

Appendix C.

Statistical Methodology

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.

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

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

Item	Percent of total
Farmsnumber..	19.4
Land in farmsacres..	1.3
Value of land and buildings\$1,000..	6.4
Market value of agricultural products sold ..\$1,000..	2.1
Harvested croplandacres..	3.1
Corn for grain or seedacres..	-
Wheat for grainacres..	-
Livestock and poultry inventory:	
Cattle and calvesnumber..	2.7
Hogs and pigsnumber..	6.3
Hens and pullets of laying agenumber..	.1

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.

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. In Hawaii, sampling error in the census data results only from the nonresponse sample.

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. In Hawaii, both complete count items and sample 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 included under the following section headings: farm production expenditures, fertilizer and chemical usage, farm machinery and equipment, value of land and buildings, and farm-related income.

Table B provides the generalized reliability estimates of the estimated number of farms in a county reporting complete count and sample count items. These are derived from regression equations. The 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.

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)
COMPLETE COUNT ITEM	
Number of farms reporting:	
25	6.7
50	4.8
75	3.9
100	3.4
150	2.8
200	2.4
300	2.0
500	1.6
750	1.3
1,000	1.2
1,500	1.0
2,0009
SAMPLE COUNT ITEM	
Number of farms reporting:	
25	6.9
50	5.1
75	4.3
100	3.8
150	3.3
200	3.0
300	2.7
500	2.5
750	2.3
1,000	2.2
1,500	2.1
2,000	2.1

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. Both parts of the table reflect the variability from the nonresponse survey for the items of interest.

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.

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 enumeration of farms. 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 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.

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)
FARMS AND LAND IN FARMS			FARM PRODUCTION EXPENSES¹		
Farms -----number--	5 336	1.5	Total farm production expenses -----farms--	5 336	1.6
Land in farms -----acres--	1 588 843	.1	-----\$1,000--	466 826	.2
Average size of farm -----acres--	298	1.5	Average per farm -----dollars--	87 486	1.6
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD			Livestock and poultry purchased -----farms--		
Total sales (see text) -----farms--	5 336	1.5	-----\$1,000--	7 856	2.1
Average per farm -----dollars--	103 458	1.5	Feed for livestock and poultry -----farms--	921	.5
Farms by value of sales:			-----\$1,000--	37 060	1.9
Less than \$1,000 (see text) -----farms--	1 004	2.4	Commercially mixed formula feeds -----farms--	371	.2
\$1,000 to \$2,499 -----farms--	235	3.0	-----\$1,000--	22 286	2.0
\$2,500 to \$4,999 -----farms--	786	2.4	Seeds, bulbs, plants, and trees -----farms--	1 507	1.7
\$5,000 to \$9,999 -----farms--	1 297	2.4	-----\$1,000--	12 655	.2
\$10,000 to \$19,999 -----farms--	754	2.2	Commercial fertilizer -----farms--	4 028	1.6
\$20,000 to \$24,999 -----farms--	2 657	2.2	-----\$1,000--	30 574	.3
\$25,000 to \$39,999 -----farms--	715	2.2	Agricultural chemicals -----farms--	3 853	1.6
\$40,000 to \$49,999 -----farms--	4 904	2.2	Petroleum products -----farms--	20 396	.3
\$50,000 to \$99,999 -----farms--	698	2.1	-----\$1,000--	4 831	1.6
\$100,000 to \$249,999 -----farms--	9 791	2.2	Electricity -----farms--	1 938	1.5
\$250,000 to \$499,999 -----farms--	165	3.4	-----\$1,000--	5 917	.3
\$500,000 or more -----farms--	3 638	3.4	Hired farm labor -----farms--	1 447	1.4
Sales by commodity or commodity group:			-----\$1,000--	178 788	.1
Crops, including nursery and greenhouse crops -----farms--	3 966	1.5	Contract labor -----farms--	665	2.0
Grains -----farms--	453 410	.2	-----\$1,000--	6 406	.8
Corn for grain -----farms--	-----	-----	Repair and maintenance -----farms--	3 872	1.6
Wheat -----farms--	-----	-----	-----\$1,000--	34 231	.2
Soybeans -----farms--	-----	-----	Customwork, machine hire, and rental of machinery and equipment -----farms--	775	1.9
Sorghum for grain -----farms--	-----	-----	-----\$1,000--	4 395	.6
Barley -----farms--	-----	-----	Interest expense -----farms--	1 048	1.5
Oats -----farms--	-----	-----	-----\$1,000--	14 051	.5
Other grains -----farms--	-----	-----	Secured by real estate -----farms--	603	1.8
Cotton and cottonseed -----farms--	-----	-----	-----\$1,000--	6 063	1.0
Tobacco -----farms--	-----	-----	Not secured by real estate -----farms--	535	1.6
Hay, silage, and field seeds -----farms--	9	8.6	-----\$1,000--	7 988	.2
-----\$1,000--	248	3.5	Cash rent -----farms--	1 583	1.6
Vegetables, sweet corn, and melons -----farms--	601	1.8	-----\$1,000--	15 249	.3
-----\$1,000--	29 540	.7	Property taxes -----farms--	4 129	1.6
Fruits, nuts, and berries -----farms--	1 837	1.7	-----\$1,000--	6 696	.8
-----\$1,000--	158 769	.2	All other farm production expenses -----farms--	4 701	1.6
Nursery and greenhouse crops -----farms--	1 580	1.7	-----\$1,000--	74 443	.2
-----\$1,000--	81 495	.5	NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)¹		
Other crops -----farms--	455	2.1	All farms -----number--	5 336	1.6
-----\$1,000--	183 357	.1	-----\$1,000--	85 228	.5
Livestock, poultry, and their products -----farms--	1 040	1.7	Average per farm -----dollars--	15 972	1.7
-----\$1,000--	98 644	.2	Farms with net gains ² -----number--	3 223	1.6
Poultry and poultry products -----farms--	98	3.8	-----\$1,000--	105 335	.5
-----\$1,000--	21 197	2.5	Average net gain -----dollars--	32 682	1.6
Dairy products -----farms--	23	(L)	Farms with net losses -----number--	2 113	2.0
-----\$1,000--	31 570	.1	-----\$1,000--	20 107	.8
Cattle and calves -----farms--	699	1.9	Average net loss -----dollars--	9 516	2.1
-----\$1,000--	33 663	.3	GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME		
Hogs and pigs -----farms--	200	2.7	Government payments -----farms--	83	3.6
-----\$1,000--	7 069	1.3	-----\$1,000--	358	4.4
Sheep, lambs, and wool -----farms--	41	5.6	Other farm-related income ¹ -----farms--	415	2.3
-----\$1,000--	110	4.4	-----\$1,000--	5 712	.9
Other livestock and livestock products (see text) -----farms--	182	2.9	Customwork and other agricultural services -----farms--	218	3.0
-----\$1,000--	5 035	1.3	-----\$1,000--	1 917	2.0
Value of agricultural products sold directly to individuals for human consumption (see text) -----farms--	435	2.3	Gross cash rent or share payments -----farms--	185	2.9
-----\$1,000--	2 469	2.3	-----\$1,000--	3 392	.8
			Forest products and Christmas trees -----farms--	31	6.5
			-----\$1,000--	318	2.7
			Other farm-related income sources -----farms--	28	6.9
			-----\$1,000--	85	8.4
			COMMODITY CREDIT CORPORATION LOANS		
			Total -----farms--	4	10.7
			-----\$1,000--	(D)	(D)

