

## 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 .....	11.3
Land in farms.....acres .....	7.7
Estimated market value of land and buildings <sup>1</sup> .....\$1,000 .....	3.5
Market value of agricultural products sold ..\$1,000 .....	2.6
Harvested cropland .....acres .....	6.1
Corn for grain or seed .....acres .....	4.7
Wheat for grain .....acres .....	5.2
Livestock and poultry inventory:	
Cattle and calves .....number .....	5.5
Hogs and pigs .....number .....	2.6
Hens and pullets of laying age .....number .....	.2

<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	5.5
50	3.8
75	3.1
100	2.6
150	2.1
200	1.8
300	1.3
500	.9
750	.5
1,000	.1
1,500	.1
2,000	.1
<b>SAMPLE COUNT ITEM</b>	
Number of farms reporting:	
25	25.3
50	19.8
75	17.6
100	16.4
150	15.1
200	14.4
300	13.7
500	13.0
750	12.7
1,000	12.6
1,500	12.4
2,000	12.3

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>F FARMS AND LAND IN FARMS</b>					
Farms -----	44 870	1.1	<b>FARM PRODUCTION EXPENSES<sup>1</sup></b>		
Land in farms -----	7 189 541	.8	Total farm production expenses -----	farms --	44 865
Average size of farm -----	160	1.3	\$1,000--	2 775 313	1.1
			Average per farm -----	dollars --	61 859
			Livestock and poultry purchased -----	farms --	17 589
			\$1,000--	306 690	.8
<b>MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD</b>			Feed for livestock and poultry -----	farms --	28 684
Total sales (see text) -----	44 870	1.1	\$1,000--	755 864	.4
\$1,000--	3 570 191	.3	Commercially mixed formula feeds -----	farms --	17 080
Average per farm -----	79 567	1.1	\$1,000--	542 636	.4
Farms by value of sales:			Seeds, bulbs, plants, and trees -----	farms --	30 107
Less than \$1,000 (see text) -----	4 879	1.3	\$1,000--	72 804	.7
\$1,000--	1 304	1.4	Commercial fertilizer -----	farms --	32 207
\$1,000 to \$2,499 -----	4 755	1.3	\$1,000--	108 455	.8
\$1,000--	8 080	1.3	Agricultural chemicals -----	farms --	27 229
\$2,500 to \$4,999 -----	5 314	1.3	\$1,000--	66 144	.9
\$1,000--	19 316	1.3	Petroleum products -----	farms --	43 287
\$5,000 to \$9,999 -----	5 555	1.4	\$1,000--	107 247	.7
\$1,000--	39 702	1.4	Electricity -----	farms --	34 830
\$10,000 to \$19,999 -----	4 771	1.7	\$1,000--	82 113	.5
\$1,000--	67 802	1.7	Hired farm labor -----	farms --	14 447
\$20,000 to \$24,999 -----	1 428	1.9	\$1,000--	352 456	.2
\$1,000--	31 851	1.9	Contract labor -----	farms --	3 240
\$25,000 to \$39,999 -----	2 687	2.0	\$1,000--	25 590	.7
\$1,000--	85 273	2.0	Repair and maintenance -----	farms --	39 818
\$40,000 to \$49,999 -----	1 228	1.9	\$1,000--	183 367	.8
\$1,000--	54 600	1.9	Customwork, machine hire, and rental of machinery and equipment -----	farms --	16 010
\$50,000 to \$99,999 -----	5 241	1.6	\$1,000--	34 429	1.0
\$1,000--	390 851	1.6	Interest expense -----	farms --	17 895
\$100,000 to \$249,999 -----	6 291	--	\$1,000--	144 542	.9
\$1,000--	958 715	--	Secured by real estate -----	farms --	12 603
\$250,000 to \$499,999 -----	1 707	--	\$1,000--	105 401	1.0
\$1,000--	580 627	--	Not secured by real estate -----	farms --	9 508
\$500,000 or more -----	1 014	--	\$1,000--	39 141	1.1
\$1,000--	1 332 071	--	Cash rent -----	farms --	14 464
Sales by commodity or commodity group:			\$1,000--	76 928	1.2
Crops, including nursery and greenhouse crops -----	27 506	1.0	Property taxes -----	farms --	40 766
\$1,000--	1 042 050	.3	\$1,000--	96 902	1.1
Grains -----	16 684	1.0	All other farm production expenses -----	farms --	41 382
\$1,000--	231 170	.5	\$1,000--	361 780	.4
Corn for grain -----	11 418	1.1			
\$1,000--	144 006	.5			
Wheat -----	7 137	1.0			
\$1,000--	25 748	.6			
Soybeans -----	5 135	.9			
\$1,000--	48 580	.5			
Sorghum for grain -----	81	2.9			
\$1,000--	385	4.4			
Barley -----	2 040	1.1			
\$1,000--	4 766	.7			
Oats -----	3 645	1.2			
\$1,000--	5 555	.9			
Other grains -----	1 192	1.1			
\$1,000--	2 131	.9			
Cotton and cottonseed -----	-	--			
\$1,000--	-	--			
Tobacco -----	1 345	1.6			
\$1,000--	19 865	1.4			
Hay, silage, and field seeds -----	13 065	1.2			
\$1,000--	87 005	1.1			
Vegetables, sweet corn, and melons -----	3 372	1.2			
\$1,000--	59 167	.6			
Fruits, nuts, and berries -----	2 252	1.2			
\$1,000--	88 634	.4			
Nursery and greenhouse crops -----	2 260	.9			
\$1,000--	532 465	.1			
Other crops -----	862	1.2			
\$1,000--	23 743	.4			
Livestock, poultry, and their products -----	31 097	1.1			
\$1,000--	2 528 141	.3			
Poultry and poultry products -----	3 197	.9			
\$1,000--	599 618	(L)			
Dairy products -----	11 593	.9			
\$1,000--	1 237 131	.4			
Cattle and calves -----	26 008	1.1			
\$1,000--	426 157	.5			
Hogs and pigs -----	4 577	1.1			
\$1,000--	192 596	.3			
Sheep, lambs, and wool -----	2 697	1.2			
\$1,000--	4 683	1.4			
Other livestock and livestock products (see text) -----	3 012	1.3			
\$1,000--	67 957	.3			
Value of agricultural products sold directly to individuals for human consumption (see text) -----	4 862	1.2			
\$1,000--	35 806	.8	Total -----	farms --	616
				\$1,000--	.9
<b>NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)<sup>1</sup></b>					
All farms -----	44 866	1.1			
\$1,000--	758 341	.6			
Average per farm -----	16 902	1.2			
Farms with net gains <sup>2</sup> -----	24 345	1.3			
\$1,000--	890 287	.5			
Average net gain -----	36 570	1.4			
Farms with net losses -----	20 521	1.5			
\$1,000--	131 946	1.8			
Average net loss -----	6 430	2.3			
<b>GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME</b>					
Government payments -----	7 400	1.0			
\$1,000--	28 134	.6			
Other farm-related income <sup>1</sup> -----	10 860	1.9			
\$1,000--	52 118	2.6			
Customwork and other agricultural services -----	4 134	3.0			
\$1,000--	21 302	3.2			
Gross cash rent or share payments -----	3 041	3.9			
\$1,000--	9 296	5.5			
Forest products and Christmas trees -----	2 323	4.4			
\$1,000--	14 948	5.7			
Other farm-related income sources -----	3 337	2.9			
\$1,000--	6 572	6.6			
<b>COMMODITY CREDIT CORPORATION LOANS</b>					

See footnotes at end of table.

