             | 9.9   | 238                 | 2.3   | 748             | 6.6   | 213                                | 5.3   | 1 244           | 10.1  |
| Arenac          | 118   | 16.5  | 687             | 10.9  | 267                 | 2.8   | 1 086           | 11.7  | 253                                | 4.7   | 1 528           | 3.9   |
| Baraga          | 18  | 6.6   | 10              | 9.4   | 56                  | 3.6   | 89              | 4.6   | 48                                 | 3.9   | 90              | 6.9   |
| Barry           | 247   | 11.3  | 1 449           | 15.8  | 771                 | 2.9   | 2 622           | 4.3   | 731                                | 2.9   | 3 942           | 8.7   |
| Bay             | 379   | 7.2   | 5 708           | 7.0   | 707                 | 2.8   | 3 072           | 5.4   | 738                                | 2.1   | 5 122           | 9.0   |
| Benzie          | 29  | 14.0  | 62              | 9.1   | 119                 | 2.2   | 292             | 5.3   | 113                                | 3.0   | 521             | 10.0  |
| Berrien         | 383   | 8.6   | 2 052           | 5.7   | 1 266               | 1.2   | 3 775           | 3.1   | 1 212                              | 1.6   | 9 021           | 1.7   |
| Branch          | 304   | 9.5   | 3 290           | 6.0   | 876                 | 2.3   | 3 607           | 4.5   | 840                                | 2.6   | 5 622           | 4.0   |
| Calhoun         | 322   | 9.8   | 1 969           | 9.8   | 1 013               | 2.0   | 3 763           | 4.1   | 944                                | 2.8   | 5 862           | 3.3   |
| Cass            | 297   | 8.1   | 2 569           | 6.2   | 664                 | 2.9   | 3 004           | 4.0   | 699                                | 2.1   | 5 106           | 2.2   |
| Charlevoix      | 32  | 33.4  | 81              | 13.5  | 195                 | 1.2   | 411             | 12.3  | 170                                | 6.4   | 395             | 8.7   |
| Cheboygan       | 42  | 12.9  | 76              | 11.6  | 167                 | 2.1   | 311             | 4.3   | 146                                | 3.9   | 589             | 5.7   |
| Chippewa        | 77  | 22.3  | 98              | 19.7  | 333                 | .9  | 654             | 7.3   | 279                                | 5.9   | 953             | 7.4   |
| Clare           | 72  | 21.6  | 154             | 8.9   | 262                 | 3.5   | 585             | 6.4   | 237                                | 5.1   | 1 011           | 7.3   |
| Clinton         | 308   | 9.4   | 2 386           | 5.8   | 1 143               | 1.6   | 4 748           | 3.1   | 1 108                              | 1.9   | 6 522           | 2.6   |
| Crawford        | 5   | 12.7  | 4               | 13.6  | 17                  | 5.4   | 25              | 5.4   | 17                                 | 5.4   | 15              | 6.6   |
| Delta           | 86  | 16.8  | 138             | 9.1   | 231                 | 1.0   | 590             | 5.5   | 220                                | 4.6   | 876             | 8.7   |
| Dickinson       | 42  | 10.2  | 141             | 4.8   | 94                  | 2.5   | 274             | 4.6   | 96                                 | 2.2   | 438             | 9.7   |
| Eaton           | 337   | 9.0   | 2 663           | 6.7   | 981                 | 2.3   | 3 611           | 4.6   | 993                                | 2.0   | 3 562           | 4.6   |
| Emmet           | 73  | 16.9  | 104             | 9.8   | 181                 | 3.5   | 390             | 9.5   | 161                                | 6.7   | 446             | 14.2  |
| Genesee         | 223   | 9.8   | 1 656           | 11.5  | 762                 | 1.5   | 2 983           | 3.9   | 679                                | 2.8   | 2 372           | 3.1   |
| Gladwin         | 72  | 25.1  | 180             | 11.0  | 379                 | 3.1   | 848             | 6.8   | 369                                | 3.6   | 916             | 22.3  |
| Gogebic         | 5   | 15.7  | 3               | 25.5  | 47                  | 4.5   | 53              | 5.5   | 42                                 | 4.9   | 56              | 9.7   |
| Grand Traverse  | 77  | 21.9  | 188             | 8.5   | 408                 | .8  | 1 569           | 6.3   | 359                                | 4.5   | 1 459           | 7.4   |
| Gratiot         | 325   | 8.6   | 3 377           | 7.1   | 841                 | 2.7   | 3 360           | 4.8   | 853                                | 1.9   | 5 798           | 3.5   |
| Hillsdale       | 320   | 9.6   | 3 057           | 5.4   | 977                 | 1.8   | 3 145           | 5.0   | 953                                | 2.1   | 5 847           | 3.6   |
| Houghton        | 16  | 19.6  | 22              | 4.6   | 135                 | 1.9   | 183             | 5.3   | 117                                | 4.6   | 223             | 22.3  |
| Huron           | 542   | 6.6   | 9 798           | 4.5   | 1 184               | 2.8   | 6 930           | 3.2   | 1 251                              | 2.1   | 11 296          | 2.0   |
| Ingham          | 282   | 9.9   | 2 361           | 4.0   | 763                 | 2.5   | 3 521           | 4.7   | 740                                | 2.8   | 4 243           | 6.2   |
| Ionia           | 327   | 9.5   | 3 204           | 7.4   | 982                 | 1.5   | 3 889           | 4.3   | 918                                | 2.1   | 6 535           | 4.3   |
| Iosco           | 71  | 24.7  | 314             | 35.0  | 201                 | 2.5   | 406             | 12.4  | 202                                | 2.1   | 614             | 4.2   |
| Iron            | 20  | 5.4   | 25              | 7.2   | 74                  | 3.3   | 205             | 2.6   | 71                                 | 3.3   | 320             | 2.6   |
| Isabella        | 281   | 8.6   | 1 541           | 8.8   | 820                 | 2.5   | 2 664           | 4.5   | 777                                | 2.9   | 5 412           | 9.6   |
| Jackson         | 254   | 12.3  | 1 871           | 8.1   | 961                 | 2.4   | 3 464           | 3.8   | 903                                | 2.5   | 3 236           | 3.2   |
| Kalamazoo       | 214   | 11.5  | 1 794           | 6.5   | 681                 | 2.8   | 4 128           | 3.6   | 655                                | 2.8   | 12 279          | .9  |
| Kalkaska        | 15  | 7.7   | 89              | 2.9   | 76                  | 3.6   | 187             | 4.1   | 72                                 | 3.6   | 474             | 3.4   |
| Kent            | 399   | 6.9   | 2 935           | 6.0   | 1 125               | 1.7   | 5 408           | 4.3   | 1 041                              | 2.4   | 15 826          | 2.2   |
| Keweenaw        | -   | -   | -               | -   | 3                   | -   | 1               | -   | 3                                  | -   | -               | -   |
| Lake            | 6   | 34.2  | 11              | 14.5  | 102                 | 1.7   | 262             | 6.6   | 90                                 | 4.1   | 202             | 8.7   |
| Lapeer          | 362   | 9.0   | 2 100           | 4.6   | 1 051               | 2.1   | 3 846           | 4.6   | 1 014                              | 2.3   | 5 345           | 4.0   |
| Leelanau        | 42  | 23.3  | 297             | .7  | 371                 | .9  | 1 216           | 5.2   | 323                                | 4.8   | 2 045           | 8.2   |
| Lenawee         | 545   | 6.1   | 8 621           | 3.7   | 1 089               | 2.6   | 5 605           | 4.1   | 1 185                              | 1.6   | 6 812           | 3.3   |
| Livingston      | 203   | 11.8  | 1 075           | 8.9   | 640                 | 2.3   | 2 980           | 6.2   | 608                                | 3.0   | 3 010           | 4.2   |
| Luce            | 10  | 8.0   | 11              | 5.6   | 30                  | 4.0   | 52              | 4.8   | 27                                 | 4.5   | 92              | 6.4   |
| Mackinac        | 23  | 6.6   | 107             | 2.9   | 66                  | 3.9   | 136             | 4.9   | 63                                 | 4.0   | 318             | 3.5   |
| Macomb          | 198   | 9.1   | 1 280           | 13.2  | 496                 | 3.2   | 2 208           | 7.1   | 491                                | 3.3   | 4 319           | 2.1   |
| Manistee        | 60  | 16.7  | 76              | 11.3  | 251                 | 1.1   | 684             | 7.7   | 227                                | 4.0   | 943             | 8.6   |
| Marquette       | 16  | 17.0  | 19              | 28.2  | 80                  | 3.1   | 169             | 5.4   | 74                                 | 4.0   | 128             | 7.7   |
| Mason           | 139   | 13.9  | 570             | 5.9   | 371                 | 3.5   | 1 491           | 4.5   | 381                                | 3.1   | 1 948           | 2.5   |
| Mecosta         | 120   | 16.7  | 486             | 9.9   | 579                 | 1.7   | 1 530           | 5.9   | 533                                | 3.2   | 2 261           | 6.1   |
| Menominee       | 113   | 13.7  | 198             | 8.3   | 299                 | 2.5   | 1 118           | 7.8   | 267                                | 5.1   | 1 726           | 7.7   |
| Midland         | 87  | 17.1  | 1 348           | 3.4   | 388                 | 4.3   | 1 682           | 8.4   | 366                                | 5.0   | 1 814           | 10.2  |
| Missaukee       | 85  | 10.1  | 374             | 1.7   | 287                 | 1.0   | 1 123           | 6.1   | 258                                | 4.0   | 2 689           | 4.0   |
| Monroe          | 460   | 7.2   | 6 451           | 5.2   | 1 020               | 2.7   | 4 464           | 5.3   | 1 064                              | 2.2   | 6 890           | 2.2   |
| Montcalm        | 245   | 8.6   | 2 603           | 3.2   | 857                 | 1.9   | 3 021           | 4.1   | 822                                | 2.0   | 6 651           | 2.5   |
| Montmorency     | 27  | 17.7  | 78              | 37.7  | 109                 | 3.5   | 231             | 4.7   | 96                                 | 4.1   | 341             | 9.2   |
| Muskegon        | 116   | 15.1  | 645             | 4.9   | 393                 | 2.8   | 1 558           | 6.7   | 345                                | 3.4   | 3 077           | 2.7   |
| Newaygo         | 204   | 11.2  | 1 111           | 9.5   | 654                 | 1.5   | 2 394           | 4.2   | 593                                | 3.6   | 3 795           | 2.4   |
| Oakland         | 91  | 14.0  | 1 122           | 30.2  | 436                 | 3.0   | 1 957           | 7.6   | 451                                | 3.2   | 2 698           | 3.9   |
| Oceana          | 160   | 11.3  | 1 031           | 5.3   | 568                 | 2.0   | 2 074           | 3.7   | 558                                | 2.3   | 4 406           | 3.3   |
| Ogemaw          | 94  | 18.9  | 214             | 7.2   | 260                 | 1.5   | 840             | 5.9   | 227                                | 7.4   | 1 652           | 3.7   |
| Ontonagon       | 30  | 14.0  | 34              | 5.9   | 94                  | 2.7   | 170             | 6.7   | 86                                 | 4.0   | 238             | 7.8   |
| Osceola         | 134   | 14.1  | 389             | 9.9   | 453                 | 1.4   | 1 269           | 6.1   | 377                                | 4.4   | 2 045           | 6.5   |
| Oscoda          | 20  | 8.3   | 28              | 10.1  | 72                  | 4.5   | 140             | 4.9   | 74                                 | 4.4   | 158             | 6.2   |
| Otsego          | 26  | 15.4  | 96              | 7.5   | 129                 | 2.2   | 349             | 8.8   | 113                                | 4.1   | 331             | 6.5   |
| Ottawa          | 483   | 7.7   | 4 715           | 5.4   | 1 298               | 1.5   | 6 175           | 3.1   | 1 287                              | 1.3   | 24 280          | 2.1   |
| Presque Isle    | 118   | 14.5  | 467             | 7.0   | 278                 | 1.3   | 784             | 6.8   | 248                                | 5.0   | 1 118           | 9.1   |
| Roscommon       | 3   | 15.7  | 1               | 17.4  | 35                  | 4.3   | 63              | 6.6   | 26                                 | 5.4   | 48              | 7.2   |
| Saginaw         | 406   | 8.7   | 4 596           | 4.3   | 1 221               | 1.8   | 5 984           | 3.2   | 1 183                              | 1.8   | 5 078           | 4.5   |
| St. Clair       | 332   | 8.6   | 1 698           | 7.3   | 955                 | 1.6   | 2 921           | 3.4   | 926                                | 2.1   | 3 555           | 2.6   |
| St. Joseph      | 273   | 10.6  | 5 651           | 6.6   | 808                 | 2.0   | 3 841           | 7.7   | 800                                | 2.3   | 4 704           | 4.2   |
| Sanilac         | 655   | 5.6   | 6 516           | 3.2   | 1 274               | 2.3   | 5 817           | 3.7   | 1 338                              | 1.9   | 10 087          | 2.0   |
| Schoolcraft     | 13  | 9.2   | 14              | 5.5   | 47                  | 4.4   | 94              | 5.1   | 47                                 | 4.5   | 162             | 3.9   |
| Shiawassee      | 385   | 9.7   | 1 839           | 9.8   | 998                 | 2.6   | 4 364           | 5.4   | 1 013                              | 2.1   | 3 919           | 4.9   |
| Tuscola         | 445   | 8.3   | 8 641           | 7.9   | 1 065               | 1.7   | 4 865           | 3.4   | 1 006                              | 2.2   | 7 214           | 3.9   |
| Van Buren       | 297   | 10.6  | 3 626           | 5.0   | 1 105               | 1.8   | 3 486           | 3.1   | 1 070                              | 2.1   | 8 651           | 1.9   |
| Washtenaw       | 313   | 8.2   | 2 417           | 7.7   | 969                 | 2.1   | 5 085           | 4.3   | 971                                | 2.1   | 5 304           | 2.6   |
| Wayne           | 55  | 31.7  | 459             | 27.8  | 256                 | 4.8   | 1 085           | 7.6   | 296                                | 1.4   | 4 680           | 1.6   |
| Wexford         | 28  | 14.5  | 94              | 7.3   | 171                 | 2.0   | 419             | 4.8   | 146                                | 3.5   | 481             | 14.7  |

See footnotes at end of table.