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)
LAND IN FARMS ACCORDING TO USE			TENURE OF OPERATOR		
Total cropland ----- farms ..	4 735	1.6	All operators ----- farms ..	5 336	1.5
Harvested cropland ----- farms ..	293 371	.4	Full owners ----- farms ..	1 588 843	.1
1 to 9 acres ----- farms ..	4 472	1.6	Part owners ----- farms ..	3 001	1.8
10 to 19 acres ----- farms ..	136 431	.3	Tenants ----- farms ..	277 035	.3
20 to 29 acres ----- farms ..	3 857	1.7	Tenants ----- farms ..	1 012 435	.1
30 to 49 acres ----- farms ..	10 838	1.6	Tenants ----- farms ..	1 637	1.7
50 to 99 acres ----- farms ..	366	2.2	Tenants ----- farms ..	299 373	.4
100 to 199 acres ----- farms ..	4 682	2.1	OWNED AND RENTED LAND		
200 to 499 acres ----- farms ..	90	2.7	Land owned ----- farms ..	3 707	1.6
500 to 999 acres ----- farms ..	2 118	2.8	Owned land in farms ----- farms ..	897 000	.4
1,000 acres or more ----- farms ..	58	1.9	Owned land in farms ----- farms ..	3 699	1.6
1,000 acres or more ----- farms ..	2 164	1.8	Land rented or leased from others ----- farms ..	812 668	.1
50 to 99 acres ----- farms ..	39	2.9	Land rented or leased from others ----- farms ..	2 341	1.5
100 to 199 acres ----- farms ..	2 479	2.9	Rented or leased land in farms ----- farms ..	823 992	.2
200 to 499 acres ----- farms ..	24	3.3	Rented or leased land in farms ----- farms ..	3 357	1.4
500 to 999 acres ----- farms ..	(D)	4.0	Rented or leased land in farms ----- farms ..	2 335	1.5
1,000 acres or more ----- farms ..	11	5.3	Land rented or leased to others ----- farms ..	776 175	.2
1,000 acres or more ----- farms ..	3 321	—	Land rented or leased to others ----- farms ..	272	2.3
1,000 acres or more ----- farms ..	3	(D)	Land rented or leased to others ----- farms ..	132 149	2.7
1,000 acres or more ----- farms ..	(D)	—	OPERATOR CHARACTERISTICS		
1,000 acres or more ----- farms ..	24	(D)	Operators by place of residence:		
1,000 acres or more ----- farms ..	105 401	—	On farm operated ----- farms ..	3 213	1.6
Cropland:			Not on farm operated ----- farms ..	1 695	1.6
Pasture or grazing only ----- farms ..	492	2.3	Not reported ----- farms ..	428	2.2
Other cropland ----- farms ..	37 610	2.2	Operators by principal occupation:		
Other cropland ----- farms ..	1 048	1.7	Farming ----- farms ..	2 926	1.5
Other cropland ----- farms ..	119 330	.1	Other ----- farms ..	2 410	1.9
Total woodland ----- farms ..	279	2.5	Operators by days worked off farm:		
Pastureland and rangeland other than cropland and ----- farms ..	109 391	.2	Any ----- farms ..	2 864	1.8
woodland pastured ----- farms ..	713	1.9	200 days or more ----- farms ..	1 487	1.9
Land in house lots, ponds, roads, wasteland, etc. ----- farms ..	942 174	.2	Operators by sex:		
Irrigated land ----- farms ..	2 060	1.6	Male ----- farms ..	4 536	1.5
Irrigated land ----- farms ..	243 907	.1	Female ----- farms ..	1 511 024	.1
Irrigated land ----- farms ..	2 220	1.5	Female ----- farms ..	800	2.1
Irrigated land ----- farms ..	134 338	.1	Female ----- farms ..	77 819	1.0
Irrigated land ----- farms ..	1 950	1.6	Average age of operator ----- years ..	53.8	2.2