## 1992 CENSUS OF AGRICULTURE

## APPENDIX C C-7

**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>LAND IN FARMS ACCORDING TO USE</b>							
Total cropland	farms--	42 390	All operators	farms--	44 870		
	acres--	5 021 773		acres--	7 189 541		
Harvested cropland	farms--	40 090	Full owners	farms--	25 983		
	acres--	3 861 435		acres--	2 737 577		
Farms by acres harvested:			Part owners	farms--	14 161		
1 to 9 acres	farms--	4 953		acres--	3 801 721		
	acres--	20 425	Tenants	farms--	4 726		
10 to 19 acres	farms--	4 293		acres--	650 243		
	acres--	58 708					
20 to 29 acres	farms--	3 921	<b>OWNED AND RENTED LAND</b>				
	acres--	91 477	Land owned	farms--	40 200		
30 to 49 acres	farms--	6 143		acres--	5 044 475		
	acres--	234 112	Owned land in farms	farms--	40 144		
50 to 99 acres	farms--	9 237		acres--	4 800 650		
	acres--	638 686	Land rented or leased from others	farms--	18 960		
100 to 199 acres	farms--	6 648		acres--	2 409 571		
	acres--	914 350	Rented or leased land in farms	landlords--	51 547		
200 to 499 acres	farms--	4 016		farms--	18 887		
	acres--	1 166 827	Rented or leased to others	acres--	2 388 891		
500 to 999 acres	farms--	706		farms--	4 480		
	acres--	469 890		acres--	264 505		
1,000 acres or more	farms--	173					
	acres--	266 960					
Cropland:			<b>OPERATOR CHARACTERISTICS</b>				
Pasture or grazing only	farms--	22 479	Operators by place of residence:				
	acres--	738 467	On farm operated		36 501		
Other cropland	farms--	13 565			4 980		
	acres--	421 871	Not on farm operated		3 389		
Total woodland	farms--	27 377					
	acres--	1 421 561	Not reported				
Pastureland and rangeland other than cropland and			<b>OPERATORS BY PRINCIPAL OCCUPATION</b>				
woodland pastured	farms--	11 592	Operators by principal occupation:				
	acres--	407 118	Farming		26 959		
Land in house lots, ponds, roads, wasteland, etc.	farms--	28 972			17 911		
	acres--	339 089	Other				
Irrigated land	farms--	2 121	<b>OPERATORS BY DAYS WORKED OFF FARM</b>				
	acres--	23 096	Any		21 243		
Acres irrigated:			200 days or more		13 501		
1 to 9 acres	farms--	1 713	<b>OPERATORS BY SEX</b>				
	acres--	3 799	Operators by sex:				
10 to 49 acres	farms--	307	Male	farms--	42 063		
	acres--	6 313		acres--	6 879 682		
50 to 99 acres	farms--	59	Female	farms--	2 807		
	acres--	3 768		acres--	309 859		
100 to 199 acres	farms--	25	Average age of operator	years--	52.2		
	acres--	(D)					
200 to 499 acres	farms--	15	<b>FARMS BY TYPE OF ORGANIZATION</b>				
	acres--	4 655	Individual or family (sole proprietorship)	farms--	39 646		
500 to 999 acres	farms--	2		acres--	5 752 266		
	acres--	(D)	Partnership	farms--	4 063		
1,000 acres or more	farms--	—		acres--	1 092 055		
	acres--	—	<b>CORPORATIONS</b>				
Harvested cropland irrigated	farms--	2 087	Corporation:				
	acres--	22 519	Family held	farms--	887		
Pasture and other land irrigated	farms--	59		acres--	273 999		
	acres--	577	More than 10 stockholders	farms--	25		
Land under federal acreage reduction programs:			10 or less stockholders	farms--	862		
Diverted under annual commodity programs	farms--	3 239	<b>OTHER TYPES OF ORGANIZATIONS</b>				
	acres--	26 576	Other than family held	farms--	129		
Conservation Reserve or Wetlands Reserve	farms--	1 551		acres--	20 881		
Programs	acres--	59 980	More than 10 stockholders	farms--	12		
			10 or less stockholders	farms--	117		
<b>VALUE OF LAND AND BUILDINGS<sup>1</sup></b>							
Estimated market value of land and buildings	farms--	44 866	Other—cooperative, estate or trust, institutional, etc.	farms--	145		
\$1,000--		1.1		acres--	50 340		
Average per farm	dollars--	14 751 728	<b>Hired Farm Labor</b>				
		1.0	Hired workers by days worked:				
Average per acre	dollars--	328 795	150 days or more	farms--	7 854		
		1.4		workers--	1.5		
		2 056	Less than 150 days	farms--	25 098		
		1.4		workers--	.6		
<b>VALUE OF MACHINERY AND EQUIPMENT<sup>1</sup></b>							
Estimated market value of all machinery and equipment	farms--	44 852					
\$1,000--		1.1	<b>INJURIES AND DEATHS</b>				
Average per farm	dollars--	2 214 947	Farm-related injuries:				
		1.4	Operator and family members	farms--	543		
		49 383		number--	1.3		
		1.4	Hired workers	farms--	448		
				number--	.7		
					1 321		
<b>AGRICULTURAL CHEMICALS<sup>1</sup></b>							
Commercial fertilizer	farms--	31 894	<b>FARM-RELATED DEATHS</b>				
acres on which used--		2 716 020	Farm-related deaths:				
		.9	Operator and family members	farms--	10		
				number--	5.8		
					5		
					9.3		
					9.3		

See footnotes at end of table.