**Table F. Reliability Estimates for the State and County Totals: 1992 – 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) |
| <b>Michigan</b> | <b>3 823</b>   | <b>.8</b>                                     | <b>366 465</b> | <b>.4</b>                                     | <b>17 031</b>               | <b>1.3</b>                                    | <b>1 113 604</b> | <b>.9</b>                                     | <b>7 548</b>        | <b>1.3</b>                                    | <b>116 106</b> | <b>1.5</b>                                    |
| Alcona          | 3              | 19.7  | (D)            | (D)   | 114                         | 2.2   | 6 048            | 2.5   | 91                  | 2.8   | 2 211          | 3.9   |
| Alger           | 9              | 9.5   | 27             | 18.8  | 29                          | 4.6   | 1 661            | 5.7   | 18                  | 6.9   | 321            | 9.6   |
| Allegan         | 185            | 1.8   | 13 309         | 1.2   | 554                         | 1.1   | 48 225           | .9  | 183                 | 2.1   | 3 072          | 2.0   |
| Alpena          | 17             | 8.2   | 289            | 2.2   | 198                         | 2.0   | 9 271            | 2.4   | 117                 | 3.0   | 1 925          | 4.3   |
| Antrim          | 36             | 3.9   | 2 615          | .8  | 79                          | 2.8   | 4 663            | 2.7   | 34                  | 4.9   | 659            | 6.4   |
| Arenac          | 12             | 10.3  | 1 067          | 3.2   | 92                          | 3.1   | 7 148            | 2.5   | 22                  | 7.3   | 294            | 8.2   |
| Baraga          | 3              | 15.1  | 3              | 15.1  | 34                          | 2.7   | 1 426            | 4.8   | 22                  | 4.8   | 486            | 8.4   |
| Barry           | 32             | 5.0   | 1 844          | 4.1   | 383                         | 1.3   | 23 793           | 1.4   | 205                 | 2.0   | 2 854          | 3.0   |
| Bay             | 75             | 2.4   | 6 469          | 2.1   | 108                         | 2.5   | 5 238            | 2.0   | 39                  | 4.6   | 322            | 5.7   |
| Benzie          | 19             | 5.4   | 441            | 4.7   | 31                          | 4.6   | 1 381            | 5.8   | 21                  | 5.5   | (D)            | (D)   |
| Berrien         | 214            | 1.7   | 9 803          | 1.2   | 170                         | 2.2   | 6 221            | 2.3   | 91                  | 3.1   | 1 084          | 4.9   |
| Branch          | 131            | 2.6   | 26 506         | 1.7   | 372                         | 1.8   | 22 876           | 1.3   | 186                 | 2.5   | 2 598          | 3.2   |
| Calhoun         | 42             | 3.3   | 5 933          | 1.8   | 417                         | 1.1   | 23 885           | 1.1   | 222                 | 1.7   | 2 947          | 2.2   |
| Cass            | 82             | 2.3   | 13 540         | 1.1   | 213                         | 1.7   | 8 258            | 2.2   | 128                 | 2.4   | 2 273          | 2.4   |
| Charlevoix      | 22             | 5.6   | 143            | 13.7  | 101                         | 2.0   | 4 117            | 2.1   | 68                  | 2.9   | 1 119          | 3.7   |
| Cheboygan       | 11             | 10.4  | 83             | 10.8  | 90                          | 2.7   | 5 693            | 3.9   | 58                  | 4.0   | 1 337          | 5.6   |
| Chippewa        | 2              | 16.0  | (D)            | (D)   | 183                         | 1.5   | 8 303            | 2.0   | 115                 | 2.3   | 2 056          | 2.8   |
| Clare           | 6              | 12.9  | 101            | 3.4   | 170                         | 1.6   | 11 352           | 1.3   | 78                  | 3.0   | 1 433          | 2.5   |
| Clinton         | 42             | 4.4   | 3 624          | 2.6   | 402                         | 1.5   | 38 478           | .9  | 120                 | 3.0   | 1 908          | 3.7   |
| Crawford        | 1              | —   | (D)            | (D)   | 3                           | 16.7  | (D)              | (D)   | 3                   | 16.7  | (D)            | (D)   |
| Delta           | 19             | 7.2   | 475            | 8.2   | 138                         | 1.8   | 8 121            | 1.8   | 83                  | 2.9   | 1 757          | 3.8   |
| Dickinson       | 11             | 6.9   | 664            | 5.9   | 56                          | 2.6   | 2 260            | 3.9   | 34                  | 4.0   | 643            | 4.3   |
| Eaton           | 34             | 5.1   | 774            | 6.5   | 399                         | 1.7   | 16 600           | 1.9   | 210                 | 2.5   | 3 100          | 3.8   |
| Emmet           | 13             | 7.6   | 263            | 1.3   | 107                         | 2.1   | 5 110            | 2.8   | 76                  | 2.9   | 1 648          | 4.3   |
| Genesee         | 53             | 3.4   | 1 297          | 3.3   | 238                         | 1.7   | 12 642           | 1.8   | 114                 | 2.7   | 1 423          | 3.5   |
| Gladwin         | 13             | 7.3   | 506            | 14.2  | 246                         | 1.5   | 7 938            | 1.9   | 136                 | 2.3   | 1 797          | 3.1   |
| Gogebic         | 2              | 17.0  | (D)            | (D)   | 22                          | 5.4   | 335              | 7.4   | 18                  | 6.1   | (D)            | (D)   |
| Grand Traverse  | 85             | 2.7   | 2 340          | 3.5   | 96                          | 2.6   | 4 535            | 3.4   | 46                  | 4.0   | 956            | 6.9   |
| Gratiot         | 39             | 5.0   | 3 250          | 6.7   | 280                         | 1.8   | 22 557           | 1.3   | 108                 | 3.2   | 1 401          | 5.3   |
| Hillsdale       | 39             | 4.9   | 3 666          | 2.6   | 408                         | 1.6   | 23 974           | 1.5   | 126                 | 3.1   | 1 605          | 4.7   |
| Houghton        | 18             | 6.2   | 64             | 7.1   | 62                          | 2.6   | 2 385            | 3.4   | 32                  | 4.4   | 520            | 5.1   |
| Huron           | 33             | 6.2   | 1 627          | 13.0  | 604                         | 1.7   | 83 033           | 1.0   | 76                  | 4.6   | 1 163          | 5.8   |
| Ingham          | 24             | 4.1   | 1 320          | .5  | 311                         | 1.3   | 21 231           | 1.1   | 134                 | 2.3   | 2 026          | 2.8   |
| Ionia           | 41             | 4.5   | 3 630          | 4.5   | 469                         | 1.4   | 36 274           | 1.1   | 161                 | 2.6   | 2 892          | 3.2   |
| Iosco           | 9              | 6.6   | 62             | 11.0  | 117                         | 2.1   | 10 217           | 2.4   | 71                  | 3.4   | 1 849          | 4.5   |
| Iron            | 5              | 10.5  | 351            | 5.8   | 55                          | 2.1   | 1 845            | 3.2   | 44                  | 2.9   | 900            | 5.0   |
| Isabella        | 22             | 6.3   | 1 488          | 5.7   | 435                         | 1.5   | 32 589           | 1.3   | 182                 | 2.5   | 4 011          | 3.2   |
| Jackson         | 46             | 4.4   | 5 609          | 1.7   | 408                         | 1.5   | 27 696           | 1.3   | 215                 | 2.3   | 3 582          | 3.2   |
| Kalamazoo       | 157            | 1.5   | 20 336         | 1.0   | 176                         | 1.9   | 11 681           | 1.2   | 84                  | 3.1   | 1 160          | 4.3   |
| Kalkaska        | 4              | 12.5  | 895            | 4.2   | 36                          | 4.1   | 769              | 7.1   | 16                  | 7.8   | 135            | 9.7   |
| Kent            | 164            | 1.9   | 9 030          | 1.4   | 431                         | 1.2   | 32 184           | .9  | 184                 | 2.2   | 2 327          | 3.1   |
| Keweenaw        | —              | —   | —              | —   | 2                           | —   | (D)              | (D)   | 2                   | —   | (D)            | (D)   |
| Lake            | 2              | 22.9  | (D)            | (D)   | 61                          | 2.8   | 1 716            | 3.7   | 40                  | 4.0   | 475            | 4.5   |
| Lapeer          | 55             | 3.8   | 2 008          | 1.6   | 484                         | 1.5   | 26 241           | 1.5   | 209                 | 2.4   | 2 625          | 3.6   |
| Leelanau        | 69             | 2.8   | 2 471          | 1.8   | 83                          | 2.5   | 4 697            | 2.3   | 44                  | 3.9   | 451            | 5.7   |
| Lenawee         | 39             | 4.0   | 1 944          | 1.7   | 309                         | 1.4   | 22 783           | .9  | 82                  | 3.1   | 1 054          | 3.2   |
| Livingston      | 51             | 3.7   | 1 503          | 1.3   | 242                         | 1.5   | 15 655           | 1.3   | 131                 | 2.4   | 1 740          | 4.2   |
| Luce            | 4              | 10.0  | 8              | 5.0   | 17                          | 3.7   | 1 167            | 4.3   | 12                  | 5.4   | 317            | 7.6   |
| Mackinac        | 4              | 16.0  | 7              | 20.3  | 49                          | 2.5   | 3 777            | 2.8   | 28                  | 4.9   | 525            | 5.3   |
| Macomb          | 100            | 2.2   | 2 751          | 2.4   | 96                          | 2.8   | 5 695            | 1.9   | 44                  | 4.7   | 312            | 6.8   |
| Manistee        | 44             | 3.1   | 3 320          | 1.5   | 90                          | 2.3   | 2 254            | 3.3   | 68                  | 2.9   | 952            | 4.5   |
| Marquette       | 2              | 23.5  | (D)            | (D)   | 40                          | 3.7   | 1 836            | 1.9   | 27                  | 5.3   | 347            | 5.3   |
| Mason           | 58             | 3.8   | 3 354          | 1.9   | 127                         | 2.7   | 8 859            | 2.5   | 55                  | 4.7   | 811            | 13.2  |
| Mecosta         | 37             | 4.1   | 5 420          | 2.5   | 350                         | 1.4   | 17 965           | 1.5   | 178                 | 2.3   | 2 398          | 3.2   |
| Menominee       | 6              | 11.6  | 14             | 16.0  | 216                         | 1.1   | 17 415           | 1.1   | 84                  | 2.6   | 1 392          | 2.8   |
| Midland         | 13             | 7.6   | 934            | .3  | 128                         | 2.8   | 5 412            | 2.4   | 90                  | 3.4   | 1 127          | 5.6   |
| Missaukee       | 18             | 4.7   | 1 768          | 1.4   | 196                         | 1.2   | 24 640           | .8  | 54                  | 3.8   | 1 008          | 5.2   |
| Monroe          | 64             | 2.8   | 2 385          | 1.3   | 179                         | 2.1   | 6 799            | 1.6   | 56                  | 4.1   | 380            | 5.0   |
| Montcalm        | 116            | 2.0   | 37 575         | .8  | 404                         | 1.3   | 23 717           | 1.2   | 164                 | 2.2   | 1 758          | 3.2   |
| Montmorency     | 5              | 12.9  | 123            | 4.5   | 75                          | 2.6   | 2 751            | 3.0   | 47                  | 4.2   | 508            | 6.3   |
| Muskegon        | 61             | 3.3   | 7 907          | .5  | 151                         | 2.1   | 11 052           | 1.4   | 60                  | 3.9   | 660            | 4.7   |
| Newaygo         | 54             | 3.5   | 5 215          | 1.2   | 336                         | 1.3   | 20 798           | 1.2   | 129                 | 2.5   | 1 292          | 3.6   |
| Oakland         | 86             | 2.9   | 1 024          | 6.2   | 85                          | 3.3   | 2 644            | 4.7   | 52                  | 4.4   | 694            | 3.5   |
| Oceana          | 57             | 2.7   | 4 397          | 1.4   | 192                         | 1.7   | 10 738           | 1.3   | 103                 | 2.6   | 1 550          | 3.0   |
| Ogemaw          | 9              | 9.6   | 128            | 4.5   | 159                         | 2.1   | 16 197           | 1.7   | 74                  | 3.8   | 1 945          | 5.4   |
| Ontonagon       | 1              | 24.9  | (D)            | (D)   | 60                          | 2.0   | 3 352            | 2.2   | 36                  | 3.5   | 1 018          | 4.1   |
| Osceola         | 15             | 7.5   | 1 350          | .6  | 285                         | 1.5   | 18 522           | 1.4   | 165                 | 2.4   | 3 224          | 3.0   |
| Oscoda          | 1              | 42.5  | (D)            | (D)   | 54                          | 3.0   | 2 467            | 4.6   | 21                  | 7.0   | 381            | 11.5  |
| Otsego          | 4              | 10.8  | (D)            | (D)   | 58                          | 3.2   | 2 704            | 5.0   | 30                  | 5.2   | 530            | 7.3   |
| Ottawa          | 297            | 1.3   | 13 659         | .8  | 545                         | 1.0   | 41 580           | 1.0   | 196                 | 1.9   | 3 644          | 2.0   |
| Presque Isle    | 23             | 6.5   | 1 894          | 4.4   | 176                         | 1.9   | 9 285            | 2.2   | 107                 | 2.9   | 1 816          | 3.8   |
| Roscommon       | 2              | —   | (D)            | (D)   | 11                          | 7.1   | 294              | 13.2  | 8                   | 7.9   | (D)            | (D)   |
| Saginaw         | 38             | 3.5   | 1 619          | 1.4   | 242                         | 1.6   | 13 282           | 1.4   | 82                  | 3.1   | 780            | 4.5   |
| St. Clair       | 38             | 4.2   | 480            | 11.1  | 335                         | 1.4   | 15 087           | 1.4   | 182                 | 2.1   | 2 326          | 2.3   |
| St. Joseph      | 239            | 1.4   | 85 009         | .7  | 285                         | 1.6   | 12 997           | 1.5   | 113                 | 2.7   | 1 876          | 3.6   |
| Sanilac         | 31             | 6.0   | 3 232          | 3.2   | 677                         | 1.3   | 63 518           | .9  | 163                 | 2.8   | 2 271          | 3.7   |
| Schoolcraft     | 3              | 18.6  | (D)            | (D)   | 30                          | 3.5   | 1 775            | 5.0   | 22                  | 5.1   | (D)            | (D)   |
| Shiawassee      | 17             | 6.6   | 742            | 3.8   | 357                         | 1.7   | 17 456           | 1.7   | 134                 | 3.1   | 1 545          | 4.9   |