Irrigated land ----- farms ..	4 594	1.6	FARMS BY TYPE OF ORGANIZATION		
Irrigated land ----- farms ..	214	1.7	Individual or family (sole proprietorship) ----- farms ..	4 425	1.6
Irrigated land ----- farms ..	4 063	1.4	Individual or family (sole proprietorship) ----- farms ..	244 219	.8
Irrigated land ----- farms ..	13	3.6	Partnership ----- farms ..	379	2.3
Irrigated land ----- farms ..	820	5.1	Partnership ----- farms ..	147 620	.3
Irrigated land ----- farms ..	18	—	Corporation:		
Irrigated land ----- farms ..	2 346	—	Family held ----- farms ..	341	1.6
Irrigated land ----- farms ..	6	(D)	Family held ----- farms ..	419 948	.1
Irrigated land ----- farms ..	(D)	(D)	More than 10 stockholders ----- farms ..	11	3.3
Irrigated land ----- farms ..	1	(D)	10 or less stockholders ----- farms ..	330	1.6
Irrigated land ----- farms ..	18	(D)	Other than family held ----- farms ..	115	2.2
Irrigated land ----- farms ..	120 094	—	Other than family held ----- farms ..	427 756	(L)
Harvested cropland irrigated ----- farms ..	2 177	1.5	More than 10 stockholders ----- farms ..	23	1.9
Pasture and other land irrigated ----- farms ..	83 130	.1	10 or less stockholders ----- farms ..	92	2.7
Pasture and other land irrigated ----- farms ..	118	3.1	Other—cooperative, estate or trust, institutional, etc. ----- farms ..	76	3.2
Pasture and other land irrigated ----- farms ..	51 208	.1	Other—cooperative, estate or trust, institutional, etc. ----- farms ..	349 300	(L)
Land under federal acreage reduction programs:			HIRED FARM LABOR		
Diverted under annual commodity programs ----- farms ..	—	—	Hired workers by days worked:		
Conservation Reserve or Wetlands Reserve ----- farms ..	—	—	150 days or more ----- farms ..	745	1.1
Conservation Reserve or Wetlands Reserve ----- farms ..	10	10.3	Less than 150 days ----- farms ..	9 008	.2
Conservation Reserve or Wetlands Reserve ----- farms ..	57	7.0	Less than 150 days ----- farms ..	1 188	1.6
Conservation Reserve or Wetlands Reserve ----- farms ..	57	7.0	Less than 150 days ----- farms ..	5 737	1.0
VALUE OF LAND AND BUILDINGS ¹			INJURIES AND DEATHS		
Estimated market value of land and buildings ----- farms ..	5 336	1.6	Farm-related injuries:		
Average per farm ----- \$1,000 ..	3 853 602	.5	Operator and family members ----- farms ..	45	4.8
Average per acre ----- dollars ..	722 189	1.7	Operator and family members ----- farms ..	59	4.1
Average per acre ----- dollars ..	2 425	.6	Hired workers ----- farms ..	112	1.2
VALUE OF MACHINERY AND EQUIPMENT ¹			Hired workers ----- farms ..	1 017	.2
Estimated market value of all machinery and ----- farms ..	5 332	1.6	Farm-related deaths:		
Average per farm ----- \$1,000 ..	283 699	.5	Operator and family members ----- farms ..	—	—
Average per farm ----- dollars ..	53 207	1.7	Operator and family members ----- farms ..	—	—
AGRICULTURAL CHEMICALS ¹			Hired workers ----- farms ..	—	—
Commercial fertilizer ----- farms ..	3 931	1.6	Hired workers ----- farms ..	—	—
acres on which used ----- farms ..	200 723	.2	Hired workers ----- farms ..	—	—