## C-8 APPENDIX C

## 1992 CENSUS OF AGRICULTURE

**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>F FARMS BY SIZE</b>						
1 to 9 acres	farms ..	3 005	Cattle and calves inventory .....	farms ..	27 984	
	acres..	12 020	number ..	1 699 820	.1	
10 to 49 acres	farms ..	9 095	Beef cows .....	farms ..	11 461	
	acres..	252 376	number ..	157 773	.3	
50 to 69 acres	farms ..	4 323	Milk cows .....	farms ..	12 448	
	acres..	253 163	number ..	625 165	.5	
70 to 99 acres	farms ..	5 646	Cattle and calves sold .....	farms ..	26 008	
	acres..	471 297	number ..	954 013	.1	
100 to 139 acres	farms ..	6 208	\$1,000 ..	426 157	.6	
	acres..	721 189	Hogs and pigs inventory .....	farms ..	5 097	
140 to 179 acres	farms ..	3 959	number ..	1 074 574	.4	
	acres..	622 027	Hogs and pigs sold .....	farms ..	4 577	
180 to 219 acres	farms ..	2 869	number ..	2 263 427	.1	
	acres..	565 523	\$1,000 ..	192 596	.4	
220 to 259 acres	farms ..	2 038	Sheep and lambs of all ages inventory .....	farms ..	2 922	
	acres..	485 273	number ..	108 040	.5	
260 to 499 acres	farms ..	5 379	Sheep and lambs sold .....	farms ..	2 468	
	acres..	1 869 057	number ..	81 013	.5	
500 to 999 acres	farms ..	1 880	Horses and ponies inventory .....	farms ..	9 254	
	acres..	1 223 691	number ..	58 024	.3	
		.5	Horses and ponies sold .....	farms ..	1 902	
1,000 to 1,999 acres	farms ..	391	number ..	7 033	.5	
2,000 acres or more	farms ..	502 323	<b>P Poultry</b>			
	acres..	77	Chickens 3 months old or older inventory .....	farms ..	3 784	
	211 602	—	number ..	29 682 108	.1	
		—	Hens and pullets of laying age .....	farms ..	3 706	
		—	number ..	25 150 847	(L)	
		—	Broilers and other meat-type chickens sold .....	farms ..	839	
		—	number ..	108 113 026	.0	
		—			.1	
<b>F FARMS BY STANDARD INDUSTRIAL CLASSIFICATION</b>						
Cash grains (011)	farms ..	5 168	<b>C CROPS HARVESTED</b>			
	acres..	998 312	Corn for grain or seed .....	farms ..	21 610	
Field crops, except cash grains (013)	farms ..	5 678	acres..	1 012 263	.6	
	acres..	801 066	bushels ..	112 034 518	.5	
Vegetables and melons (016)	farms ..	1 202	Wheat for grain .....	farms ..	13 267	
	acres..	117 847	acres..	389 977	.0	
Fruits and tree nuts (017)	farms ..	1 409	Tons, green ..	6 136 435	.5	
	acres..	130 473	farms ..	7 734	1.0	
Horticultural specialties (018)	farms ..	1 876	acres..	182 021	.7	
	acres..	105 399	bushels ..	8 670 089	.6	
General farms, primarily crop (019)	farms ..	2 279	Barley for grain .....	farms ..	4 424	
	acres..	301 507	acres..	79 172	.9	
Livestock, except dairy, poultry, and animal specialties (021)	farms ..	12 802	bushels ..	5 286 907	.6	
	acres..	1 624 982	Oats for grain .....	farms ..	11 205	
Dairy farms (024)	farms ..	10 799	acres..	184 186	.2	
	acres..	2 743 421	bushels ..	11 064 027	.9	
Poultry and eggs (025)	farms ..	1 307	Tobacco .....	farms ..	1 348	
	acres..	145 215	acres..	8 445	1.6	
Animal specialties (027)	farms ..	1 812	Pounds ..	15 691 177	.5	
	acres..	106 701	farms ..	5 287	.9	
General farms, primarily livestock and animal specialties (029)	farms ..	538	acres..	267 633	.6	
	acres..	114 618	bushels ..	9 598 286	.6	
		1.5	Irish potatoes .....	farms ..	956	1.2
		1.6	acres..	17 393	.5	
		1.1	cwt ..	4 030 015	.4	
		1.2	Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text) .....	farms ..	32 640	.1
		.9	acres..	1 787 980	.9	
		.5	tons, dry ..	4 091 919	.8	
		.6	Alfalfa hay .....	farms ..	21 343	1.1
		.4	acres..	795 326	.9	
		1.6	tons, dry ..	2 188 135	.8	
		1.8	Vegetables harvested for sale (see text) .....	farms ..	3 372	1.2
		1.5	acres..	44 829	.7	
			Land in orchards .....	farms ..	2 317	1.2
			acres..	57 656	.5	