| Tuscola         | 39             | 3.3   | 5 862          | 1.1   | 388                         | 1.3   | 19 379           | 1.2   | 180                 | 2.1   | 2 261          | 2.6   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 — 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) |
| Van Buren .....              | 193                 | 1.9   | 19 404         | 1.1   | 214                         | 2.1   | 8 994            | 1.8   | 131                       | 2.7   | 2 006         | 3.0   |
| Washtenaw .....              | 79                  | 2.9   | 4 157          | 2.8   | 289                         | 1.6   | 22 107           | 1.2   | 111                       | 2.9   | 2 080         | 4.6   |
| Wayne .....                  | 64                  | 3.1   | 499            | 3.4   | 34                          | 6.2   | 620              | 11.1  | 22                        | 7.6   | 253           | 11.0  |
| Wexford .....                | 10                  | 8.1   | 364            | 17.5  | 83                          | 2.4   | 3 258            | 2.4   | 41                        | 4.2   | 434           | 5.0   |
| 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) |
|                              |                     |   |                |   |                             |   |                  |   |                           |   |               |   |
| <b>Michigan</b> .....        | <b>5 198</b>        | <b>1.5</b>                                    | <b>316 954</b> | <b>.8</b>                                     | <b>4 774</b>                | <b>1.2</b>                                    | <b>1 231 641</b> | <b>.7</b>                                     | <b>1 831</b>              | <b>1.2</b>                                    | <b>97 433</b> | <b>1.8</b>                                    |
| Alcona .....                 | 11                  | 11.7  | 628            | 7.8   | 10                          | 10.6  | 173              | 19.1  | 10                        | 11.6  | 546           | 15.0  |
| Alger .....                  | 8                   | 9.5   | 388            | 8.4   | 6                           | 10.8  | (D)              | (D)   | 6                         | 12.3  | 1 085         | 15.2  |
| Allegan .....                | 210                 | 1.7   | 15 878         | 1.0   | 229                         | 1.7   | 109 059          | .7  | 54                        | 4.2   | 3 048         | 9.5   |
| Alpena .....                 | 49                  | 4.9   | 2 468          | 3.5   | 27                          | 6.6   | 1 377            | 14.4  | 12                        | 10.5  | 725           | 17.4  |
| Antrim .....                 | 22                  | 5.8   | 956            | 4.4   | 19                          | 6.1   | 1 653            | 8.3   | 13                        | 8.9   | 490           | 15.3  |
| Arenac .....                 | 41                  | 4.7   | 2 872          | 2.9   | 20                          | 7.6   | 4 697            | 7.7   | 8                         | 11.0  | 164           | 12.3  |
| Baraga .....                 | 11                  | 7.7   | 315            | 9.2   | 3                           | 10.7  | 28               | 14.5  | —                         | —   | —             | —   |
| Barry .....                  | 90                  | 2.8   | 7 219          | 1.3   | 94                          | 3.2   | 13 500           | 2.3   | 39                        | 4.6   | 3 666         | 3.9   |
| Bay .....                    | 29                  | 4.7   | 1 505          | 2.5   | 29                          | 5.8   | 1 113            | 7.1   | 5                         | 13.1  | 153           | 15.2  |
| Benzie .....                 | 1                   | 36.9  | (D)            | (D)   | 8                           | 9.7   | 803              | 29.2  | 3                         | 20.0  | 54            | 22.0  |
| Berrien .....                | 33                  | 4.7   | 1 573          | 2.9   | 74                          | 3.4   | 18 794           | 1.9   | 22                        | 6.9   | 267           | 8.0   |
| Branch .....                 | 97                  | 3.5   | 4 005          | 2.3   | 217                         | 2.4   | 71 935           | 1.4   | 42                        | 5.6   | 1 798         | 11.8  |
| Calhoun .....                | 98                  | 2.2   | 5 066          | 1.7   | 151                         | 2.1   | 40 577           | 1.6   | 65                        | 3.6   | 2 276         | 5.1   |
| Cass .....                   | 38                  | 4.0   | 1 629          | 3.7   | 206                         | 1.6   | 240 927          | .3  | 44                        | 4.2   | 1 545         | 5.4   |
| Charlevoix .....             | 23                  | 4.6   | 1 129          | 3.2   | 14                          | 7.4   | 1 010            | 38.8  | 10                        | 9.1   | 242           | 20.3  |
| Cheboygan .....              | 16                  | 6.3   | 1 405          | 2.9   | 14                          | 9.2   | 164              | 11.3  | 11                        | 9.5   | 231           | 14.5  |
| Chippewa .....               | 44                  | 3.8   | 1 415          | 4.1   | 28                          | 5.3   | 656              | 7.8   | 23                        | 5.9   | 1 174         | 10.2  |
| Clare .....                  | 68                  | 2.7   | 2 862          | 1.8   | 36                          | 4.3   | 4 843            | 1.8   | 18                        | 6.6   | 1 113         | 7.1   |
| Clinton .....                | 137                 | 2.3   | 13 917         | 1.1   | 116                         | 3.0   | 26 969           | 2.8   | 45                        | 4.6   | 2 286         | 10.1  |
| Crawford .....               | —                   | —   | —              | —   | 4                           | 12.5  | 26               | 5.8   | 4                         | 12.5  | 37            | 4.1   |
| Delta .....                  | 52                  | 3.5   | 2 222          | 2.5   | 14                          | 9.6   | 830              | 17.2  | 5                         | 13.9  | 33            | 15.4  |
| Dickinson .....              | 14                  | 7.3   | 540            | 8.0   | 8                           | 9.4   | 121              | 25.5  | —                         | —   | —             | —   |
| Eaton .....                  | 99                  | 3.3   | 3 943          | 3.0   | 103                         | 3.4   | 24 857           | 2.7   | 55                        | 4.4   | 3 253         | 7.3   |
| Emmet .....                  | 21                  | 6.6   | 920            | 4.6   | 13                          | 9.1   | 823              | 17.0  | 10                        | 11.5  | 120           | 23.6  |
| Genesee .....                | 35                  | 4.0   | 2 376          | 2.0   | 67                          | 3.7   | 9 414            | 2.3   | 37                        | 5.4   | 1 462         | 7.7   |
| Gladwin .....                | 78                  | 3.1   | 1 717          | 3.0   | 74                          | 3.4   | 5 691            | 5.1   | 27                        | 6.0   | 817           | 9.7   |
| Gogebic .....                | 1                   | 50.0  | (D)            | (D)   | 6                           | 12.0  | 22               | 14.8  | 4                         | 14.4  | 27            | 20.7  |
| Grand Traverse .....         | 12                  | 7.1   | 683            | 4.0   | 37                          | 4.7   | 4 861            | 6.8   | 9                         | 10.9  | 32            | 20.7  |
| Gratiot .....                | 84                  | 2.8   | 7 568          | 1.3   | 84                          | 3.6   | 16 671           | 3.3   | 18                        | 7.8   | 364           | 8.8   |
| Hillsdale .....              | 150                 | 2.6   | 7 975          | 1.8   | 177                         | 2.6   | 37 671           | 2.7   | 49                        | 5.3   | 1 265         | 8.3   |
| Houghton .....               | 20                  | 6.2   | 640            | 6.4   | 12                          | 8.2   | 487              | 27.3  | 12                        | 8.5   | 364           | 8.9   |
| Huron .....                  | 278                 | 2.1   | 16 402         | 1.4   | 92                          | 3.2   | 41 278           | .9  | 17                        | 8.0   | 391           | 12.8  |
| Ingham .....                 | 94                  | 2.2   | 6 814          | 1.4   | 69                          | 3.2   | 22 172           | 2.2   | 56                        | 3.8   | 2 167         | 5.7   |
| Ionia .....                  | 147                 | 2.3   | 12 017         | 1.4   | 119                         | 3.1   | 31 647           | 2.6   | 36                        | 5.3   | 1 581         | 10.1  |
| Iosco .....                  | 25                  | 6.9   | 1 521          | 5.0   | 16                          | 7.9   | 2 053            | 4.7   | 7                         | 13.0  | 460           | 27.7  |
| Iron .....                   | 8                   | 7.3   | 274            | 8.6   | 2                           | 22.4  | (D)              | (D)   | 6                         | 9.7   | 411           | 5.0   |
| Isabella .....               | 174                 | 2.3   | 10 724         | 1.4   | 93                          | 3.8   | 13 913           | 5.6   | 23                        | 7.7   | 848           | 17.0  |
| Jackson .....                | 70                  | 3.2   | 5 192          | 1.9   | 127                         | 3.0   | 29 079           | 2.1   | 62                        | 4.3   | 6 644         | 4.4   |
| Kalamazoo .....              | 21                  | 3.9   | 2 271          | 1.5   | 62                          | 3.5   | 28 435           | 1.4   | 40                        | 4.8   | 4 284         | 10.5  |
| Kalkaska .....               | 7                   | 11.3  | 194            | 14.9  | 11                          | 6.4   | (D)              | (D)   | 3                         | 17.6  | 61            | 18.6  |
| Kent .....                   | 148                 | 2.0   | 11 218         | 1.0   | 88                          | 3.4   | 14 203           | 3.0   | 27                        | 5.7   | 1 282         | 12.1  |
| Keweenaw .....               | —                   | —   | —              | —   | 1                           | —   | (D)              | (D)   | —                         | —   | —             | —   |
| Lake .....                   | 15                  | 6.8   | 293            | 6.0   | 16                          | 7.6   | 625              | 11.6  | 3                         | 13.5  | (D)           | (D)   |
| Lapeer .....                 | 131                 | 2.8   | 7 683          | 2.0   | 108                         | 3.3   | 9 160            | 6.5   | 52                        | 5.1   | 1 919         | 15.1  |
| Leelanau .....               | 18                  | 5.0   | 739            | 3.8   | 21                          | 6.1   | 479              | 9.3   | 2                         | 22.1  | (D)           | (D)   |
| Lenawee .....                | 93                  | 2.2   | 5 778          | 1.3   | 124                         | 2.3   | 31 135           | 1.7   | 46                        | 4.1   | 4 314         | 9.8   |
| Livingston .....             | 73                  | 2.6   | 4 671          | 1.6   | 50                          | 4.0   | 3 388            | 4.2   | 41                        | 4.7   | 1 831         | 7.3   |
| Luce .....                   | —                   | —   | —              | —   | 1                           | —   | (D)              | (D)   | —                         | —   | —             | —   |
| Mackinac .....               | 18                  | 5.9   | 1 031          | 4.1   | 7                           | 12.1  | 46               | 12.8  | 5                         | 11.6  | 98            | 5.8   |
| Macomb .....                 | 25                  | 4.7   | 1 265          | 3.8   | 26                          | 5.9   | 4 560            | 1.8   | 21                        | 7.1   | 400           | 8.0   |
| Manistee .....               | 11                  | 7.9   | 216            | 8.4   | 19                          | 6.4   | 632              | 13.3  | 5                         | 13.6  | 137           | 15.8  |
| Marquette .....              | 9                   | 6.3   | 576            | 4.0   | 5                           | 15.8  | 46               | 32.2  | 4                         | 17.9  | 149           | 20.6  |
| Mason .....                  | 53                  | 4.2   | 2 580          | 2.9   | 32                          | 6.0   | 5 798            | 7.3   | 20                        | 6.9   | 2 526         | 13.8  |
| Mecosta .....                | 130                 | 2.8   | 5 357          | 2.2   | 78                          | 4.0   | 7 282            | 5.7   | 22                        | 7.2   | 2 745         | 8.9   |
| Menominee .....              | 120                 | 1.8   | 6 656          | 1.4   | 17                          | 6.1   | 211              | 7.3   | 14                        | 7.3   | 764           | 10.4  |
| Midland .....                | 14                  | 8.8   | 489            | 5.1   | 49                          | 4.7   | 5 917            | 6.6   | 13                        | 9.3   | 326           | 12.6  |
| Missaukee .....              | 111                 | 1.6   | 9 827          | .9  | 20                          | 6.1   | 4 029            | 3.0   | 14                        | 7.8   | 480           | 5.8   |
| Monroe .....                 | 21                  | 5.7   | 1 020          | 4.0   | 96                          | 3.0   | 14 001           | 2.6   | 44                        | 4.6   | 1 278         | 7.9   |
| Montcalm .....               | 144                 | 2.2   | 8 511          | 1.5   | 104                         | 3.1   | 11 810           | 5.0   | 31                        | 5.5   | 1 468         | 9.0   |
| Montmorency .....            | 22                  | 6.4   | 872            | 5.6   | 13                          | 9.3   | 333              | 5.2   | 1                         | 35.7  | (D)           | (D)   |
| Muskegon .....               | 45                  | 4.0   | 3 251          | 2.0   | 50                          | 4.4   | 7 886            | 6.3   | 13                        | 9.2   | 148           | 12.0  |
| Newaygo .....                | 133                 | 2.2   | 7 496          | 1.5   | 59                          | 4.0   | 5 481            | 9.3   | 15                        | 9.1   | 300           | 14.8  |
| Oakland .....                | 10                  | 9.7   | 489            | 9.5   | 17                          | 9.0   | 1 073            | 20.9  | 47                        | 4.7   | 1 283         | 7.4   |
| Oceana .....                 | 41                  | 3.5   | 2 629          | 1.5   | 62                          | 3.6   | 6 564            | 2.8   | 16                        | 7.9   | 207           | 14.5  |