See footnotes at end of table.

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)
FARMS AND LAND IN FARMS			FARM PRODUCTION EXPENSES¹		
Farms ----- number ..	2 077	1.5	Total farm production expenses ----- farms ..	2 077	1.6
Land in farms ----- acres ..	1 513 440	.1	----- \$1,000 ..	452 137	.1
Average size of farm ----- acres ..	729	1.5	Average per farm ----- dollars ..	217 688	1.6
MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD			NET CASH RETURN FROM AGRICULTURAL SALES FOR THE FARM UNIT (SEE TEXT)¹		
Total sales (see text) ----- farms ..	2 077	1.5	All farms ----- number ..	2 077	1.6
----- \$1,000 ..	542 961	.2	----- \$1,000 ..	90 824	.5
Average per farm ----- dollars ..	261 416	1.5	Average per farm ----- dollars ..	43 728	1.7
Farms by value of sales:			Farms with net gains ² ----- number ..	1 797	1.6
\$10,000 to \$19,999 ----- farms ..	698	2.1	----- \$1,000 ..	102 326	.5
----- \$1,000 ..	9 791	2.2	Average net gain ----- dollars ..	56 943	1.7
\$20,000 to \$24,999 ----- farms ..	165	3.4			
----- \$1,000 ..	3 638	3.4	Farms with net losses ----- number ..	280	2.1
\$25,000 to \$39,999 ----- farms ..	376	2.6	----- \$1,000 ..	11 503	.4
----- \$1,000 ..	11 717	2.6	Average net loss ----- dollars ..	41 080	2.1
\$40,000 to \$49,999 ----- farms ..	108	3.6			
----- \$1,000 ..	4 764	3.7			
\$50,000 to \$99,999 ----- farms ..	291	2.4	GOVERNMENT PAYMENTS AND OTHER FARM-RELATED INCOME		
----- \$1,000 ..	19 529	2.3	Government payments ----- farms ..	46	3.9
\$100,000 to \$249,999 ----- farms ..	221	--	----- \$1,000 ..	247	4.8
----- \$1,000 ..	34 611	--	Other farm-related income ¹ ----- farms ..	154	2.7
\$250,000 to \$499,999 ----- farms ..	105	--	----- \$1,000 ..	4 835	.8
----- \$1,000 ..	36 357	--	Customwork and other agricultural services ----- farms ..	75	4.0
\$500,000 or more ----- farms ..	113	--	----- \$1,000 ..	1 479	2.2
----- \$1,000 ..	422 555	--	Gross cash rent or share payments ----- farms ..	79	3.1
Sales by commodity or commodity group:			----- \$1,000 ..	3 067	.5
Crops, including nursery and greenhouse crops ----- farms ..	1 806	1.6	Forest products and Christmas trees ----- farms ..	7	11.1
----- \$1,000 ..	446 105	.2	----- \$1,000 ..	(D)	(D)
Grains ----- farms ..	--	--	Other farm-related income sources ----- farms ..	8	9.7
Corn for grain ----- farms ..	--	--	----- \$1,000 ..	(D)	(D)
Wheat ----- farms ..	--	--			
Soybeans ----- farms ..	--	--			
----- \$1,000 ..	--	--			
Sorghum for grain ----- farms ..	--	--	COMMODITY CREDIT CORPORATION LOANS		
----- \$1,000 ..	--	--	Total ----- farms ..	3	--
Barley ----- farms ..	--	--	----- \$1,000 ..	(D)	(D)
----- \$1,000 ..	--	--			
Oats ----- farms ..	--	--			
----- \$1,000 ..	--	--			
Other grains ----- farms ..	--	--			
----- \$1,000 ..	--	--			
Cotton and cottonseed ----- farms ..	--	--			
----- \$1,000 ..	--	--			
Tobacco ----- farms ..	--	--			
----- \$1,000 ..	--	--			
Hay, silage, and field seeds ----- farms ..	8	9.6			
----- \$1,000 ..	(D)	(D)			
Vegetables, sweet corn, and melons ----- farms ..	369	2.0			
----- \$1,000 ..	(D)	(D)			
Fruits, nuts, and berries ----- farms ..	652	2.1			
----- \$1,000 ..	155 467	.2			
Nursery and greenhouse crops ----- farms ..	782	1.7			
----- \$1,000 ..	78 922	.5			
Other crops ----- farms ..	280	2.3			
----- \$1,000 ..	182 684	.1			
Livestock, poultry, and their products ----- farms ..	374	1.7			
----- \$1,000 ..	96 856	.2			
Poultry and poultry products ----- farms ..	40	4.3			
----- \$1,000 ..	21 154	(L)			
Dairy products ----- farms ..	21	1.7			
----- \$1,000 ..	(D)	(D)			
Cattle and calves ----- farms ..	228	1.8			
----- \$1,000 ..	32 447	.2			
Hogs and pigs ----- farms ..	100	3.2			
----- \$1,000 ..	6 818	1.3			
Sheep, lambs, and wool ----- farms ..	22	5.4			
----- \$1,000 ..	(D)	(D)			
Other livestock and livestock products (see text) ----- farms ..	72	3.4			
----- \$1,000 ..	4 775	1.3			
Value of agricultural products sold directly to individuals for human consumption (see text) ----- farms ..	148	2.8			
----- \$1,000 ..	1 988	2.7			