<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>F FARMS AND LAND IN FARMS</b>																																																																																																																																																																																																																										
Farms ----- number	24 367	1.1	Total farm production expenses ----- farms	24 261	1.1																																																																																																																																																																																																																					
Land in farms ----- acres	5 384 731	.7	\$1,000-----	2 647 440	.3																																																																																																																																																																																																																					
Average size of farm ----- acres	221	1.3	Average per farm ----- dollars	109 123	1.2																																																																																																																																																																																																																					
<b>M MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD</b>																																																																																																																																																																																																																										
Total sales (see text) ----- farms	24 367	1.1	Livestock and poultry purchased ----- farms	11 810	1.6																																																																																																																																																																																																																					
\$1,000-----	3 501 790	.3	\$1,000-----	298 411	.8																																																																																																																																																																																																																					
Average per farm ----- dollars	143 710	1.1	Feed for livestock and poultry ----- farms	18 150	1.2																																																																																																																																																																																																																					
Farms by value of sales:			\$1,000-----	744 539	.4																																																																																																																																																																																																																					
\$10,000 to \$19,999 ----- farms	4 771	1.7	farms-----	13 110	1.4																																																																																																																																																																																																																					
\$1,000-----	67 802	1.7	\$1,000-----	539 076	.4																																																																																																																																																																																																																					
\$20,000 to \$24,999 ----- farms	1 428	1.9	Seeds, bulbs, plants, and trees ----- farms	20 275	1.2																																																																																																																																																																																																																					
\$1,000-----	31 851	1.9	\$1,000-----	69 352	.7																																																																																																																																																																																																																					
\$25,000 to \$39,999 ----- farms	2 687	2.0	Commercial fertilizer ----- farms	20 468	1.2																																																																																																																																																																																																																					
\$1,000-----	85 273	2.0	\$1,000-----	100 223	.8																																																																																																																																																																																																																					
\$40,000 to \$49,999 ----- farms	1 228	1.9	Agricultural chemicals ----- farms	19 285	1.2																																																																																																																																																																																																																					
\$1,000-----	54 600	1.9	Petroleum products ----- farms	63 403	.9																																																																																																																																																																																																																					
\$50,000 to \$99,999 ----- farms	5 241	1.6	Electricity ----- farms	23 899	1.1																																																																																																																																																																																																																					
\$1,000-----	390 851	1.6	\$1,000-----	95 857	.6																																																																																																																																																																																																																					
\$100,000 to \$249,999 ----- farms	6 291	-	Electricity ----- farms	21 862	1.1																																																																																																																																																																																																																					
\$1,000-----	958 715	-	\$1,000-----	77 918	.4																																																																																																																																																																																																																					
\$250,000 to \$499,999 ----- farms	1 707	-	Hired farm labor ----- farms	11 468	1.4																																																																																																																																																																																																																					
\$1,000-----	580 627	-	\$1,000-----	350 488	.2																																																																																																																																																																																																																					
\$500,000 or more ----- farms	1 014	-	Contract labor ----- farms	2 402	3.4																																																																																																																																																																																																																					
\$1,000-----	1 332 071	-	\$1,000-----	24 919	1.7																																																																																																																																																																																																																					
Sales by commodity or commodity group:			Repair and maintenance ----- farms	23 149	1.1																																																																																																																																																																																																																					
Crops, including nursery and greenhouse crops ----- farms	16 441	1.1	\$1,000-----	162 973	.7																																																																																																																																																																																																																					
\$1,000-----	1 006 987	.3	Customwork, machine hire, and rental of machinery and equipment ----- farms	12 025	1.5																																																																																																																																																																																																																					
Grains ----- farms	11 381	1.0	\$1,000-----	32 451	1.0																																																																																																																																																																																																																					
\$1,000-----	218 349	.5	Interest expense ----- farms	13 815	1.3																																																																																																																																																																																																																					
Corn for grain ----- farms	7 443	1.1	\$1,000-----	134 326	.8																																																																																																																																																																																																																					
\$1,000-----	135 611	.5	Secured by real estate ----- farms	9 504	1.5																																																																																																																																																																																																																					
Wheat ----- farms	5 651	1.0	\$1,000-----	96 542	1.0																																																																																																																																																																																																																					
\$1,000-----	24 230	.6	Not secured by real estate ----- farms	8 013	1.7																																																																																																																																																																																																																					
Soybeans ----- farms	4 408	.9	\$1,000-----	37 785	1.1																																																																																																																																																																																																																					
\$1,000-----	46 965	.5																																																																																																																																																																																																																								
Sorghum for grain ----- farms	68	3.0	<b>NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)<sup>1</sup></b>																																																																																																																																																																																																																							
\$1,000-----	368	4.6	Barley ----- farms	1 656	1.0	All farms ----- number	24 262	1.1	\$1,000-----	4 470	.6	\$1,000-----	816 828	.6	Oats ----- farms	2 302	1.3	Average per farm ----- dollars	33 667	1.3	\$1,000-----	4 745	.9				Other grains ----- farms	990	1.0	Farms with net gains <sup>2</sup> ----- number	19 358	1.2	\$1,000-----	1 959	.8	\$1,000-----	880 484	.5	Cotton and cottonseed ----- farms	-	-	Average net gain ----- dollars	45 484	1.3	\$1,000-----	-	-				Tobacco ----- farms	1 241	1.6	Farms with net losses ----- number	4 904	2.8	\$1,000-----	19 474	1.4	\$1,000-----	63 656	2.3	Hay, silage, and field seeds ----- farms	6 723	1.2	Average net loss ----- dollars	12 980	3.6	\$1,000-----	71 918	1.1				Vegetables, sweet corn, and melons ----- farms	2 321	1.3	<b>GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME</b>						\$1,000-----	56 653	.6	Fruits, nuts, and berries ----- farms	1 382	1.2	Government payments ----- farms	5 237	.9	\$1,000-----	86 790	.4	\$1,000-----	24 483	.5	Nursery and greenhouse crops ----- farms	1 670	.9	Other farm-related income <sup>1</sup> ----- farms	7 013	2.0	\$1,000-----	530 308	.1	\$1,000-----	41 027	2.6	Other crops ----- farms	671	1.3	Customwork and other agricultural services ----- farms	3 034	3.1	\$1,000-----	23 497	.4	\$1,000-----	19 310	3.3	Livestock, poultry, and their products ----- farms	19 399	1.0	Gross cash rent or share payments ----- farms	1 441	5.1	\$1,000-----	2 494 803	.3	\$1,000-----	6 058	4.9	Poultry and poultry products ----- farms	2 213	.9	Forest products and Christmas trees ----- farms	1 262	5.4	\$1,000-----	598 849	(L)	\$1,000-----	10 554	6.5	Dairy products ----- farms	11 394	.9	Other farm-related income sources ----- farms	2 746	2.8	\$1,000-----	1 236 340	.4	\$1,000-----	5 105	4.6	Cattle and calves ----- farms	17 297	1.1				\$1,000-----	402 091	.5				Hogs and pigs ----- farms	3 088	1.2				\$1,000-----	190 034	.3				Sheep, lambs, and wool ----- farms	1 030	1.3				\$1,000-----	2 650	1.7				Other livestock and livestock products (see text) ----- farms	1 422	1.5	<b>COMMODITY CREDIT CORPORATION LOANS</b>						\$1,000-----	64 839	.3	Value of agricultural products sold directly to individuals for human consumption (see text) ----- farms	2 597	1.4	Total ----- farms	564	.8	\$1,000-----	32 227	.7	\$1,000-----	9 270	.3
Barley ----- farms	1 656	1.0	All farms ----- number	24 262	1.1																																																																																																																																																																																																																					
\$1,000-----	4 470	.6	\$1,000-----	816 828	.6																																																																																																																																																																																																																					
Oats ----- farms	2 302	1.3	Average per farm ----- dollars	33 667	1.3																																																																																																																																																																																																																					
\$1,000-----	4 745	.9																																																																																																																																																																																																																								
Other grains ----- farms	990	1.0	Farms with net gains <sup>2</sup> ----- number	19 358	1.2																																																																																																																																																																																																																					
\$1,000-----	1 959	.8	\$1,000-----	880 484	.5																																																																																																																																																																																																																					
Cotton and cottonseed ----- farms	-	-	Average net gain ----- dollars	45 484	1.3																																																																																																																																																																																																																					
\$1,000-----	-	-																																																																																																																																																																																																																								
Tobacco ----- farms	1 241	1.6	Farms with net losses ----- number	4 904	2.8																																																																																																																																																																																																																					
\$1,000-----	19 474	1.4	\$1,000-----	63 656	2.3																																																																																																																																																																																																																					
Hay, silage, and field seeds ----- farms	6 723	1.2	Average net loss ----- dollars	12 980	3.6																																																																																																																																																																																																																					
\$1,000-----	71 918	1.1																																																																																																																																																																																																																								
Vegetables, sweet corn, and melons ----- farms	2 321	1.3	<b>GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME</b>																																																																																																																																																																																																																							
\$1,000-----	56 653	.6	Fruits, nuts, and berries ----- farms	1 382	1.2	Government payments ----- farms	5 237	.9	\$1,000-----	86 790	.4	\$1,000-----	24 483	.5	Nursery and greenhouse crops ----- farms	1 670	.9	Other farm-related income <sup>1</sup> ----- farms	7 013	2.0	\$1,000-----	530 308	.1	\$1,000-----	41 027	2.6	Other crops ----- farms	671	1.3	Customwork and other agricultural services ----- farms	3 034	3.1	\$1,000-----	23 497	.4	\$1,000-----	19 310	3.3	Livestock, poultry, and their products ----- farms	19 399	1.0	Gross cash rent or share payments ----- farms	1 441	5.1	\$1,000-----	2 494 803	.3	\$1,000-----	6 058	4.9	Poultry and poultry products ----- farms	2 213	.9	Forest products and Christmas trees ----- farms	1 262	5.4	\$1,000-----	598 849	(L)	\$1,000-----	10 554	6.5	Dairy products ----- farms	11 394	.9	Other farm-related income sources ----- farms	2 746	2.8	\$1,000-----	1 236 340	.4	\$1,000-----	5 105	4.6	Cattle and calves ----- farms	17 297	1.1				\$1,000-----	402 091	.5				Hogs and pigs ----- farms	3 088	1.2				\$1,000-----	190 034	.3				Sheep, lambs, and wool ----- farms	1 030	1.3				\$1,000-----	2 650	1.7				Other livestock and livestock products (see text) ----- farms	1 422	1.5	<b>COMMODITY CREDIT CORPORATION LOANS</b>						\$1,000-----	64 839	.3	Value of agricultural products sold directly to individuals for human consumption (see text) ----- farms	2 597	1.4	Total ----- farms	564	.8	\$1,000-----	32 227	.7	\$1,000-----	9 270	.3																																																																																				
Fruits, nuts, and berries ----- farms	1 382	1.2	Government payments ----- farms	5 237	.9																																																																																																																																																																																																																					
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See footnotes at end of table.