See footnotes at end of table.



Table F. Reliability Estimates for the State and County Totals: 1992 — 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 .....       | 67                           | 3.5   | 5 226  | 2.2   | 13                      | 11.1  | 1 967  | 19.7  | 9                         | 12.4  | 300    | 27.6  |
| Ontonagon .....    | 18                           | 5.3   | 610    | 4.1   | 4                       | 15.8  | 7      | 15.7  | 5                         | 10.5  | 439    | 15.8  |
| Osceola .....      | 91                           | 3.0   | 5 666  | 1.9   | 43                      | 5.4   | 1 655  | 11.2  | 18                        | 9.2   | 1 039  | 15.9  |
| Oscoda .....       | 30                           | 5.2   | 652    | 6.2   | 10                      | 10.7  | 210    | 13.9  | 13                        | 9.5   | 820    | 11.8  |
| Otsego .....       | 10                           | 8.3   | 481    | 7.6   | 5                       | 11.7  | (D)    | (D)   | 1                         | 30.7  | (D)    | (D)   |
| Ottawa .....       | 184                          | 1.7   | 13 470 | 1.2   | 177                     | 1.9   | 89 434 | 1.0   | 32                        | 5.1   | 938    | 5.3   |
| Presque Isle ..... | 35                           | 5.1   | 2 049  | 3.2   | 14                      | 8.3   | (D)    | (D)   | 1                         | 40.8  | (D)    | (D)   |
| Roscommon .....    | 1                            | 38.6  | (D)    | (D)   | 6                       | 11.3  | 68     | 14.6  | 3                         | 11.0  | 140    | 15.1  |
| Saginaw .....      | 67                           | 2.6   | 3 802  | 1.8   | 53                      | 3.9   | 6 238  | 5.1   | 31                        | 5.1   | 407    | 7.9   |
| St. Clair .....    | 83                           | 2.9   | 3 063  | 2.6   | 83                      | 3.2   | 2 617  | 8.5   | 35                        | 5.3   | 620    | 6.8   |
| St. Joseph .....   | 78                           | 3.0   | 3 167  | 1.8   | 200                     | 1.9   | 61 806 | 1.4   | 62                        | 3.8   | 2 917  | 4.7   |
| Sanilac .....      | 374                          | 1.6   | 25 424 | .9  | 137                     | 3.2   | 14 006 | 5.0   | 31                        | 6.5   | 866    | 7.8   |
| Schoolcraft .....  | 1                            | —   | (D)    | (D)   | 4                       | 19.7  | 1 276  | 20.3  | —                         | —   | —      | —   |
| Shiawassee .....   | 99                           | 3.0   | 5 933  | 1.9   | 108                     | 3.6   | 11 545 | 7.4   | 43                        | 5.2   | 2 356  | 5.1   |
| Tuscola .....      | 97                           | 2.5   | 6 007  | 1.6   | 121                     | 2.6   | 15 845 | 2.2   | 22                        | 6.3   | 1 618  | 6.3   |
| Van Buren .....    | 44                           | 4.1   | 1 814  | 2.4   | 119                     | 2.8   | 52 055 | 1.0   | 25                        | 6.7   | 1 163  | 7.8   |
| Washtenaw .....    | 93                           | 2.5   | 6 553  | 1.6   | 95                      | 3.0   | 24 984 | 2.9   | 129                       | 2.6   | 15 979 | 3.9   |
| Wayne .....        | 4                            | 20.4  | 8      | 23.0  | 14                      | 10.4  | 182    | 22.2  | 1                         | 38.1  | (D)    | (D)   |
| Wexford .....      | 21                           | 4.6   | 994    | 3.5   | 14                      | 7.7   | 179    | 12.3  | 4                         | 12.1  | (D)    | (D)   |

| Geographic area       | Livestock and poultry — Con.             |   |                  |   |  |   |                |   |
|-----------------------|--|---|------------------|---|--|---|----------------|---|
|                       | Hens and pullets of laying age 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) |
| <b>Michigan</b> ..... | <b>2 417</b>                             | <b>1.0</b>                                    | <b>4 607 549</b> | <b>.2</b>                                     | <b>386</b>                                 | <b>1.9</b>                                    | <b>400 262</b> | <b>11.6</b>                                   |
| Alcona .....          | 13                                       | 9.5   | 273              | 10.7  | —  | —   | —              | —   |
| Alger .....           | 4  | 12.7  | 58               | 12.6  | —  | —   | —              | —   |
| Allegan .....         | 53                                       | 3.9   | 1 033 823        | .3  | 13   | 9.0   | (D)            | (D)   |
| Alpena .....          | 28                                       | 6.7   | 897              | 9.5   | 3  | 23.3  | 275            | 26.6  |
| Antrim .....          | 21                                       | 6.7   | 529              | 7.3   | 2  | 26.3  | (D)            | (D)   |
| Arenac .....          | 15                                       | 8.0   | 478              | 8.5   | —  | —   | —              | —   |
| Baraga .....          | 4  | 16.0  | 35               | 15.7  | —  | —   | —              | —   |
| Barry .....           | 49                                       | 4.8   | 1 987            | 9.1   | 5  | 12.2  | 585            | 12.2  |
| Bay .....             | 9  | 10.8  | 189              | 12.3  | 4  | 11.7  | (D)            | (D)   |
| Benzie .....          | 9  | 8.3   | 250              | 8.8   | 2  | 14.4  | (D)            | (D)   |
| Berrien .....         | 35                                       | 5.2   | 808              | 5.9   | 3  | 20.9  | 366            | 23.0  |
| Branch .....          | 38                                       | 5.9   | (D)              | (D)   | 5  | 14.6  | 765            | 20.2  |
| Calhoun .....         | 50                                       | 4.2   | 7 642            | 25.8  | 6  | 13.9  | 370            | 23.1  |
| Cass .....            | 28                                       | 5.8   | 2 762            | 25.5  | 3  | 20.5  | 333            | 27.9  |
| Charlevoix .....      | 25                                       | 5.6   | 1 334            | 17.8  | —  | —   | —              | —   |
| Cheboygan .....       | 14                                       | 10.4  | 429              | 12.4  | 1  | 44.0  | (D)            | (D)   |
| Chippewa .....        | 25                                       | 5.6   | 529              | 8.5   | 2  | 24.2  | (D)            | (D)   |
| Clare .....           | 32                                       | 5.0   | 902              | 5.3   | 3  | 14.5  | (D)            | (D)   |
| Clinton .....         | 34                                       | 4.9   | 1 051            | 6.6   | 5  | 17.5  | 176            | 18.9  |
| Crawford .....        | 7  | 7.1   | 133              | 7.5   | 1  | —   | (D)            | (D)   |
| Delta .....           | 18                                       | 7.7   | 737              | 10.8  | 1  | 27.6  | (D)            | (D)   |
| Dickinson .....       | 6  | 11.1  | 152              | 14.6  | 2  | 22.1  | (D)            | (D)   |
| Eaton .....           | 44                                       | 5.4   | 43 095           | 15.2  | 5  | 18.1  | 1 070          | 26.3  |
| Emmet .....           | 14                                       | 9.5   | 293              | 12.5  | 1  | 44.0  | (D)            | (D)   |
| Genesee .....         | 57                                       | 4.1   | 2 252            | 5.5   | 5  | 15.5  | 220            | 20.4  |
| Gladwin .....         | 58                                       | 4.1   | 2 232            | 5.3   | 11   | 8.2   | 4 183          | 8.4   |
| Gogebic .....         | 3  | 23.1  | 84               | 22.2  | —  | —   | —              | —   |
| Grand Traverse .....  | 25                                       | 5.7   | 667              | 9.1   | 6  | 9.1   | 1 040          | 11.3  |
| Gratiot .....         | 22                                       | 7.3   | (D)              | (D)   | 3  | 21.5  | 300            | 31.0  |
| Hillsdale .....       | 59                                       | 4.1   | (D)              | (D)   | 12   | 9.6   | 1 187          | 12.1  |
| Houghton .....        | 17                                       | 6.8   | (D)              | (D)   | 5  | 13.3  | 120            | 18.9  |
| Huron .....           | 29                                       | 5.6   | 786 000          | .8  | 7  | 13.9  | 343            | 21.8  |
| Ingham .....          | 35                                       | 4.9   | 946              | 4.1   | 4  | 16.1  | 185            | 18.4  |
| Ionia .....           | 29                                       | 5.1   | (D)              | (D)   | 3  | 22.5  | 300            | 23.9  |
| Iosco .....           | 14                                       | 8.3   | 292              | 10.9  | 1  | 42.0  | (D)            | (D)   |
| Iron .....            | 6  | 10.3  | 170              | 10.4  | 1  | —   | (D)            | (D)   |
| Isabella .....        | 37                                       | 5.4   | (D)              | (D)   | 2  | 23.6  | (D)            | (D)   |
| Jackson .....         | 70                                       | 3.9   | (D)              | (D)   | 9  | 10.5  | 613            | 16.5  |
| Kalamazoo .....       | 30                                       | 5.5   | 355 045          | .3  | 8  | 9.1   | 1 525          | 11.5  |
| Kalkaska .....        | 11                                       | 9.1   | 160              | 9.8   | 3  | 19.2  | (D)            | (D)   |
| Kent .....            | 45                                       | 4.7   | 1 387            | 6.8   | 11   | 10.1  | 782            | 15.7  |
| Keweenaw .....        | —  | —   | —                | —   | —  | —   | —              | —   |
| Lake .....            | 10                                       | 10.0  | 357              | 14.3  | —  | —   | —              | —   |
| Lapeer .....          | 78                                       | 4.0   | 2 647            | 7.1   | 20   | 8.5   | 1 768          | 14.2  |
| Leelanau .....        | 23                                       | 5.8   | 779              | 7.1   | 2  | 23.7  | (D)            | (D)   |
| Lenawee .....         | 49                                       | 4.2   | 7 559            | 21.6  | 11   | 9.5   | 1 684          | 13.0  |
| Livingston .....      | 54                                       | 3.9   | 1 464            | 9.3   | 11   | 8.2   | (D)            | (D)   |
| Luce .....            | 3  | 16.4  | 70               | 16.0  | —  | —   | —              | —   |
| Mackinac .....        | 9  | 9.4   | 447              | 19.1  | —  | —   | —              | —   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 – Con.**