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)
LAND IN FARMS ACCORDING TO USE			FARMS BY TYPE OF ORGANIZATION		
Total cropland ----- farms ..	1 865	1.6	Individual or family (sole proprietorship) ----- farms ..	1 491	1.8
Harvested cropland ----- acres..	268 555	.3	Partnership ----- farms ..	180 234	.6
Harvested cropland ----- farms ..	1 814	1.6	Partnership ----- farms ..	192	2.5
Harvested cropland ----- acres..	128 024	.2	Partnership ----- acres..	(D)	(D)
Cropland:			Corporation:		
Pasture or grazing only ----- farms ..	129	3.0	Family held ----- farms ..	265	1.4
Pasture or grazing only ----- acres..	(D)	(D)	Family held ----- acres..	(D)	(D)
Total woodland ----- farms ..	98	3.0	More than 10 stockholders ----- farms ..	11	3.3
Total woodland ----- acres..	106 332	.1	10 or less stockholders ----- farms ..	254	1.5
Pastureland and rangeland other than cropland and woodland pastured ----- farms ..	239	1.8	Other than family held ----- farms ..	94	2.0
Pastureland and rangeland other than cropland and woodland pastured ----- acres..	899 301	.1	Other than family held ----- acres..	426 932	(L)
Land in house lots, ponds, roads, wasteland, etc. ----- farms ..	870	1.6	More than 10 stockholders ----- farms ..	21	2.1
Land in house lots, ponds, roads, wasteland, etc. ----- acres..	239 252	.1	10 or less stockholders ----- farms ..	73	2.5
Irrigated land ----- farms ..	1 103	1.5	Other—cooperative, estate or trust, institutional, etc. ----- farms ..	35	3.1
Irrigated land ----- acres..	131 192	.1	Other—cooperative, estate or trust, institutional, etc. ----- acres..	348 297	(L)
Harvested cropland irrigated ----- farms ..	1 090	1.5			
Harvested cropland irrigated ----- acres..	80 542	.1	HIRED FARM LABOR		
Pasture and other land irrigated ----- farms ..	55	3.4	Hired workers by days worked:		
Pasture and other land irrigated ----- acres..	50 650	(L)	150 days or more ----- farms ..	642	.9
			150 days or more ----- workers..	8 838	.1
Land under federal acreage reduction programs:			Less than 150 days ----- farms ..	726	1.5
Diverted under annual commodity programs ----- farms ..	—	—	Less than 150 days ----- workers..	4 645	.9
Diverted under annual commodity programs ----- acres..	—	—			
Conservation Reserve or Wetlands Reserve Programs ----- farms..	4	13.2	INJURIES AND DEATHS		
Conservation Reserve or Wetlands Reserve Programs ----- acres..	(D)	(D)	Farm-related injuries:		
			Operator and family members ----- farms ..	22	4.6
VALUE OF LAND AND BUILDINGS ¹			Operator and family members ----- number..	35	3.6
Estimated market value of land and buildings ----- farms ..	2 077	1.6	Hired workers ----- farms ..	100	1.1
Estimated market value of land and buildings ----- \$1,000..	3 043 890	.3	Hired workers ----- number..	(D)	(D)
Average per farm ----- dollars	1 465 522	1.6	Farm-related deaths:		
Average per acre ----- dollars	2 011	.3	Operator and family members ----- farms ..	—	—
			Operator and family members ----- number..	—	—
VALUE OF MACHINERY AND EQUIPMENT ¹			Hired workers ----- farms ..	—	—
Estimated market value of all machinery and equipment ----- farms ..	2 077	1.6	Hired workers ----- number..	—	—
Estimated market value of all machinery and equipment ----- \$1,000..	241 806	.3	FARMS BY SIZE		
Average per farm ----- dollars	116 421	1.6	1 to 9 acres ----- farms ..	1 052	2.0
Average per acre ----- dollars	—	—	1 to 9 acres ----- acres..	683	1.7
			10 to 49 acres ----- farms ..	59	3.1
AGRICULTURAL CHEMICALS¹			10 to 49 acres ----- acres..	59	3.6
Commercial fertilizer ----- farms ..	1 667	1.7	50 to 69 acres ----- farms ..	33	4.6
Commercial fertilizer ----- acres on which used ..	192 416	.2	50 to 69 acres ----- acres..	34	4.5
			70 to 99 acres ----- farms ..	25	6.4
TENURE OF OPERATOR			70 to 99 acres ----- acres..	12	—
All operators ----- farms ..	2 077	1.5	100 to 139 acres ----- farms ..	3	4.4
All operators ----- acres..	1 513 440	.1	100 to 139 acres ----- acres..	50	4.6
Full owners ----- farms ..	852	1.8	140 to 179 acres ----- farms ..	26	4.6