## C-10 APPENDIX C

## 1992 CENSUS OF AGRICULTURE

**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>									
Total cropland	farms-- acres--	23 356 4 061 555	1.1 .7	Individual or family (sole proprietorship) farms-- acres--	20 487 4 091 886	1.1 .8			
Harvested cropland	farms-- acres--	22 805 3 336 713	1.1 .6	Partnership--	3 038 983 312	1.1 .6			
Cropland:				Corporation:					
Pasture or grazing only	farms-- acres--	12 344 479 995	1.1 1.0	Family held	farms-- acres--	.7 253 263			
Total woodland	farms-- acres--	14 168 849 862	1.0 .8	More than 10 stockholders	farms--	.4 22			
Pastureland and rangeland other than cropland and woodland pastured	farms-- acres--	6 538 266 817	1.1 .9	10 or less stockholders	farms--	2.0 654			
Land in house lots, ponds, roads, wasteland, etc.	farms-- acres--	15 434 206 497	1.0 .8	Other than family held	farms-- acres--	1.6 95			
Irrigated land	farms-- acres--	1 655 21 436	.9 .5	More than 10 stockholders	farms-- acres--	2.0 16 125			
Harvested cropland irrigated	farms-- acres--	1 637 20 998	.5 .5	10 or less stockholders	farms-- acres--	3.3 10			
Pasture and other land irrigated	farms-- acres--	38 438	3.1 1.3	Other—cooperative, estate or trust, institutional, etc.	farms-- acres--	1.7 85			
Land under federal acreage reduction programs:									
Diverted under annual commodity programs	farms-- acres--	2 766 25 513	.8 .4						
Conservation Reserve or Wetlands Reserve Programs	farms-- acres--	805 29 756	1.1 1.0	<b>HIRED FARM LABOR</b>					
<b>VALUE OF LAND AND BUILDINGS<sup>1</sup></b>									
Estimated market value of land and buildings	farms-- \$1,000--	24 262 11 309 156	1.1 .9	Hired workers by days worked:	farms-- workers--	1.4 6 971			
Average per farm	dollars--	466 126	1.4	150 days or more	farms-- workers--	.5 24 202			
Average per acre	dollars--	2 105	1.3	Less than 150 days	farms-- workers--	1.7 8 961			
<b>VALUE OF MACHINERY AND EQUIPMENT<sup>1</sup></b>									
Estimated market value of all machinery and equipment	farms-- \$1,000--	24 262 1 818 104	1.1 .9	<b>INJURIES AND DEATHS</b>					
Average per farm	dollars--	74 936	1.4	Farm-related injuries:	farms-- number--	.2 427			
<b>AGRICULTURAL CHEMICALS<sup>1</sup></b>				Operator and family members	farms-- number--	1.3 483			
Commercial fertilizer	farms-- acres on which used--	20 397 2 476 287	1.2 .9	Hired workers	farms-- number--	.6 422			
<b>TENURE OF OPERATOR</b>									
All operators	farms-- acres--	24 367 5 384 731	1.1 .7	<b>FARMS BY SIZE</b>					
Full owners	farms-- acres--	10 047 1 379 574	1.1 1.0	1 to 9 acres	farms--	1.1 1 301			
Part owners	farms-- acres--	10 811 3 433 114	.8 .5	10 to 49 acres	farms--	1.5 2 543			
Tenants	farms-- acres--	3 509 572 043	1.9 1.3	50 to 69 acres	farms--	1.6 1 691			
<b>OWNED AND RENTED LAND</b>				70 to 99 acres	farms--	1.5 2 626			
Land owned	farms-- acres--	20 899 3 352 181	1.0 .7	100 to 139 acres	farms--	1.4 3 321			
Owned land in farms	farms-- acres--	20 858 3 232 131	1.0 .7	140 to 179 acres	farms--	1.3 2 511			
Land rented or leased from others	farms-- acres--	14 368 2 169 053	1.0 .8	180 to 219 acres	farms--	1.2 2 018			
Rented or leased land in farms	farms-- acres--	14 320 2 152 600	1.0 .7	220 to 259 acres	farms--	1.1 1 581			
Land rented or leased to others	farms-- acres--	1 935 136 503	1.1 1.0	260 to 499 acres	farms--	.7 4 579			
<b>OPERATOR CHARACTERISTICS</b>				500 to 999 acres	farms--	.4 1 746			
Operators by place of residence:				1,000 to 1,999 acres	farms--	— 375			
On farm operated		19 900	1.0	2,000 acres or more	farms--	— 75			
Not on farm operated		2 503	1.5	<b>FARMS BY STANDARD INDUSTRIAL CLASSIFICATION</b>					
Not reported		1 964	1.2	<b>LIVESTOCK</b>					
Operators by principal occupation:				Cash grains (011)	farms--	1.4 2 416			
Farming		19 561	1.0	Field crops, except cash grains (013)	farms--	1.7 1 811			
Other		4 806	1.5	Vegetables and melons (016)	farms--	1.7 633			
Operators by days worked off farm:				Fruits and tree nuts (017)	farms--	1.4 666			
Any		8 350	1.4	Horticultural specialties (018)	farms--	.8 1 355			
200 days or more		4 159	1.5	General farms, primarily crop (019)	farms--	1.6 770			
Operators by sex:				Livestock, except dairy, poultry, and animal specialties (021)	farms--	1.3 4 417			
Male		23 396	1.1	Dairy farms (024)	farms--	.9 10 659			
Female		971	1.4	Poultry and eggs (025)	farms--	.4 1 071			
Average age of operator	years--	49.4	1.5	Animal specialties (027)	farms--	1.9 298			