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

| Geographic area | Livestock and poultry – Con.             |   |         |   |  |   |        |   |
|-----------------|--|---|---------|---|--|---|--------|---|
|                 | Hens and pullets of laying age 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          | 32                                       | 5.4   | 1 801   | 12.2  | 8  | 11.4  | 2 073  | 18.7  |
| Manistee        | 25                                       | 5.7   | 596     | 8.7   | 1  | 31.2  | (D)    | (D)   |
| Marquette       | 12                                       | 8.6   | 392     | 12.3  | 1  | 30.7  | (D)    | (D)   |
| Mason           | 20                                       | 8.3   | 1 472   | 33.8  | 3  | 20.9  | 90     | 30.6  |
| Mecosta         | 35                                       | 5.8   | 1 727   | 11.8  | 8  | 13.9  | 4 362  | 31.0  |
| Menominee       | 16                                       | 6.8   | 676     | 11.3  | 3  | 17.0  | 85     | 17.2  |
| Midland         | 27                                       | 6.2   | 1 129   | 8.7   | 3  | 19.3  | (D)    | (D)   |
| Missaukee       | 14                                       | 8.0   | 385     | 12.3  | 1  | 38.1  | (D)    | (D)   |
| Monroe          | 56                                       | 4.2   | 7 176   | 4.7   | 12   | 10.1  | 1 831  | 14.3  |
| Montcalm        | 42                                       | 5.1   | 1 561   | 6.3   | 8  | 10.7  | 770    | 11.8  |
| Montmorency     | 11                                       | 11.7  | 576     | 23.7  | 1  | 46.4  | (D)    | (D)   |
| Muskegon        | 25                                       | 6.6   | 964     | 15.8  | 7  | 11.7  | 196    | 13.1  |
| Newaygo         | 30                                       | 5.4   | 86 003  | .1  | 8  | 11.8  | 215    | 13.4  |
| Oakland         | 30                                       | 6.0   | 686     | 7.3   | 3  | 17.2  | 58     | 16.5  |
| Oceana          | 37                                       | 5.2   | (D)     | (D)   | 2  | 19.8  | (D)    | (D)   |
| Ogemaw          | 17                                       | 8.4   | 290     | 7.3   | –  | –   | –      | –   |
| Ontonagon       | 7  | 10.9  | 194     | 13.4  | 1  | 37.7  | (D)    | (D)   |
| Osceola         | 38                                       | 5.6   | 941     | 8.5   | –  | –   | –      | –   |
| Oscoda          | 15                                       | 8.7   | 1 063   | 15.0  | 7  | 13.9  | 1 195  | 20.4  |
| Otsego          | 5  | 15.7  | 63      | 19.3  | 1  | 41.6  | (D)    | (D)   |
| Ottawa          | 47                                       | 4.2   | 753 692 | (L)   | 18   | 6.9   | 3 032  | 15.3  |
| Presque Isle    | 24                                       | 7.4   | 757     | 8.9   | 7  | 13.7  | 974    | 15.1  |
| Roscommon       | 4  | 9.6   | 37      | 1.0   | –  | –   | –      | –   |
| Saginaw         | 52                                       | 4.1   | 1 651   | 6.2   | 4  | 15.1  | (D)    | (D)   |
| St. Clair       | 74                                       | 3.6   | 2 297   | 4.4   | 15   | 8.3   | 3 301  | 8.7   |
| St. Joseph      | 64                                       | 3.7   | 22 633  | 1.3   | 10   | 9.7   | (D)    | (D)   |
| Sanilac         | 52                                       | 5.5   | 2 094   | 9.2   | 7  | 16.5  | (D)    | (D)   |
| Schoolcraft     | 5  | 12.2  | (D)     | (D)   | 1  | –   | (D)    | (D)   |
| Shiawassee      | 50                                       | 5.2   | 2 412   | 11.7  | 5  | 19.0  | 560    | 19.7  |
| Tuscola         | 49                                       | 4.1   | 246 014 | (L)   | 14   | 8.4   | 5 344  | 18.5  |
| Van Buren       | 49                                       | 4.7   | (D)     | (D)   | 11   | 9.9   | 213    | 17.4  |
| Washtenaw       | 71                                       | 3.7   | 8 542   | 24.2  | 9  | 12.0  | 987    | 22.8  |
| Wayne           | 18                                       | 9.0   | 876     | 15.9  | 4  | 20.5  | (D)    | (D)   |
| Wexford         | 16                                       | 7.3   | 449     | 10.2  | 1  | 36.9  | (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            | 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) |
| <b>Michigan</b> | <b>18 962</b>            | <b>1.4</b>                                    | <b>2 221 271</b> | <b>.9</b>                                     | <b>226 824 263</b> | <b>.8</b>                                     | <b>12 433</b> | <b>1.6</b>                                    | <b>583 245</b> | <b>1.2</b>                                    | <b>29 350 586</b> | <b>1.2</b>                                    |
| Alcona          | 13                       | 9.4   | 1 156            | 5.0   | 66 685             | 4.8   | 21            | 7.4   | 679            | 9.1   | 33 821            | 12.1  |
| Alger           | –                        | –   | –                | –   | –                  | –   | –             | –   | –              | –   | –                 | –   |
| Allegan         | 648                      | .9  | 83 041           | .7  | 8 590 184          | .7  | 250           | 1.6   | 8 906          | 1.4   | 444 092           | 1.3   |
| Alpena          | 52                       | 4.6   | 3 560            | 7.8   | 179 961            | 8.4   | 68            | 4.1   | 1 834          | 6.4   | 77 600            | 6.8   |
| Antrim          | 37                       | 4.3   | 1 482            | 4.8   | 120 966            | 5.2   | 12            | 8.3   | 289            | 6.9   | 9 211             | 4.8   |
| Arenac          | 131                      | 2.3   | 13 344           | 1.9   | 1 059 270          | 1.9   | 106           | 2.8   | 4 735          | 2.8   | 281 866           | 2.8   |
| Baraga          | –                        | –   | –                | –   | –                  | –   | –             | –   | –              | –   | –                 | –   |
| Barry           | 297                      | 1.4   | 32 496           | 1.5   | 3 414 675          | 1.5   | 194           | 1.8   | 11 350         | 2.0   | 507 060           | 2.3   |
| Bay             | 405                      | 1.0   | 44 206           | .9  | 5 006 719          | .9  | 257           | 1.4   | 7 933          | 1.5   | 469 875           | 1.5   |
| Benzie          | 13                       | 7.2   | 565              | 1.7   | 40 818             | 1.8   | 2             | 16.0  | (D)            | (D)   | (D)               | (D)   |
| Berrien         | 352                      | 1.4   | 39 889           | 1.2   | 4 388 800          | 1.2   | 138           | 2.3   | 6 450          | 2.9   | 250 899           | 1.8   |
| Branch          | 637                      | 1.3   | 88 542           | 1.4   | 10 169 971         | 1.4   | 251           | 2.2   | 8 299          | 2.4   | 330 489           | 2.3   |
| Calhoun         | 600                      | .8  | 76 216           | .8  | 7 916 918          | .8  | 343           | 1.1   | 15 298         | 1.1   | 655 728           | 1.2   |
| Cass            | 408                      | 1.0   | 66 426           | .8  | 7 492 627          | .8  | 144           | 1.8   | 6 010          | 1.5   | 250 290           | 1.6   |
| Charlevoix      | 25                       | 5.0   | 1 355            | 2.8   | 82 144             | 2.4   | 4             | 13.6  | 89             | 16.5  | 2 007             | 16.6  |
| Cheboygan       | 16                       | 8.6   | 458              | 8.6   | 31 080             | 6.5   | 12            | 9.5   | 359            | 5.6   | 6 970             | 7.6   |
| Chippewa        | 5                        | 10.8  | 70               | 13.0  | 2 680              | 17.9  | 16            | 7.1   | 199            | 8.3   | 2 471             | 8.7   |
| Clare           | 55                       | 3.0   | 3 594            | 1.5   | 238 979            | 1.9   | 53            | 3.3   | 1 572          | 2.5   | 69 332            | 2.3   |
| Clinton         | 645                      | 1.2   | 57 269           | 1.0   | 6 024 228          | 1.0   | 634           | 1.2   | 27 419         | 1.3   | 1 349 228         | 1.3   |
| Crawford        | –                        | –   | –                | –   | –                  | –   | –             | –   | –              | –   | –                 | –   |
| Delta           | 10                       | 9.7   | 416              | 7.1   | 40 570             | 3.8   | 15            | 6.8   | 1 053          | 10.9  | 36 832            | 13.7  |
| Dickinson       | 6                        | 12.8  | 268              | 9.4   | 13 220             | 11.7  | –             | –   | –              | –   | –                 | –   |
| Eaton           | 548                      | 1.3   | 61 235           | 1.2   | 6 507 646          | 1.2   | 403           | 1.6   | 26 205         | 1.5   | 1 347 536         | 1.6   |
| Emmet           | 26                       | 6.2   | 1 003            | 6.9   | 58 488             | 9.2   | 8             | 13.5  | 68             | 19.4  | 2 160             | 18.4  |
| Genesee         | 244                      | 1.5   | 38 276           | .8  | 3 293 655          | .8  | 218           | 1.7   | 11 275         | 2.2   | 486 231           | 2.5   |
| Gladwin         | 113                      | 2.5   | 5 314            | 2.5   | 391 377            | 2.6   | 100           | 2.7   | 2 613          | 3.0   | 108 936           | 2.9   |
| Gogebic         | –                        | –   | –                | –   | –                  | –   | –             | –   | –              | –   | –                 | –   |
| Grand Traverse  | 63                       | 3.2   | 4 150            | 2.6   | 271 178            | 2.7   | 43            | 3.8   | 2 213          | 4.4   | 75 136            | 4.3   |
| Gratiot         | 586                      | 1.2   | 77 436           | .9  | 8 613 615          | .9  | 356           | 1.6   | 16 131         | 1.6   | 819 906           | 1.6   |
| Hillsdale       | 617                      | 1.4   | 73 169           | 1.4   | 7 784 467          | 1.4   | 310           | 2.0   | 10 527         | 2.0   | 424 493           | 1.9   |
| Houghton        | 3                        | 13.5  | (D)              | (D)   | (D)                | (D)   | 1             | 26.6  | (D)            | (D)   | (D)               | (D)   |
| Huron           | 870                      | 1.5   | 116 864          | 1.0   | 11 410 473         | 1.0   | 827           | 1.6   | 47 761         | 1.3   | 3 159 791         | 1.3   |
| Ingham          | 370                      | 1.1   | 53 624           | .8  | 5 196 447          | .9  | 265           | 1.3   | 17 891         | 1.0   | 847 122           | 1.0   |
| Ionia           | 589                      | 1.2   | 65 062           | 1.0   | 6 517 685          | 1.0   | 449           | 1.5   | 25 347         | 1.4   | 1 226 480         | 1.4   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 — 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           | 50                       | 4.1   | 2 572   | 8.5   | 128 216    | 7.3   | 35     | 5.1   | 832    | 7.1   | 50 068    | 7.2   |  |
| Iron            | —                        | —   | —       | —   | —          | —   | 3      | 8.9   | 208    | 3.6   | 5 840     | 3.8   |  |
| Isabella        | 404                      | 1.7   | 39 901  | 1.5   | 3 331 947  | 1.6   | 299    | 2.0   | 11 929 | 2.0   | 565 060   | 2.1   |  |
| Jackson         | 525                      | 1.3   | 64 462  | 1.1   | 6 556 021  | 1.1   | 272    | 2.0   | 11 228 | 1.9   | 501 873   | 1.8   |  |
| Kalamazoo       | 299                      | 1.2   | 50 030  | .8  | 5 603 069  | .7  | 155    | 1.9   | 8 747  | 1.5   | 363 044   | 1.2   |  |
| Kalkaska        | 12                       | 9.2   | 562     | 7.5   | 41 240     | 7.9   | 3      | 16.6  | (D)    | (D)   | (D)       | (D)   |  |
| Kent            | 404                      | 1.2   | 39 798  | 1.0   | 3 271 022  | .9  | 206    | 1.7   | 7 744  | 1.6   | 318 398   | 1.4   |  |
| Keweenaw        | —                        | —   | —       | —   | —          | —   | —      | —   | —      | —   | —         | —   |  |
| Lake            | 9                        | 8.8   | 186     | 7.1   | 8 880      | 8.1   | 3      | 13.5  | 27     | 9.0   | (D)       | (D)   |  |
| Lapeer          | 425                      | 1.6   | 47 862  | 1.5   | 4 321 823  | 1.2   | 273    | 2.1   | 10 589 | 2.1   | 498 395   | 2.0   |  |
| Leelanau        | 62                       | 2.9   | 3 116   | 2.3   | 232 992    | 2.9   | 12     | 7.4   | 210    | 4.5   | 7 493     | 4.7   |  |
| Lenawee         | 752                      | .7  | 106 695 | .6  | 12 934 524 | .6  | 528    | .9  | 32 062 | 1.1   | 1 675 120 | 1.0   |  |
| Livingston      | 222                      | 1.5   | 30 362  | 1.3   | 2 888 002  | 1.3   | 147    | 1.9   | 7 055  | 1.6   | 319 971   | 1.6   |  |
| Luce            | —                        | —   | —       | —   | —          | —   | 1      | 31.4  | (D)    | (D)   | (D)       | (D)   |  |
| Mackinac        | 2                        | 26.2  | (D)     | (D)   | (D)        | (D)   | 7      | 10.1  | 350    | 21.7  | 18 400    | 28.8  |  |
| Macomb          | 163                      | 1.9   | 15 490  | 1.5   | 1 588 900  | 1.7   | 125    | 2.4   | 4 377  | 2.6   | 234 609   | 2.9   |  |
| Manistee        | 39                       | 3.9   | 692     | 3.8   | 51 179     | 3.7   | 14     | 6.0   | 214    | 5.1   | 9 102     | 5.2   |  |
| Marquette       | 2                        | 21.1  | (D)     | (D)   | (D)        | (D)   | —      | —   | —      | —   | —         | —   |  |
| Mason           | 113                      | 2.9   | 7 429   | 2.6   | 511 387    | 2.4   | 75     | 3.6   | 2 820  | 4.9   | 110 011   | 4.9   |  |
| Mecosta         | 195                      | 2.1   | 10 693  | 2.4   | 708 206    | 2.5   | 88     | 3.5   | 2 298  | 3.9   | 82 623    | 3.8   |  |
| Menominee       | 54                       | 3.2   | 3 308   | 2.8   | 176 394    | 2.6   | 9      | 9.7   | 172    | 12.6  | 4 155     | 13.1  |  |
| Midland         | 194                      | 2.1   | 22 700  | 1.8   | 2 274 757  | 1.6   | 92     | 3.6   | 3 060  | 4.8   | 165 075   | 5.1   |  |
| Missaukee       | 45                       | 2.5   | 3 848   | 1.7   | 269 751    | 1.3   | 28     | 3.8   | 544    | 3.1   | 22 275    | 2.7   |  |
| Monroe          | 568                      | 1.0   | 63 059  | .9  | 7 683 104  | .9  | 418    | 1.2   | 20 039 | 1.1   | 1 107 043 | 1.1   |  |
| Montcalm        | 455                      | 1.2   | 42 669  | 1.2   | 3 597 876  | 1.3   | 260    | 1.6   | 15 885 | 1.3   | 660 874   | 1.2   |  |
| Montmorency     | 14                       | 9.4   | 659     | 13.1  | 32 866     | 15.3  | 21     | 6.7   | 717    | 12.3  | 33 418    | 17.2  |  |
| Muskegon        | 136                      | 2.2   | 14 772  | 1.6   | 862 248    | 1.8   | 53     | 3.7   | 1 484  | 2.9   | 63 419    | 2.7   |  |
| Newaygo         | 230                      | 1.7   | 13 670  | 1.8   | 906 164    | 1.8   | 77     | 3.2   | 1 693  | 4.5   | 67 316    | 4.6   |  |
| Oakland         | 70                       | 3.6   | 11 153  | 2.7   | 1 051 553  | 2.5   | 35     | 5.1   | 2 270  | 3.7   | 111 397   | 3.5   |  |
| Oceana          | 146                      | 1.9   | 8 373   | 1.4   | 615 110    | 1.6   | 55     | 3.1   | 1 532  | 2.1   | 62 376    | 2.0   |  |
| Ogemaw          | 65                       | 3.6   | 6 254   | 1.4   | 385 200    | 1.6   | 48     | 4.7   | 2 032  | 3.7   | 107 370   | 3.1   |  |
| Ontonagon       | —                        | —   | —       | —   | —          | —   | 1      | —   | (D)    | (D)   | (D)       | (D)   |  |
| Osceola         | 40                       | 5.1   | 2 590   | 3.2   | 162 594    | 2.7   | 30     | 6.4   | 497    | 6.7   | 15 398    | 5.4   |  |
| Oscoda          | 2                        | 29.7  | (D)     | (D)   | (D)        | (D)   | —      | —   | —      | —   | —         | —   |  |
| Otsego          | 11                       | 8.9   | 332     | 8.3   | 27 687     | 8.7   | 13     | 8.7   | 243    | 12.4  | 5 076     | 12.4  |  |
| Ottawa          | 525                      | 1.0   | 42 362  | 1.3   | 3 724 693  | 1.3   | 206    | 1.8   | 4 863  | 1.9   | 206 383   | 2.1   |  |
| Presque Isle    | 39                       | 5.1   | 2 430   | 2.4   | 175 577    | 2.3   | 39     | 5.3   | 1 253  | 6.4   | 40 236    | 5.9   |  |
| Roscommon       | 1                        | 38.6  | (D)     | (D)   | (D)        | (D)   | 1      | 33.1  | (D)    | (D)   | (D)       | (D)   |  |
| Saginaw         | 771                      | .8  | 80 104  | .7  | 8 858 816  | .7  | 569    | .9  | 24 771 | 1.0   | 1 404 450 | 1.0   |  |
| St. Clair       | 301                      | 1.4   | 31 499  | 1.3   | 2 717 951  | 1.2   | 364    | 1.3   | 16 543 | 1.4   | 806 416   | 1.4   |  |
| St. Joseph      | 564                      | 1.0   | 107 668 | .7  | 12 512 015 | .7  | 115    | 2.3   | 3 755  | 2.2   | 137 120   | 2.2   |  |
| Sanilac         | 718                      | 1.3   | 102 227 | .8  | 9 395 093  | .8  | 770    | 1.3   | 45 662 | 1.1   | 2 539 428 | 1.0   |  |
| Schoolcraft     | 5                        | 15.8  | 104     | 15.4  | 13 550     | 17.4  | 1      | —   | (D)    | (D)   | (D)       | (D)   |  |
| Shiawassee      | 473                      | 1.5   | 48 606  | 1.5   | 4 643 197  | 1.5   | 524    | 1.5   | 26 566 | 1.7   | 1 274 136 | 1.7   |  |
| Tuscola         | 677                      | .9  | 85 178  | .6  | 9 618 411  | .6  | 453    | 1.1   | 24 746 | .9  | 1 469 620 | .8  |  |
| Van Buren       | 283                      | 1.7   | 38 255  | 1.2   | 3 694 589  | 1.3   | 84     | 3.1   | 3 001  | 2.2   | 120 401   | 2.4   |  |
| Washtenaw       | 457                      | 1.1   | 52 646  | 1.0   | 5 560 722  | 1.0   | 386    | 1.2   | 16 760 | 1.2   | 798 275   | 1.2   |  |
| Wayne           | 40                       | 5.3   | 4 283   | 4.8   | 601 771    | 5.0   | 25     | 6.3   | 1 040  | 7.0   | 59 581    | 7.9   |  |
| Wexford         | 16                       | 6.6   | 1 845   | 10.4  | 133 910    | 11.6  | 10     | 8.3   | 301    | 6.0   | 9 860     | 4.6   |  |