Full owners ----- acres..	251 093	.2	140 to 179 acres ----- acres..	28	—
Part owners ----- farms ..	387	1.6	180 to 219 acres ----- farms ..	26	—
Part owners ----- acres..	985 008	.1	180 to 219 acres ----- acres..	28	—
Tenants ----- farms ..	838	1.9	220 to 259 acres ----- farms ..	2	—
Tenants ----- acres..	277 339	.3	220 to 259 acres ----- acres..	50	4.4
			260 to 499 acres ----- farms ..	26	4.6
OWNED AND RENTED LAND			260 to 499 acres ----- acres..	26	—
Land owned ----- farms ..	1 243	1.5	500 to 999 acres ----- farms ..	2	—
Land owned ----- acres..	854 721	.1	500 to 999 acres ----- acres..	28	—
Owned land in farms ----- farms ..	1 239	1.5	1,000 to 1,999 acres ----- farms ..	2	—
Owned land in farms ----- acres..	782 672	.1	1,000 to 1,999 acres ----- acres..	2	—
Land rented or leased from others ----- farms ..	1 229	1.6	2,000 acres or more ----- farms ..	72	—
Land rented or leased from others ----- acres..	778 351	.1			
Landlords ----- farms ..	1 936	1.4	FARMS BY STANDARD INDUSTRIAL CLASSIFICATION		
Landlords ----- acres..	1 225	1.6	Cash grains (011) ----- farms ..	—	—
Rented or leased land in farms ----- farms ..	1 225	1.6	Field crops, except cash grains (013) ----- farms ..	230	2.5
Rented or leased land in farms ----- acres..	730 768	.1	Field crops, except cash grains (013) ----- acres..	296	2.1
Land rented or leased to others ----- farms ..	135	2.5	Vegetables and melons (016) ----- farms ..	524	2.3
Land rented or leased to others ----- acres..	119 632	.1	Vegetables and melons (016) ----- acres..	724	1.7
			Fruits and tree nuts (017) ----- farms ..	6	15.1
OPERATOR CHARACTERISTICS			Fruits and tree nuts (017) ----- acres..	6	15.1
Operators by place of residence:			Horticultural specialties (018) ----- farms ..	222	2.0
On farm operated ----- farms ..	1 105	1.7	Horticultural specialties (018) ----- acres..	20	1.8
On farm operated ----- acres..	809	1.7	Dairy farms (024) ----- farms ..	21	3.1
Not on farm operated ----- farms ..	163	2.7	Dairy farms (024) ----- acres..	32	5.3
Not on farm operated ----- acres..	—	—	Poultry and eggs (025) ----- farms ..	2	—
Not reported ----- farms ..	—	—	Poultry and eggs (025) ----- acres..	32	5.3
Not reported ----- acres..	—	—	Animal specialties (027) ----- farms ..	—	—
Operators by principal occupation:			Animal specialties (027) ----- acres..	—	—
Farming ----- farms ..	1 537	1.5	General farms, primarily livestock and animal specialties (029) ----- farms ..	2	—
Farming ----- acres..	540	2.1	General farms, primarily livestock and animal specialties (029) ----- acres..	2	—
Other ----- farms ..	—	—			
Other ----- acres..	—	—	LIVESTOCK		
Operators by days worked off farm:			Cattle and calves inventory ----- farms ..	255	1.9
Any ----- farms ..	854	1.9	Cattle and calves inventory ----- number..	177 244	.3
Any ----- acres..	447	2.2	Beef cows ----- farms ..	203	2.0
200 days or more ----- farms ..	—	—	Beef cows ----- number..	80 714	.4
200 days or more ----- acres..	—	—	Milk cows ----- farms ..	22	2.3
Operators by sex:			Milk cows ----- number..	10 750	.1
Male ----- farms ..	1 818	1.5	Cattle and calves sold ----- farms ..	228	1.8
Male ----- acres..	259	2.7	Cattle and calves sold ----- number..	78 620	.4
Female ----- farms ..	—	—	Hogs and pigs inventory ----- farms ..	32 447	.2
Female ----- acres..	—	—	Hogs and pigs inventory ----- number..	109	3.1
Average age of operator ----- years ..	51.0	2.1	Hogs and pigs sold ----- farms ..	26 337	1.6
			Hogs and pigs sold ----- number..	100	3.2
			Hogs and pigs sold ----- farms ..	45 626	1.5
			Hogs and pigs sold ----- number..	6 818	1.3
			Sheep and lambs of all ages inventory ----- farms ..	25	5.6
			Sheep and lambs of all ages inventory ----- number..	22 551	.9
			Sheep and lambs sold ----- farms ..	21	5.2
			Sheep and lambs sold ----- number..	1 944	9.2
			Horses and ponies inventory ----- farms ..	154	2.4
			Horses and ponies inventory ----- number..	1 967	1.2
			Horses and ponies sold ----- farms ..	33	4.5
			Horses and ponies sold ----- number..	155	4.0