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>					
Chickens 3 months old or older inventory	farms--	1 965	Barley for grain	farms--	3 734
number--	29 609 863	(L)	acres--	74 333	.9
Hens and pullets of laying age	farms--	1 903	bushels--	5 023 802	.6
number--	25 090 630	(L)	acres--	151 594	.5
Broilers and other meat-type chickens sold	farms--	667	Tobacco	farms--	9 381 514
number--	108 053 757	.9	acres--	1 242	.8
		.1	acres--	82 155	1.6
			pounds--	15 308 853	1.5
<b>CROPS HARVESTED</b>					
Corn for grain or seed	farms--	15 141	Soybeans for beans	farms--	4 517
acres--	942 182	1.0	acres--	256 429	.9
bushels--	106 133 722	.5	bushels--	9 273 860	.6
Corn for silage or green chop	farms--	11 889	Irish potatoes	farms--	698
acres--	376 490	1.0	acres--	17 112	.5
tons, green--	5 982 237	.5	cwt--	3 986 757	.5
Wheat for grain	farms--	5 906	Hay—alfalfa, other tame, small grain, wild, grass	farms--	18 534
acres--	166 746	1.0	silage, green chop, etc. (see text)	acres--	1 406 910
bushels--	8 074 396	.6	tons, dry--	3 515 021	.8
		.6	Alfalfa hay	farms--	14 250
			acres--	652 753	.7
			Vegetables harvested for sale (see text)	farms--	1 936 607
			acres--	2 321	1.1
			Land in orchards	farms--	42 011
			acres--	1 099	.7
					1.3
					.4

<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-----	-13.0	1.2	-5.9	1.3	
Land in farms -----	-8.6	1.0	-5.9	.9	
Average size of farm -----	4.6	1.9	-	1.7	
Estimated market value of land and buildings <sup>1</sup> :					
Average per farm -----	37.4	2.7	32.2	2.6	
Average per acre -----	30.2	2.5	30.3	2.5	
Estimated market value of all machinery and equipment <sup>1</sup> :					
Average per farm -----	18.6	2.4	14.7	2.3	
Farms by size:					
1 to 9 acres -----	-20.1	1.2	-5.9	1.4	
10 to 49 acres -----	-11.4	1.5	15.4	2.2	
50 to 179 acres -----	-15.0	1.4	-7.5	1.7	
180 to 499 acres -----	-10.2	1.2	-10.4	1.1	
500 to 999 acres -----	-4.1	.7	-4.1	.6	
1,000 to 1,999 acres -----	11.7	-	10.3	-	
2,000 acres or more -----	16.7	-	17.2	-	
Total cropland -----	-12.7	1.2	-6.0	1.3	
acres-----	-7.0	1.0	-4.3	.9	
Harvested cropland -----	-13.1	1.2	-6.3	1.3	
acres-----	-5.4	.9	-2.6	.9	
Irrigated land -----	-3.9	1.0	-2.8	1.0	
acres-----	-21.7	.7	-21.3	.6	
Market value of agricultural products sold -----	\$1,000 --	16.0	.6	.6	
Average per farm -----	dollars--	33.3	2.0	1.9	
Crops, including nursery and greenhouse crops -----	\$1,000 --	26.1	.5	.5	
Livestock, poultry, and their products -----	\$1,000 --	12.3	.6	.6	
Farms by value of sales:					
Less than \$2,500 -----	-24.4	1.1	(X)	(X)	
\$2,500 to \$4,999 -----	-18.5	1.5	(X)	(X)	
\$5,000 to \$9,999 -----	-12.9	1.6	(X)	(X)	
\$10,000 to \$24,999 -----	-7.8	1.9	-7.8	1.9	
\$25,000 to \$49,999 -----	-16.3	2.0	-16.3	2.0	
\$50,000 to \$99,999 -----	-24.0	1.7	-24.0	1.7	
\$100,000 to \$249,999 -----	14.4	(L)	14.4	(L)	
\$250,000 to \$499,999 -----	26.8	(L)	26.8	(L)	
\$500,000 or more -----	32.0	-	32.0	-	
Total farm production expenses <sup>1</sup> -----	\$1,000--	16.3	1.3	1.4	
Average per farm -----	dollars--	33.6	2.1	2.0	
Net cash return from agricultural sales for the farm unit (see text) <sup>1</sup> -----	farms--	-13.0	1.3	-6.4	
\$1,000--	14.6	1.3	13.2	1.4	
Average per farm -----	dollars--	31.7	2.4	21.0	
Operators by principal occupation:					
Farming -----	-9.5	1.2	-7.9	1.3	
Other -----	-17.7	1.4	3.0	1.9	
Operators by days worked off farm:					
Any -----	-20.2	4.1	-8.9	4.7	
200 days or more -----	-21.1	4.1	-.5	5.2	
Livestock and poultry:					
Cattle and calves inventory -----	farms--	-16.2	1.2	-10.1	
number--	-2.6	.9	-.8	.9	
Beef cows -----	farms--	-14.7	1.5	.1	1.8
number--	-1.8	1.6	10.3	1.8	
Milk cows -----	farms--	-17.5	1.2	-13.7	1.2
number--	-7.1	.8	-6.5	.8	
Cattle and calves sold -----	farms--	-16.8	1.2	-11.3	1.3
number--	-2.2	.9	-.2	.9	
Hogs and pigs inventory -----	farms--	-27.0	1.1	-24.7	1.2
number--	16.8	.7	19.1	.7	
Hogs and pigs sold -----	farms--	-29.5	1.0	-26.5	1.1
number--	13.3	.8	14.6	.8	
Sheep and lambs inventory -----	farms--	-11.8	1.5	-7.7	1.6
number--	-4.6	1.9	-2.1	2.6	
Chickens 3 months old or older inventory -----	farms--	-36.5	1.0	-30.1	1.2
number--	16.2	.1	16.4	.1	
Broilers and other meat-type chickens sold -----	farms--	-20.2	1.1	-10.0	1.2
number--	1.6	.1	1.6	.1	
Selected crops harvested:					
Corn for grain or seed -----	farms--	-19.9	1.1	-12.5	1.2
acres--	-5.4	.8	-2.1	.8	
bushels--	12.8	.9	16.5	.9	
Corn for silage or green chop -----	farms--	-12.3	1.2	-11.5	1.3
acres--	-11.0	.8	-10.6	.8	
tons, green--	-1.3	8	-.9	.8	
Wheat for grain -----	farms--	-20.4	1.1	-15.0	1.2
acres--	-2.2	.9	2.8	.9	
bushels--	13.1	1.0	18.3	1.0	
Oats for grain -----	farms--	-24.8	1.1	-22.5	1.2
acres--	-24.3	.9	-23.1	.9	
bushels--	-20.3	1.0	-19.0	.9	
Irish potatoes -----	farms--	-14.1	1.4	-10.2	1.6
acres--	-19.9	.7	-19.3	.7	
cwt--	-9.0	.7	-8.7	.7	
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text) -----	farms--	-14.4	1.2	-9.2	1.3
acres--	-6.7	1.1	-4.6	1.0	
tons, dry--	-8.6	1.0	-6.4	.9	
Land in orchards -----	farms--	-17.4	1.4	-8.6	1.6
acres--	-13.3	.7	-11.7	.6	