| 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) |  |
| <b>Michigan</b> | <b>13 175</b>                   | <b>1.4</b>                                    | <b>1 332 114</b> | <b>1.1</b>                                    | <b>41 633 625</b> | <b>1.0</b>                                    | <b>3 176</b> | <b>1.8</b>                                    | <b>322 334</b> | <b>1.3</b>                                    | <b>4 229 224</b> | <b>1.2</b>                                    |  |
| Alcona          | 1                               | —   | (D)              | (D)   | (D)               | (D)   | 4            | 21.0  | 301            | 25.8  | 4 985            | 25.8  |  |
| Alger           | —                               | —   | —                | —   | —                 | —   | —            | —   | —              | —   | —                | —   |  |
| Allegan         | 197                             | 1.8   | 16 243           | 1.6   | 564 392           | 1.5   | 4            | 12.1  | (D)            | (D)   | (D)              | (D)   |  |
| Alpena          | 4                               | 20.5  | 204              | 29.9  | 2 852             | 20.5  | 23           | 7.2   | 3 973          | 5.3   | 44 147           | 3.0   |  |
| Antrim          | 1                               | 34.6  | (D)              | (D)   | (D)               | (D)   | 1            | —   | (D)            | (D)   | (D)              | (D)   |  |
| Arenac          | 79                              | 3.5   | 4 770            | 4.3   | 115 169           | 4.3   | 87           | 3.2   | 9 692          | 2.7   | 133 319          | 2.9   |  |
| Baraga          | —                               | —   | —                | —   | —                 | —   | —            | —   | —              | —   | —                | —   |  |
| Barry           | 172                             | 2.0   | 18 961           | 2.2   | 622 608           | 2.2   | 1            | 35.4  | (D)            | (D)   | (D)              | (D)   |  |
| Bay             | 379                             | 1.1   | 24 413           | 1.3   | 799 818           | 1.3   | 406          | 1.0   | 36 161         | 1.0   | 495 619          | .9  |  |
| Benzie          | —                               | —   | —                | —   | —                 | —   | —            | —   | —              | —   | —                | —   |  |
| Berrien         | 350                             | 1.4   | 29 518           | 1.3   | 1 022 493         | 1.3   | —            | —   | —              | —   | —                | —   |  |
| Branch          | 478                             | 1.6   | 39 046           | 1.7   | 1 371 423         | 1.7   | 5            | 13.4  | 303            | 17.6  | 5 670            | 19.5  |  |
| Calhoun         | 415                             | 1.1   | 31 856           | 1.1   | 1 015 191         | 1.2   | 3            | 20.7  | 46             | 25.5  | 690              | 25.7  |  |
| Cass            | 287                             | 1.3   | 29 191           | 1.5   | 969 970           | 1.6   | 3            | 14.9  | 228            | 10.0  | 6 240            | 11.5  |  |
| Charlevoix      | —                               | —   | —                | —   | —                 | —   | 2            | 20.6  | (D)            | (D)   | (D)              | (D)   |  |
| Cheboygan       | —                               | —   | —                | —   | —                 | —   | 3            | 16.4  | 161            | 4.9   | 528              | 11.9  |  |
| Chippewa        | —                               | —   | —                | —   | —                 | —   | —            | —   | —              | —   | —                | —   |  |
| Clare           | 5                               | 14.0  | 140              | 13.6  | 1 142             | 18.4  | 2            | 10.2  | (D)            | (D)   | (D)              | (D)   |  |
| Clinton         | 748                             | 1.1   | 66 669           | 1.4   | 2 082 181         | 1.4   | 25           | 5.8   | 1 594          | 4.2   | 21 101           | 3.1   |  |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 — 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           | 2                               | 17.8  | (D)     | (D)   | (D)       | (D)   | 10     | 7.8   | 1 263  | 10.8  | 12 143        | 13.6  |  |
| Dickinson       | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Eaton           | 451                             | 1.5   | 46 778  | 1.5   | 1 517 660 | 1.5   | 71     | 3.6   | 5 477  | 2.1   | 65 896        | 1.8   |  |
| Emmet           | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Genesee         | 263                             | 1.5   | 28 930  | 1.2   | 709 072   | 1.1   | 7      | 11.5  | 145    | 7.4   | 1 817         | 4.8   |  |
| Gladwin         | 27                              | 5.2   | 908     | 6.1   | 20 767    | 7.1   | 20     | 5.5   | 2 147  | 5.3   | 20 505        | 4.7   |  |
| Gogebic         | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Grand Traverse  | 1                               | 28.9  | (D)     | (D)   | (D)       | (D)   | —      | —   | —      | —   | —             | —   |  |
| Gratiot         | 591                             | 1.2   | 63 812  | 1.3   | 1 966 680 | 1.2   | 245    | 2.0   | 25 583 | 1.8   | 355 538       | 1.6   |  |
| Hillsdale       | 489                             | 1.6   | 43 000  | 1.9   | 1 437 546 | 1.9   | 4      | 17.9  | 90     | 25.8  | 1 950         | 26.8  |  |
| Houghton        | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Huron           | 212                             | 2.6   | 12 161  | 2.2   | 337 460   | 2.0   | 793    | 1.6   | 90 835 | 1.3   | 1 183 278     | 1.3   |  |
| Ingham          | 279                             | 1.3   | 30 880  | 1.0   | 1 078 774 | .9  | 7      | 5.8   | 191    | 3.1   | 2 706         | 3.9   |  |
| Ionia           | 425                             | 1.5   | 41 825  | 1.2   | 1 309 692 | 1.3   | 44     | 4.8   | 6 681  | 2.2   | 53 063        | 3.1   |  |
| Iosco           | 8                               | 11.4  | 232     | 15.2  | 2 876     | 15.4  | 8      | 12.2  | 178    | 17.0  | 1 785         | 19.1  |  |
| Iron            | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Isabella        | 244                             | 2.2   | 19 338  | 2.1   | 510 835   | 2.1   | 100    | 3.6   | 5 849  | 4.6   | 76 528        | 4.9   |  |
| Jackson         | 196                             | 2.3   | 13 705  | 2.6   | 454 995   | 2.5   | 1      | (D)   | (D)    | (D)   | (D)           | (D)   |  |
| Kalamazoo       | 240                             | 1.4   | 24 707  | 1.2   | 821 152   | 1.2   | 1      | (D)   | (D)    | (D)   | (D)           | (D)   |  |
| Kalkaska        | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Kent            | 85                              | 2.5   | 5 743   | 2.3   | 163 833   | 2.6   | 18     | 7.0   | 2 243  | 5.5   | 32 961        | 4.6   |  |
| Keweenaw        | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Lake            | 1                               | 33.1  | (D)     | (D)   | (D)       | (D)   | —      | —   | —      | —   | —             | —   |  |
| Lapeer          | 187                             | 2.5   | 13 427  | 2.6   | 375 257   | 2.5   | 31     | 5.1   | 5 796  | 1.2   | 67 639        | .5  |  |
| Leelanau        | 3                               | 15.5  | (D)     | (D)   | (D)       | (D)   | —      | —   | —      | —   | —             | —   |  |
| Lenawee         | 792                             | .7  | 111 836 | .6  | 4 085 280 | .6  | 5      | 14.2  | 222    | 20.8  | 4 045         | 24.0  |  |
| Livingston      | 105                             | 2.3   | 9 544   | 1.7   | 270 652   | 1.8   | —      | —   | —      | —   | —             | —   |  |
| Luce            | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Mackinac        | —                               | —   | —       | —   | —         | —   | 1      | 37.9  | (D)    | (D)   | (D)           | (D)   |  |
| Macomb          | 189                             | 1.8   | 19 118  | 2.2   | 569 515   | 2.2   | 8      | 8.4   | 453    | 10.1  | 3 553         | 9.9   |  |
| Manistee        | —                               | —   | —       | —   | —         | —   | 4      | —   | 958    | —   | 13 668        | —   |  |
| Marquette       | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Mason           | 14                              | 7.8   | 591     | 9.1   | 11 723    | 11.4  | 5      | 15.5  | 232    | 11.2  | 2 204         | 12.1  |  |
| Mecosta         | 6                               | 12.8  | 167     | 11.4  | 2 812     | 17.1  | 19     | 7.3   | 2 329  | 3.3   | 25 529        | 4.3   |  |
| Menominee       | 3                               | 17.0  | 86      | 19.4  | 1 460     | 25.4  | —      | —   | —      | —   | —             | —   |  |
| Midland         | 179                             | 2.3   | 18 268  | 2.7   | 575 143   | 2.4   | 73     | 3.9   | 6 371  | 3.8   | 82 754        | 3.6   |  |
| Missaukee       | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Monroe          | 755                             | .8  | 92 322  | .8  | 3 007 179 | .8  | 10     | 8.1   | 416    | 6.6   | 7 831         | 6.3   |  |
| Montcalm        | 119                             | 2.7   | 10 636  | 3.3   | 244 605   | 3.1   | 132    | 2.4   | 17 256 | 1.8   | 210 883       | 1.8   |  |
| Montmorency     | 1                               | —   | (D)     | (D)   | (D)       | (D)   | 2      | 23.2  | (D)    | (D)   | (D)           | (D)   |  |
| Muskegon        | 16                              | 5.7   | 2 549   | 1.5   | 43 159    | 2.0   | —      | —   | —      | —   | —             | —   |  |
| Newaygo         | 7                               | 12.0  | 350     | 12.0  | 5 438     | 10.2  | 3      | 21.2  | (D)    | (D)   | (D)           | (D)   |  |
| Oakland         | 16                              | 7.9   | 1 535   | 7.5   | 49 470    | 8.1   | —      | —   | —      | —   | —             | —   |  |
| Oceana          | 10                              | 7.0   | 323     | 6.0   | 5 445     | 5.3   | 3      | —   | 196    | —   | (D)           | (D)   |  |
| Ogemaw          | —                               | —   | —       | —   | —         | —   | 1      | —   | (D)    | (D)   | (D)           | (D)   |  |
| Ontonagon       | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Osceola         | 4                               | 16.2  | 105     | 23.3  | 3 527     | 19.5  | —      | —   | —      | —   | —             | —   |  |
| Oscoda          | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Otsego          | —                               | —   | —       | —   | —         | —   | 1      | 30.3  | (D)    | (D)   | (D)           | (D)   |  |
| Ottawa          | 34                              | 4.4   | 1 289   | 4.7   | 36 483    | 3.5   | —      | —   | —      | —   | —             | —   |  |
| Presque Isle    | 2                               | 24.4  | (D)     | (D)   | (D)       | (D)   | 41     | 5.2   | 3 576  | 6.0   | 18 930        | 3.1   |  |
| Roscommon       | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Saginaw         | 961                             | .7  | 121 932 | .8  | 3 715 603 | .7  | 221    | 1.6   | 15 293 | 1.5   | 236 889       | 1.4   |  |
| St. Clair       | 417                             | 1.2   | 50 223  | 1.4   | 1 383 405 | 1.5   | 6      | 12.4  | 384    | 6.8   | 4 340         | 6.0   |  |
| St. Joseph      | 407                             | 1.2   | 40 819  | 1.1   | 1 449 697 | 1.1   | 22     | 3.7   | 2 212  | 2.0   | 37 523        | 2.0   |  |
| Sanilac         | 626                             | 1.4   | 69 673  | 1.2   | 1 739 077 | 1.2   | 274    | 2.1   | 22 393 | 1.7   | 225 695       | 1.7   |  |
| Schoolcraft     | —                               | —   | —       | —   | —         | —   | —      | —   | —      | —   | —             | —   |  |
| Shiawassee      | 677                             | 1.2   | 77 544  | 1.4   | 2 251 049 | 1.4   | 19     | 7.4   | 616    | 10.1  | 4 154         | 7.6   |  |
| Tuscola         | 472                             | 1.1   | 42 769  | .9  | 1 368 331 | .9  | 391    | 1.2   | 49 033 | .9  | 746 639       | .8  |  |
| Van Buren       | 171                             | 2.2   | 23 679  | 1.7   | 597 615   | 2.0   | 3      | 22.1  | (D)    | (D)   | (D)           | (D)   |  |
| Washtenaw       | 296                             | 1.5   | 22 970  | 1.5   | 762 558   | 1.7   | 3      | 22.0  | (D)    | (D)   | (D)           | (D)   |  |
| Wayne           | 75                              | 3.4   | 6 525   | 3.5   | 153 268   | 2.9   | —      | —   | —      | —   | —             | —   |  |
| Wexford         | 1                               | —   | (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) |  |  |
| <b>Michigan</b> | <b>22 285</b>   | <b>1.2</b>                                    | <b>1 283 598</b> | <b>1.2</b>                                    | <b>2 821 347</b> | <b>1.1</b>                                    | <b>3 007</b> | <b>1.0</b>                                    | <b>138 851</b> | <b>.5</b>                                     |  |  |
| Alcona          | 155   | 1.6   | 12 737           | 2.7   | 20 941           | 3.4   | 7            | 13.6  | 44             | 14.9  |  |  |
| Alger           | 42  | 2.9   | 4 279            | 4.0   | 6 654            | 6.0   | 4            | 19.1  | 44             | 30.5  |  |  |
| Allegan         | 682   | .9  | 34 498           | 1.0   | 95 785           | 1.2   | 102          | 2.7   | 6 668          | 1.7   |  |  |
| Alpena          | 280   | 1.5   | 19 573           | 2.0   | 29 216           | 2.8   | 14           | 10.0  | 368            | 10.9  |  |  |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 —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          | 120   | 2.0   | 8 272  | 2.3   | 11 844    | 2.4   | 14     | 8.3   | 122    | 15.3  |
| Arenac          | 131   | 2.4   | 10 036 | 3.1   | 22 174    | 2.9   | 36     | 4.9   | 2 027  | 3.3   |
| Baraga          | 48  | 1.4   | 5 054  | 3.7   | 5 940     | 4.3   | 1      | 23.5  | (D)    | 4.4   |
| Barry           | 519   | 1.0   | 25 947 | 1.5   | 69 338    | 1.8   | 32     | 5.3   | 354    | 4.4   |
| Bay             | 119   | 2.4   | 5 214  | 2.3   | 16 315    | 2.1   | 89     | 2.7   | 3 905  | 2.2   |
| Benzie          | 44  | 3.4   | 1 591  | 5.4   | 1 499     | 4.9   | 8      | 8.8   | 244    | 3.1   |
| Berrien         | 243   | 1.8   | 7 072  | 2.5   | 18 212    | 2.8   | 245    | 1.7   | 6 420  | 1.0   |
| Branch          | 381   | 1.7   | 11 521 | 2.0   | 33 228    | 2.2   | 27     | 6.0   | 1 078  | 4.8   |