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)
POULTRY			CROPS HARVESTED		
Chickens 3 months old or older inventory -----farms --	51	4.5	Sugarcane for sugar ----- farms ..	26	3.4
-----number--	932 002	(L)	-----acres..	(D)	(D)
Hens and pullets of laying age -----farms --	50	4.6	-----tons..	5 486 813	(L)
-----number--	913 430	(L)	-----farms --	10	--
Broilers and other meat-type chickens sold -----farms --	8	5.6	-----acres..	15 488	--
-----number--	1 201 202	(L)	-----tons..	556 563	--
			Vegetables harvested for sale (see text) -----farms --	370	2.0
			-----acres..	4 853	1.7
			Land in orchards -----farms --	716	2.0
			-----acres..	32 343	.7

¹Data are based on a sample of farms.

²Farms with total production expenses equal to market value of agricultural products sold are included as farms with gains 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..	9.6	2.0	1.4	1.9
Land in farms..... acres..	-7.7	.2	-7.4	.1
Average size of farm..... acres..	-15.6	1.6	-8.6	1.7
Estimated market value of land and buildings ¹ :				
Average per farm.....dollars..	19.7	2.5	33.6	2.7
Average per acre.....dollars..	42.1	1.0	46.4	.6
Estimated market value of all machinery and equipment ¹ :				
Average per farm.....dollars..	29.1	2.6	36.5	2.8
Farms by size:				
1 to 9 acres.....	19.4	2.4	7.8	2.6
10 to 49 acres.....	-4.2	2.0	-6.9	2.1
50 to 179 acres.....	-8.2	2.6	-	2.9
180 to 499 acres.....	3.9	4.4	4.8	5.2
500 to 999 acres.....	9.7	6.8	23.8	7.3
1,000 to 1,999 acres.....	-13.9	-	-6.7	-
2,000 acres or more.....	-6.4	-	-4.0	-
Total cropland.....farms..	13.5	2.1	2.8	2.0
Harvested cropland.....farms..	-10.4	.4	-10.2	.3
.....acres..	16.5	2.1	3.2	2.1
.....acres..	-10.7	.3	-12.0	.2
Irrigated land.....farms..	21.5	2.1	13.1	2.0
.....acres..	-9.8	.1	-10.7	.1
Market value of agricultural products sold.....\$1,000..	-9.5	.2	-9.6	.2
Average per farm.....dollars..	-17.4	1.5	-10.8	1.7
Crops, including nursery and greenhouse crops.....\$1,000..	-9.0	.2	-9.2	.2
Livestock, poultry, and their products.....\$1,000..	-11.5	.2	-11.4	.2
Farms by value of sales:				
Less than \$2,500.....	27.7	2.5	(X)	(X)
\$2,500 to \$4,999.....	11.9	3.0	(X)	(X)
\$5,000 to \$9,999.....	-4.0	2.5	(X)	(X)
\$10,000 to \$24,999.....	-5.3	2.5	-5.3	2.5
\$25,000 to \$49,999.....	1.7	3.2	1.7	3.2
\$50,000 to \$99,999.....	1.4	3.0	1.4	3.0
\$100,000 to \$249,999.....	13.3	-	13.3	-
\$250,000 to \$499,999.....	26.5	-	26.5	-
\$500,000 or more.....	16.5	-	16.5	-
Total farm production expenses ¹\$1,000..	-5.8	1.5	-6.4	1.5
Average per farm.....dollars..	-14.1	1.7	-7.7	1.8
Net cash return from agricultural sales for the farm unit (see text) ¹farms..	9.6	2.1	1.4	2.0
.....\$1,000..	-25.2	.4	-22.8	.4
.....dollars..	-31.7	1.4	-23.8	1.6
Operators by principal occupation:				
Farming.....	3.9	1.8	-1.3	1.9
Other.....	17.3	2.7	9.8	3.0
Operators by days worked off farm:				
Any.....	5.0	5.6	-6.1	5.0
200 days or more.....	.7	5.4	-4.9	5.2
Livestock and poultry:				
Cattle and calves inventory.....farms..	-12.9	2.1	-1.5	2.4
.....number..	-9.4	.4	-8.2	.4
Beef cows.....farms..	-9.5	2.3	2.5	2.8
.....number..	5.0	.6	6.0	.5
Milk cows.....farms..	-21.9	4.4	-18.5	3.1
.....number..	-8.6	.1	-8.4	.1
Cattle and calves sold.....farms..	-13.4	2.1	1.3	2.5
.....number..	-18.3	.4	-18.3	.3
Hogs and pigs inventory.....farms..	-32.0	2.3	-19.9	3.4
.....number..	-39.9	1.5	-38.4	1.6
Hogs and pigs sold.....farms..	-34.9	2.3	-21.3	3.5
.....number..	-30.7	1.4	-29.4	1.5
Sheep and lambs inventory.....farms..	47.6	10.2	127.3	18.6
.....number..	4.7	1.0	5.6	.9
Chickens 3 months old or older inventory.....farms..	-2.2	4.2	-8.9	5.4
.....number..	(D)	(D)	(D)	(D)
Broilers and other meat-type chickens sold.....farms..	16.7	11.7	-	5.6
.....number..	-41.9	(L)	-41.9	(L)
Selected crops harvested:				
Sugarcane for sugar.....farms..	-60.8	2.1	-58.1	2.1
.....acres..	-20.6	(L)	(D)	(D)
.....tons..	-30.8	(L)	-30.8	(L)
Pineapples harvested.....farms..	16.7	-	-16.7	-
.....acres..	-30.4	-	-30.4	-
.....tons..	-18.5	-	-18.5	-
Vegetables harvested for sale (see text).....farms..	-15.2	2.0	-13.6	2.4
.....acres..	-8.2	1.9	-6.0	2.0
Land in orchards.....farms..	19.2	2.6	-10.1	2.4
.....acres..	15.0	1.2	17.5	1.1