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

## 1992 CENSUS OF AGRICULTURE

## APPENDIX C C-13





















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)
Bedford -----	67	3.3	2 224	7.6	4	14.3	532	19.5
Berks -----	134	2.3	955 295	(L)	47	3.0	9 501 335	.1
Blair -----	28	4.9	(D)	(D)	2	20.4	(D)	(D)
Bradford -----	81	3.2	(D)	(D)	3	15.3	460	25.1
Bucks -----	53	4.3	13 626	1.3	3	16.5	(D)	(D)
Butler -----	79	3.5	34 277	1.3	10	8.7	3 930	8.6
Cambria -----	39	5.1	9 150	.8	3	16.5	(D)	(D)
Cameron -----	5	13.0	288	10.9	—	—	—	—
Carbon -----	17	6.4	3 958	9.3	2	14.4	(D)	(D)
Centre -----	50	4.0	10 940	.9	4	13.8	3 288	8.7
Chester -----	102	3.0	344 523	.3	8	—	1 500 149	—
Clarion -----	31	5.5	1 371	11.7	8	11.3	2 073	20.2
Clearfield -----	39	4.7	1 034	9.3	3	16.4	265	16.1
Clinton -----	27	4.8	42 722	.1	—	—	—	—
Columbia -----	34	5.0	1 861	7.6	14	6.1	375 119	1.0
Crawford -----	86	3.4	(D)	(D)	14	7.1	8 107	5.9
Cumberland -----	64	3.7	331 577	.1	10	4.2	1 640 474	(L)
Dauphin -----	43	4.1	809 458	(L)	18	2.2	3 966 753	.1
Delaware -----	4	11.1	(D)	(D)	—	—	—	—
Elk -----	21	6.9	(D)	(D)	1	35.0	(D)	(D)
Erie -----	38	4.9	(D)	(D)	2	22.0	(D)	(D)
Fayette -----	82	4.3	(D)	(D)	7	14.1	488	14.1
Forest -----	10	9.4	495	5.8	—	—	—	—
Franklin -----	97	2.4	1 168 216	(L)	27	4.0	2 881 602	(L)
Fulton -----	34	5.3	1 089	6.9	—	—	—	—
Greene -----	39	5.3	911	6.4	1	37.2	(D)	(D)
Huntingdon -----	38	5.0	1 384	5.5	9	8.7	943 132	1.9
Indiana -----	63	4.1	8 720	4.7	1	36.9	(D)	(D)
Jefferson -----	25	5.6	640	7.4	—	—	—	—
Juniata -----	51	4.0	391 727	.5	47	1.7	9 931 764	.1
Lackawanna -----	16	8.6	430	9.4	1	29.6	(D)	(D)
Lancaster -----	618	1.2	12 577 143	(L)	241	1.4	42 419 203	.1
Lawrence -----	70	3.9	(D)	(D)	4	18.4	363	20.6
Lebanon -----	85	2.3	1 975 025	(L)	41	1.5	12 301 815	(L)
Lehigh -----	39	4.6	87 722	.2	7	10.1	1 865	9.0
Luzerne -----	18	8.1	(D)	(D)	6	11.4	1 470	9.0
Lycoming -----	50	4.4	(D)	(D)	6	7.5	333 033	3.7
McKean -----	20	7.3	508	12.0	—	—	—	—
Mercer -----	76	3.3	(D)	(D)	14	7.7	2 260	14.2
Mifflin -----	94	3.0	97 468	1.0	30	4.3	1 565 362	1.7
Monroe -----	24	6.5	1 077	6.1	2	26.6	(D)	(D)
Montgomery -----	52	3.7	150 944	.2	5	10.8	2 700	9.1
Montour -----	18	5.6	774	7.3	8	9.0	380 347	4.0
Northampton -----	40	5.0	33 995	.8	6	14.9	394	8.7
Northumberland -----	40	3.1	722 159	(L)	34	2.4	2 920 404	.4
Perry -----	30	5.3	(D)	(D)	12	2.2	3 818 817	.1
Philadelphia -----	—	—	—	—	—	—	—	—
Pike -----	5	10.4	527	3.2	—	—	—	—
Potter -----	21	5.5	585	6.2	1	37.8	(D)	(D)
Schuylkill -----	45	4.0	571 483	.4	23	4.8	2 277 651	1.1
Snyder -----	71	3.3	341 422	.1	37	2.2	5 267 075	.4
Somerset -----	106	2.9	(D)	(D)	5	15.3	210	16.3
Sullivan -----	10	9.4	302	14.8	2	14.4	(D)	(D)
Susquehanna -----	39	4.5	1 091	7.6	1	42.3	(D)	(D)
Tioga -----	43	4.2	(D)	(D)	5	11.1	(D)	(D)
Union -----	45	3.8	116 853	2.7	25	3.8	3 340 053	.6
Venango -----	28	5.3	1 587	16.1	7	11.4	541	14.2
Warren -----	28	6.6	656	9.7	2	17.6	(D)	(D)
Washington -----	69	3.8	2 061	6.0	6	12.1	3 083	25.5
Wayne -----	44	4.6	1 717	8.1	4	10.8	124	2.5
Westmoreland -----	78	3.6	61 956	.2	15	8.4	648	11.8
Wyoming -----	22	6.6	495	11.4	—	—	—	—
York -----	121	2.1	840 148	.1	21	3.9	2 054 967	(L)

Geographic area	Selected crops harvested											
	Corn for grain or seed				Corn for silage or green chop							
	Farms		Acres		Quantity		Farms		Acres		Quantity	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Bushels	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons, green	Relative standard error of estimate (percent)
Pennsylvania -	21 610	1.0	1 012 263	.6	112 034 518	.5	13 267	1.0	389 977	.6	6 136 435	.5
Adams -----	436	1.0	22 532	.9	2 223 726	.9	151	1.3	6 773	.7	98 037	.7
Allegheny -----	73	3.4	1 478	3.6	155 336	3.7	23	5.7	354	4.2	4 903	4.2
Armstrong -----	364	1.5	13 011	1.4	1 265 946	1.3	122	2.1	2 887	1.6	41 040	1.7
Beaver -----	216	2.0	5 326	1.3	622 684	1.5	73	2.6	1 332	1.8	20 391	1.5

See footnotes at end of table.