| Calhoun         | 507   | 1.0   | 19 048 | 1.2   | 51 930    | 1.3   | 29     | 5.5   | 907    | 2.3   |
| Cass            | 345   | 1.2   | 12 729 | 1.5   | 35 550    | 1.7   | 62     | 3.0   | 3 619  | 1.1   |
| Charlevoix      | 141   | 1.5   | 9 033  | 1.9   | 15 065    | 2.3   | 10     | 8.5   | 476    | 1.6   |
| Cheboygan       | 132   | 1.7   | 11 656 | 2.5   | 13 780    | 3.1   | 10     | 10.8  | 103    | 6.3   |
| Chippewa        | 274   | .9  | 36 348 | 1.6   | 37 925    | 1.8   | 1      | —   | (D)    | (D)   |
| Clare           | 219   | 1.2   | 17 219 | 1.5   | 24 338    | 1.4   | 2      | 21.3  | (D)    | (D)   |
| Clinton         | 545   | 1.3   | 26 381 | 1.3   | 87 964    | 1.2   | 24     | 6.2   | 667    | 6.1   |
| Crawford        | 9   | 6.1   | (D)    | (D)   | (D)       | (D)   | 3      | 16.7  | 21     | 35.7  |
| Delta           | 168   | 1.4   | 16 255 | 2.0   | 20 201    | 1.9   | 15     | 8.6   | 121    | 13.0  |
| Dickinson       | 70  | 1.8   | 6 161  | 3.5   | 8 304     | 3.5   | 6      | 7.2   | 37     | 7.0   |
| Eaton           | 481   | 1.5   | 16 958 | 2.3   | 47 074    | 2.3   | 32     | 5.7   | 1 062  | 1.8   |
| Emmet           | 142   | 1.5   | 10 998 | 2.6   | 14 562    | 2.9   | 15     | 8.3   | 211    | 10.5  |
| Genesee         | 369   | 1.3   | 12 715 | 1.6   | 28 390    | 1.9   | 50     | 4.0   | 800    | 4.6   |
| Gladwin         | 286   | 1.2   | 13 592 | 1.7   | 19 493    | 1.9   | 13     | 7.7   | 149    | 12.4  |
| Gogebic         | 38  | 2.8   | 1 792  | 4.9   | 2 083     | 6.6   | 1      | 34.0  | (D)    | (D)   |
| Grand Traverse  | 145   | 1.9   | 9 585  | 2.3   | 14 152    | 2.5   | 37     | 4.3   | 2 075  | 4.1   |
| Gratiot         | 281   | 1.9   | 13 647 | 2.3   | 39 142    | 2.6   | 63     | 4.0   | 4 755  | 1.9   |
| Hillsdale       | 467   | 1.5   | 20 051 | 1.7   | 59 973    | 1.6   | 16     | 9.0   | 81     | 11.0  |
| Houghton        | 92  | 1.7   | 8 167  | 2.4   | 9 565     | 3.9   | 8      | 10.4  | 31     | 12.7  |
| Huron           | 586   | 1.7   | 31 719 | 1.5   | 109 725   | 1.6   | 12     | 11.8  | 55     | 9.8   |
| Ingham          | 445   | 1.0   | 21 619 | 1.3   | 63 570    | 1.4   | 29     | 5.2   | 1 166  | 1.2   |
| Ionia           | 559   | 1.2   | 28 925 | 1.4   | 84 070    | 1.4   | 37     | 5.4   | 550    | 3.9   |
| Iosco           | 143   | 1.6   | 12 254 | 2.7   | 19 809    | 3.2   | 13     | 8.9   | 95     | 8.4   |
| Iron            | 61  | 1.8   | 6 092  | 3.3   | 7 073     | 3.1   | —      | —   | —      | —   |
| Isabella        | 564   | 1.3   | 41 736 | 1.4   | 92 565    | 1.6   | 14     | 11.0  | 343    | 13.3  |
| Jackson         | 569   | 1.3   | 25 884 | 1.8   | 71 055    | 1.9   | 35     | 5.4   | 1 216  | 4.7   |
| Kalamazoo       | 267   | 1.5   | 11 536 | 1.5   | 27 381    | 2.3   | 65     | 3.1   | 4 453  | 2.8   |
| Kalkaska        | 54  | 2.4   | 2 972  | 4.4   | 3 080     | 6.1   | 6      | 11.0  | 860    | 2.9   |
| Kent            | 634   | 1.0   | 34 196 | 1.0   | 89 707    | 1.1   | 114    | 2.5   | 4 507  | 1.5   |
| Keweenaw        | 1   | —   | (D)    | (D)   | (D)       | (D)   | —      | —   | —      | —   |
| Lake            | 71  | 2.2   | 4 332  | 2.8   | 3 708     | 3.9   | 1      | —   | (D)    | (D)   |
| Lapeer          | 676   | 1.2   | 32 998 | 1.6   | 81 694    | 1.7   | 56     | 4.5   | 3 446  | 1.5   |
| Leelanau        | 122   | 1.9   | 6 175  | 2.1   | 9 015     | 2.5   | 18     | 6.6   | 160    | 7.9   |
| Lenawee         | 376   | 1.2   | 15 591 | 1.3   | 45 567    | 1.4   | 74     | 2.6   | 4 261  | 1.5   |
| Livingston      | 405   | 1.1   | 21 417 | 1.4   | 47 359    | 1.5   | 41     | 4.0   | 2 133  | .4  |
| Luce            | 17  | 3.8   | 2 271  | 3.9   | 3 214     | 4.0   | 2      | 15.7  | (D)    | (D)   |
| Mackinac        | 57  | 1.7   | 9 229  | 2.6   | 12 497    | 4.2   | 5      | 16.0  | 38     | 23.6  |
| Macomb          | 170   | 2.0   | 5 151  | 3.0   | 13 022    | 3.3   | 108    | 2.5   | 3 819  | 3.0   |
| Manistee        | 143   | 1.6   | 6 648  | 3.1   | 9 146     | 3.4   | 37     | 3.4   | 1 648  | 2.1   |
| Marquette       | 55  | 2.5   | 5 126  | 3.4   | 7 444     | 3.6   | 6      | 11.7  | 14     | 18.0  |
| Mason           | 183   | 2.1   | 13 146 | 2.7   | 26 731    | 2.6   | 85     | 3.5   | 4 786  | 2.7   |
| Mecosta         | 459   | 1.1   | 36 899 | 2.1   | 59 096    | 1.9   | 26     | 5.9   | 1 268  | 4.4   |
| Menominee       | 263   | .8  | 33 642 | 1.3   | 45 384    | 1.5   | 9      | 11.3  | 30     | 11.6  |
| Midland         | 148   | 2.5   | 5 729  | 3.5   | 9 375     | 3.8   | 15     | 7.9   | 666    | 1.6   |
| Missaukee       | 235   | .9  | 34 593 | 1.0   | 55 052    | 1.4   | 2      | 26.6  | (D)    | (D)   |
| Monroe          | 226   | 1.8   | 4 149  | 2.2   | 12 518    | 1.9   | 101    | 2.6   | 3 718  | 1.4   |
| Montcalm        | 520   | 1.0   | 29 846 | 1.2   | 76 025    | 1.2   | 44     | 3.5   | 3 968  | 1.2   |
| Montmorency     | 82  | 2.4   | 4 878  | 3.7   | 7 880     | 6.1   | 3      | 24.6  | 12     | 24.7  |
| Muskegon        | 223   | 1.6   | 13 546 | 1.9   | 22 813    | 1.9   | 41     | 4.4   | 3 213  | 1.0   |
| Newaygo         | 454   | 1.0   | 29 827 | 1.3   | 51 041    | 1.5   | 48     | 3.8   | 5 101  | 1.3   |
| Oakland         | 187   | 2.0   | 8 694  | 3.3   | 20 487    | 4.7   | 31     | 5.9   | 616    | 4.9   |
| Oceana          | 269   | 1.3   | 14 011 | 1.3   | 24 988    | 1.1   | 252    | 1.3   | 16 468 | .7  |
| Ogemaw          | 210   | 1.6   | 23 936 | 2.1   | 52 440    | 1.9   | 8      | 13.4  | 50     | 19.4  |
| Ontonagon       | 86  | 1.0   | 9 400  | 1.7   | 10 841    | 2.5   | 2      | 22.6  | (D)    | (D)   |
| Osceola         | 403   | 1.0   | 38 893 | 1.5   | 53 076    | 1.7   | 7      | 15.9  | 20     | 17.4  |
| Oscoda          | 64  | 2.1   | 4 536  | 4.5   | 5 782     | 7.4   | 1      | 42.5  | (D)    | (D)   |
| Otsego          | 99  | 1.8   | 10 013 | 2.7   | 10 313    | 2.6   | 3      | 20.0  | 37     | 19.5  |
| Ottawa          | 628   | .9  | 29 723 | 1.1   | 76 358    | 1.1   | 126    | 2.3   | 3 752  | 2.3   |
| Presque Isle    | 216   | 1.5   | 15 612 | 2.2   | 21 248    | 2.3   | 11     | 10.1  | 32     | 10.2  |
| Roscommon       | 22  | 3.5   | 1 677  | 8.1   | 1 638     | 6.3   | —      | —   | —      | —   |
| Saginaw         | 270   | 1.5   | 8 243  | 1.6   | 30 205    | 1.4   | 50     | 3.5   | 1 804  | 1.4   |
| St. Clair       | 508   | 1.1   | 21 115 | 1.7   | 46 790    | 1.9   | 58     | 3.9   | 862    | 4.2   |
| St. Joseph      | 349   | 1.4   | 11 213 | 1.6   | 33 703    | 1.5   | 65     | 2.6   | 7 376  | .9  |
| Sanilac         | 750   | 1.3   | 56 249 | 1.2   | 169 756   | 1.2   | 17     | 10.3  | 418    | 9.3   |
| Schoolcraft     | 34  | 3.0   | 3 218  | 3.6   | 6 916     | 7.5   | 3      | 22.3  | 6      | 22.3  |
| Shiawassee      | 459   | 1.5   | 20 096 | 1.6   | 58 362    | 1.9   | 19     | 7.5   | 92     | 11.5  |
| Tuscola         | 427   | 1.3   | 17 810 | 1.4   | 52 363    | 1.4   | 41     | 3.9   | 1 594  | 2.4   |
| Van Buren       | 306   | 1.7   | 12 775 | 2.0   | 28 860    | 2.4   | 158    | 2.3   | 13 734 | .5  |
| Washtenaw       | 568   | 1.0   | 26 668 | 1.3   | 77 734    | 1.4   | 61     | 3.8   | 2 015  | 1.9   |
| Wayne           | 61  | 4.2   | 1 236  | 6.8   | 3 243     | 8.9   | 64     | 3.9   | 1 222  | 3.7   |
| Wexford         | 126   | 1.5   | 7 922  | 2.1   | 8 884     | 2.7   | 7      | 10.8  | 783    | 15.4  |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 – 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) |
| <b>Michigan</b> ..... | <b>3 531</b>                  | <b>.9</b>                                     | <b>162 183</b> | <b>.6</b>                                     |
| Alcona .....          | 13                            | 9.5   | 29             | 10.2  |
| Alger .....           | 4                             | 12.7  | 17             | 7.0   |
| Allegan .....         | 113                           | 2.7   | 4 600          | 2.5   |
| Alpena .....          | 21                            | 7.4   | 112            | 11.3  |
| Antrim .....          | 76                            | 2.9   | 5 069          | 1.9   |
| Arenac .....          | 8                             | 13.1  | 49             | 28.0  |
| Baraga .....          | 1                             | 23.5  | (D)            | (D)   |
| Barry .....           | 24                            | 6.7   | 74             | 10.8  |
| Bay .....             | 19                            | 6.8   | 72             | 8.5   |
| Benzie .....          | 56                            | 2.7   | 3 759          | 2.4   |
| Berrien .....         | 625                           | 1.0   | 24 300         | .9  |
| Branch .....          | 18                            | 7.1   | 372            | 8.9   |
| Calhoun .....         | 14                            | 6.7   | 194            | 2.3   |
| Cass .....            | 52                            | 3.5   | 2 817          | 2.5   |
| Charlevoix .....      | 22                            | 5.9   | 986            | 6.7   |
| Cheboygan .....       | 6                             | 14.5  | 19             | 19.5  |
| Chippewa .....        | 12                            | 8.9   | 24             | 10.8  |
| Clare .....           | 4                             | 18.2  | 10             | 17.0  |
| Clinton .....         | 32                            | 5.9   | 475            | 9.0   |
| Crawford .....        | 1                             | —   | (D)            | (D)   |
| Delta .....           | 19                            | 6.8   | 104            | 13.7  |
| Dickinson .....       | 3                             | 20.2  | 5              | 19.3  |
| Eaton .....           | 27                            | 6.8   | 249            | 8.5   |
| Emmet .....           | 11                            | 10.0  | 55             | 12.8  |
| Genesee .....         | 40                            | 4.6   | 713            | 6.0   |
| Gladwin .....         | 9                             | 11.9  | 36             | 20.9  |
| Gogebic .....         | —                             | —   | —              | —   |
| Grand Traverse .....  | 196                           | 1.6   | 10 584         | 2.1   |
| Gratiot .....         | 16                            | 8.1   | 246            | 4.6   |
| Hillsdale .....       | 20                            | 7.7   | 375            | 13.4  |
| Houghton .....        | 8                             | 9.1   | 60             | 11.9  |
| Huron .....           | 14                            | 9.4   | 73             | 12.4  |
| Ingham .....          | 28                            | 4.8   | 343            | 1.7   |
| Ionia .....           | 49                            | 4.8   | 2 522          | 5.4   |
| Iosco .....           | 8                             | 8.9   | 46             | 12.4  |
| Iron .....            | 1                             | 37.3  | (D)            | (D)   |
| Isabella .....        | 9                             | 11.1  | 158            | 9.8   |
| Jackson .....         | 32                            | 6.1   | 273            | 9.1   |
| Kalamazoo .....       | 55                            | 3.5   | 1 511          | 3.2   |
| Kalkaska .....        | 1                             | 28.7  | (D)            | (D)   |
| Kent .....            | 236                           | 1.6   | 16 988         | .9  |
| Keweenaw .....        | —                             | —   | —              | —   |
| Lake .....            | 7                             | 12.0  | 26             | 12.0  |
| Lapeer .....          | 48                            | 5.3   | 769            | 5.2   |
| Leelanau .....        | 247                           | 1.1   | 17 673         | .9  |
| Lenawee .....         | 50                            | 4.0   | 611            | 4.8   |
| Livingston .....      | 23                            | 6.1   | 386            | 2.5   |
| Luce .....            | 3                             | 16.4  | 6              | 19.8  |
| Mackinac .....        | 2                             | 26.3  | (D)            | (D)   |
| Macomb .....          | 43                            | 4.5   | 1 173          | 2.2   |
| Manistee .....        | 68                            | 2.6   | 4 387          | 1.9   |
| Marquette .....       | 12                            | 8.9   | 38             | 18.7  |
| Mason .....           | 62                            | 3.7   | 6 205          | 2.4   |
| Mecosta .....         | 15                            | 8.1   | 237            | 3.6   |
| Menominee .....       | 12                            | 9.0   | 47             | 10.7  |
| Midland .....         | 13                            | 9.6   | 43             | 17.3  |
| Missaukee .....       | 3                             | 20.2  | (D)            | (D)   |
| Monroe .....          | 51                            | 4.3   | 439            | 3.6   |
| Montcalm .....        | 25                            | 6.0   | 1 041          | 4.6   |
| Montmorency .....     | 5                             | 17.7  | 10             | 18.8  |
| Muskegon .....        | 24                            | 5.6   | 3 618          | 2.1   |
| Newaygo .....         | 38                            | 4.3   | 2 325          | 2.0   |
| Oakland .....         | 42                            | 5.0   | 618            | 5.5   |
| Oceana .....          | 185                           | 1.5   | 16 270         | 1.3   |
| Ogemaw .....          | 11                            | 10.7  | 146            | 16.2  |
| Ontonagon .....       | 5                             | 10.2  | 9              | 12.0  |
| Osceola .....         | 6                             | 16.3  | 23             | 19.1  |
| Oscoda .....          | 7                             | 12.3  | 21             | 14.2  |
| Otsego .....          | 3                             | 23.7  | 6              | 24.7  |
| Ottawa .....          | 95                            | 2.7   | 6 985          | 1.5   |
| Presque Isle .....    | 14                            | 8.7   | 30             | 11.4  |
| Roscommon .....       | 2                             | 25.4  | (D)            | (D)   |
| Saginaw .....         | 31                            | 5.6   | 399            | 3.6   |
| St. Clair .....       | 24                            | 6.5   | 252            | 6.9   |
| St. Joseph .....      | 8                             | 8.4   | (D)            | (D)   |
| Sanilac .....         | 21                            | 8.1   | 449            | 11.7  |
| Schoolcraft .....     | 2                             | —   | (D)            | (D)   |
| Shiawassee .....      | 20                            | 8.1   | 155            | 8.9   |
| Tuscola .....         | 17                            | 7.0   | 309            | 5.8   |

See footnotes at end of table.

**Table F. Reliability Estimates for the State and County Totals: 1992 — 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 ..... | 312                           | 1.6   | 19 232 | 1.3   |
| Washtenaw ..... | 47                            | 4.5   | 497    | 7.5   |
| Wayne .....     | 18                            | 8.5   | 148    | 7.7   |
| Wexford .....   | 7                             | 12.0  | 50     | 16.1  |

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

**Table G. State Estimates of the Not on the Mail List Component of Farm Coverage Error: 1992**

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text]

| Item   | Census published farms |   | Not on mail list <sup>1</sup> |   | Percent not on mail list <sup>1</sup> |                           |
|--|------------------------|---|-------------------------------|---|---------------------------------------|---------------------------|
|  | Total (number)         | Relative standard error of estimate (percent) | Total (number)                | Relative standard error of estimate (percent) | Total (percent)                       | Standard error of percent |
| Farms ----- number--                                       | 46 562                 | .6  | 7 479                         | 22.7  | 13.8                                  | 2.6                       |
| Land in farms ----- acres --                               | 10 088 170             | .5  | 331 180                       | 24.0  | 3.2                                   | .7                        |
| Average size of farm ----- acres --                        | 216.7                  | .3  | 44.3                          | 16.1  | (X)                                   | (X)                       |
| Farms by size:   |                        |   |                               |   |                                       |                           |
| Less than 10 acres -----                                   | 2 562                  | 1.0   | 1 149                         | 48.5  | 31.0                                  | 10.3                      |
| 10 to 49 acres -----                                       | 11 148                 | .8  | 4 197                         | 27.7  | 27.4                                  | 5.4                       |
| Less than 50 acres -----                                   | 13 710                 | .8  | 5 346                         | 27.5  | 28.1                                  | 5.5                       |
| 50 acres or more -----                                     | 32 852                 | .7  | 2 134                         | 32.9  | 6.1                                   | 1.9                       |
| 50 to 99 acres -----                                       | 9 013                  | .8  | 1 417                         | 43.3  | 13.6                                  | 5.0                       |
| 100 to 179 acres -----                                     | 8 436                  | .8  | 539                           | 47.7  | 6.0                                   | 2.7                       |
| 180 acres or more -----                                    | 15 403                 | .7  | 177                           | 72.3  | 1.1                                   | .8                        |
| Harvested cropland ----- farms --                          | 41 334                 | .6  | 4 976                         | 25.5  | 10.7                                  | 2.4                       |
| acres--  | 6 584 251              | .5  | 94 924                        | 28.3  | 1.4                                   | .4                        |
| Farms by value of sales:                                   |                        |   |                               |   |                                       |                           |
| Less than \$1,000 -----                                    | 5 716                  | .9  | 4 533                         | 30.1  | 44.2                                  | 7.4                       |
| \$1,000 to \$2,499 -----                                   | 5 207                  | .9  | 1 291                         | 43.5  | 19.9                                  | 6.9                       |
| Less than \$2,500 -----                                    | 10 923                 | .8  | 5 824                         | 27.4  | 34.8                                  | 6.2                       |
| \$2,500 or more -----                                      | 35 639                 | .6  | 1 655                         | 31.1  | 4.4                                   | 1.3                       |
| \$2,500 to \$9,999 -----                                   | 11 966                 | .8  | 852                           | 47.4  | 6.6                                   | 2.9                       |
| \$10,000 or more -----                                     | 23 673                 | .7  | 804                           | 38.2  | 3.3                                   | 1.2                       |
| Market value of agricultural products sold -----\$1,000 -- | 3 028 547              | .3  | 47 182                        | 53.1  | 1.5                                   | .8                        |
| Farms by standard industrial classification:               |                        |   |                               |   |                                       |                           |
| Crops (01) -----   | 28 012                 | .6  | 4 157                         | 26.0  | 12.9                                  | 2.9                       |
| Livestock (02) -----                                       | 18 550                 | .7  | 3 153                         | 32.1  | 14.5                                  | 3.9                       |
| Farms by type of organization:                             |                        |   |                               |   |                                       |                           |
| Individual or family -----                                 | 40 654                 | .7  | 7 037                         | 23.4  | 14.8                                  | 2.9                       |
| Partnership or corporation -----                           | 5 747                  | .6  | 443                           | 55.4  | 7.2                                   | 3.7                       |
| Other -----  | 161                    | 2.3   | --                            | (X)   | --                                    | (X)                       |
| Farms by tenure of operator:                               |                        |   |                               |   |                                       |                           |
| Full owners -----  | 27 070                 | .7  | 7 217                         | 23.4  | 21.0                                  | 3.8                       |
| Part owners and tenants -----                              | 19 492                 | .6  | 262                           | 60.8  | 1.3                                   | .8                        |
| Part owners -----  | 16 500                 | .6  | 152                           | 74.6  | .9                                    | .7                        |
| Tenants -----  | 2 992                  | .9  | 109                           | 100.5   | 3.5                                   | 3.4                       |
| Operators by place of residence:                           |                        |   |                               |   |                                       |                           |
| On farm operated -----                                     | 38 336                 | .6  | 6 894                         | 23.7  | 15.2                                  | 3.0                       |
| Not on farm operated -----                                 | 5 682                  | .8  | 289                           | 75.8  | 4.8                                   | 3.5                       |
| Not reported -----   | 2 544                  | .8  | 296                           | 77.2  | 10.4                                  | 7.2                       |
| Operators by principal occupation:                         |                        |   |                               |   |                                       |                           |
| Farming -----  | 24 396                 | .6  | 1 570                         | 35.7  | 6.0                                   | 2.0                       |
| Other -----  | 22 166                 | .7  | 5 034                         | 27.3  | 18.5                                  | 4.0                       |
| Operators by sex:  |                        |   |                               |   |                                       |                           |
| Male -----   | 43 435                 | .6  | 6 883                         | 22.5  | 13.7                                  | 2.6                       |
| Female -----   | 3 127                  | .9  | 596                           | 72.6  | 16.0                                  | 9.7                       |
| Operators by race:   |                        |   |                               |   |                                       |                           |
| White -----  | 46 278                 | .6  | 6 489                         | 23.9  | 12.3                                  | 2.5                       |
| Black and other races -----                                | 284                    | 2.0   | 115                           | 100.5   | 28.7                                  | 20.5                      |
| Operators by years on present farm:                        |                        |   |                               |   |                                       |                           |
| 4 years or less -----                                      | 4 631                  | 1.2   | 2 061                         | 33.8  | 30.8                                  | 7.1                       |
| 5 years or more -----                                      | 34 858                 | .6  | 4 191                         | 28.4  | 10.7                                  | 2.7                       |
| Average years on present farm -----                        | 20.9                   | .2  | 11.7                          | 31.3  | (X)                                   | (X)                       |
| Not reported -----   | 7 073                  | .7  | 1 228                         | 40.4  | 14.8                                  | 5.0                       |
| Average age of operator -----                              | 51.9                   | .1  | 47.7                          | 21.5  | (X)                                   | (X)                       |

NOTE: These estimates do not account for incorrectly classified farms or farms appearing more than once in the census and are subject to change in the 1992 Coverage Evaluation publication. See appendix C text for further explanation.

<sup>1</sup>Estimates are based on a sample survey conducted independently of census data collection.