## C-24 APPENDIX C

## 1992 CENSUS OF AGRICULTURE







**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		Relative standard error of estimate (percent)	Acres	
	Number			Number	Relative standard error of estimate (percent)
Bedford -----	33		5.0	927	2.6
Berks -----	79		3.2	1 785	1.2
Blair -----	19		6.4	685	4.4
Bradford -----	40		4.7	327	6.8
Bucks -----	51		4.5	416	5.8
Butler -----	45		4.6	153	5.9
Cambria -----	21		6.2	58	10.7
Cameron -----	3		15.1	(D)	(D)
Carbon -----	18		6.8	75	8.2
Centre -----	44		4.1	414	2.7
Chester -----	52		4.6	593	2.7
Clarion -----	18		7.1	98	9.7
Clearfield -----	9		11.5	74	25.5
Clinton -----	12		9.8	55	21.5
Columbia -----	23		5.7	366	3.3
Crawford -----	32		5.7	132	9.5
Cumberland -----	35		4.7	1 028	2.3
Dauphin -----	32		5.1	289	1.7
Delaware -----	9		7.7	84	4.2
Elk -----	5		16.1	16	24.2
Erie -----	314		1.6	12 285	.8
Fayette -----	17		9.1	24	12.8
Forest -----	5		15.0	7	16.5
Franklin -----	60		2.7	5 874	.4
Fulton -----	9		9.6	53	24.7
Greene -----	13		8.8	64	9.8
Huntingdon -----	16		8.3	111	16.2
Indiana -----	31		5.5	235	8.1
Jefferson -----	15		7.4	90	7.1
Juniper -----	17		5.7	532	2.6
Lackawanna -----	26		6.4	142	9.7
Lancaster -----	134		2.3	1 054	2.4
Lawrence -----	17		7.7	117	5.9
Lebanon -----	28		4.7	236	2.9
Lehigh -----	43		4.2	800	2.5
Luzerne -----	36		5.2	493	7.6
Lycoming -----	42		4.7	522	3.4
McKean -----	11		10.2	40	11.0
Mercer -----	34		4.6	223	4.1
Mifflin -----	35		4.9	257	7.5
Monroe -----	13		8.0	136	2.6
Montgomery -----	21		6.4	229	4.4
Montour -----	4		10.6	92	2.6
Northampton -----	29		5.8	229	4.8
Northumberland -----	31		4.3	422	5.4
Perry -----	18		7.4	121	15.1
Philadelphia -----	—		—	—	—
Pike -----	8		6.5	24	8.7
Potter -----	8		11.4	12	11.2
Schuylkill -----	56		3.3	598	2.5
Snyder -----	41		4.2	875	1.8
Somerset -----	27		5.6	183	10.9
Sullivan -----	1		36.1	(D)	(D)
Susquehanna -----	12		8.1	92	5.4
Tioga -----	25		5.8	206	7.6
Union -----	20		5.7	166	11.1
Venango -----	17		6.2	107	8.7
Warren -----	14		10.0	43	13.5
Washington -----	36		4.9	490	3.2
Wayne -----	55		4.1	364	6.1
Westmoreland -----	45		5.0	205	5.1
Wyoming -----	13		9.3	178	15.4
York -----	95		2.7	2 193	1.4

<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	44 870	1.1	7 937	21.2	15.0	2.7
Land in farms ----- acres	7 189 541	.8	354 022	18.1	4.7	.8
Average size of farm ----- acres	160.2	1.3	44.6	15.6	(X)	(X)
Farms by size:						
Less than 10 acres -----	3 005	1.1	1 070	56.7	26.2	10.8
10 to 49 acres -----	9 095	1.2	4 260	24.3	31.9	5.3
Less than 50 acres -----	12 100	1.1	5 329	27.9	30.6	5.8
50 acres or more -----	32 770	1.1	2 608	21.9	7.4	1.5
50 to 99 acres -----	9 969	1.2	1 746	26.0	14.9	3.3
100 to 179 acres -----	10 167	1.3	668	39.6	6.2	2.3
180 acres or more -----	12 634	.9	193	48.7	1.5	.7
Harvested cropland ----- farms	40 090	1.1	5 089	18.7	11.3	1.9
acres	3 861 435	.7	102 005	18.3	2.6	.5
Farms by value of sales:						
Less than \$1,000 -----	4 879	1.3	4 246	25.6	46.5	6.3
\$1,000 to \$2,499 -----	4 755	1.3	1 880	39.4	28.3	8.0
Less than \$2,500 -----	9 634	1.2	6 126	26.6	38.9	6.3
\$2,500 or more -----	35 236	1.1	1 811	21.6	4.9	1.0
\$2,500 to \$9,999 -----	10 869	1.3	1 068	29.5	8.9	2.4
\$10,000 or more -----	24 367	1.1	744	31.6	3.0	.9
Market value of agricultural products sold    ---\$1,000 ---	3 570 191	.3	40 634	28.6	1.1	.4
Farms by standard industrial classification:						
Crops (01) -----	17 612	1.2	2 954	25.6	14.4	3.2
Livestock (02) -----	27 258	1.0	4 983	28.2	15.5	3.6
Farms by type of organization:						
Individual or family -----	39 646	1.1	7 147	18.2	15.3	2.4
Partnership or corporation -----	5 079	1.2	616	91.5	10.8	8.7
Other -----	145	2.3	85	(H)	37.0	23.4
Farms by tenure of operator:						
Full owners -----	25 983	1.1	6 375	24.2	19.7	3.8
Part owners and tenants -----	18 887	1.1	1 497	31.9	7.3	2.2
Part owners -----	14 161	.9	1 233	35.7	8.0	2.7
Tenants -----	4 726	1.7	264	62.2	5.3	3.1
Operators by place of residence:						
On farm operated -----	36 501	1.0	6 641	23.6	15.4	3.0
Not on farm operated -----	4 980	1.3	1 128	41.9	18.5	6.4
Not reported -----	3 389	1.2	168	58.6	4.7	2.6
Operators by principal occupation:						
Farming -----	26 959	1.0	2 718	26.0	9.2	2.2
Other -----	17 911	1.2	4 312	22.1	19.4	3.4
Operators by sex:						
Male -----	42 063	1.1	6 242	17.0	12.9	2.0
Female -----	2 807	1.3	1 695	68.7	37.6	15.8
Operators by race:						
White -----	44 783	1.1	7 031	18.0	13.6	2.1
Black and other races -----	87	3.0	—	(X)	—	(X)
Operators by years on present farm:						
4 years or less -----	4 215	2.2	2 553	29.9	37.7	6.9
5 years or more -----	33 109	1.0	3 615	21.7	9.8	2.0
Average years on present farm -----	20.9	1.4	11.3	21.0	(X)	(X)
Not reported -----	7 546	1.1	1 770	41.9	19.0	6.4
Average age of operator -----	52.2	1.5	45.8	14.9	(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.