¹Data 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 ¹		Estimated market value of all machinery and equipment ¹		
	Total (number)	Relative standard error of estimate (percent)	Total (acres)	Relative standard error of estimate (percent)	Total (acres)	Relative standard error of estimate (percent)	Value (dollars)	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	
Hawaii -----	5 336	1.5	1 588 843	.1	298	1.5	722 189	1.7	283 699	.5	
Hawaii-----	3 157	1.6	926 607	.2	294	1.6	495 001	1.9	90 288	.8	
Honolulu-----	892	1.4	91 998	.7	103	1.6	1 144 965	1.8	46 044	.8	
Kauai-----	437	1.7	214 452	.2	491	1.8	730 246	2.7	48 030	.5	
Maui-----	850	1.5	355 786	.2	419	1.5	1 118 184	2.0	99 337	.3	
Geographic area	Average market value of all machinery and equipment per farm ¹		Market value of agricultural products sold		Average market value of agricultural products sold per farm		Farm production expenses ¹				
							Total farm production expenses				
							Farms		Value		
	Value (dollars)	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Value (dollars)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	
Hawaii -----	53 207	1.7	552 054	.2	103 458	1.5	5 336	1.6	466 826	.2	
Hawaii-----	28 617	1.9	187 593	.3	59 421	1.6	3 157	1.7	143 433	.3	
Honolulu-----	51 619	2.0	150 527	.2	168 752	1.4	892	1.8	130 070	.2	
Kauai-----	109 908	2.5	49 166	.2	112 509	1.8	437	2.4	54 729	.2	
Maui-----	117 143	1.9	164 767	.1	193 844	1.5	850	1.9	138 595	.1	
Geographic area	Farm production expenses ¹ —Con.										
	Livestock and poultry purchased				Feed for livestock and poultry				Seeds, bulbs, plants, and trees		
	Farms		Value		Farms		Value		Farms		Value
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)
Hawaii -----	478	2.1	7 856	.5	921	1.9	37 060	.2	1 507	1.7	12 655
Hawaii-----	236	2.6	1 403	1.7	448	2.2	6 267	.5	717	2.0	4 852
Honolulu-----	88	3.4	4 873	.5	155	2.7	23 841	.2	328	2.2	2 966
Kauai-----	51	5.4	312	1.7	118	3.7	2 562	.4	131	3.7	1 239
Maui-----	103	3.8	1 268	.7	200	3.0	4 389	.3	331	2.2	3 598
Geographic area	Farm production expenses ¹ —Con.										
	Commercial fertilizer				Agricultural chemicals				Petroleum products		
	Farms		Value		Farms		Value		Farms		Value
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)
Hawaii -----	4 028	1.6	30 574	.3	3 853	1.6	20 396	.3	4 831	1.6	18 110
Hawaii-----	2 521	1.7	13 710	.5	2 448	1.7	6 427	.6	2 844	1.7	6 575
Honolulu-----	661	1.9	4 686	.4	622	1.9	3 907	.4	813	1.8	3 745
Kauai-----	285	2.6	4 808	.2	265	2.7	3 232	.4	402	2.4	2 549
Maui-----	561	2.0	7 369	.1	518	2.0	6 831	.2	772	1.9	5 241
Geographic area	Farm production expenses ¹ —Con.										
	Electricity				Hired farm labor				Contract labor		
	Farms		Value		Farms		Value		Farms		Value
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)
Hawaii -----	1 938	1.5	5 917	.3	1 447	1.4	178 788	.1	665	2.0	6 406
Hawaii-----	1 026	1.8	1 886	.5	850	1.7	49 500	.2	465	2.3	3 214
Honolulu-----	451	1.9	2 552	.3	257	1.7	45 432	.1	68	3.7	869
Kauai-----	144	3.3	486	.6	97	3.5	19 993	.1	25	6.6	(D)
Maui-----	317	2.1	992	.5	243	2.0	63 863	.1	107	3.3	(D)

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]

Farm production expenses ¹ —Con.												
Geographic area	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)
	Hawaii	3 872	1.6	34 231	.2	775	1.9	4 395	.6	1 048	1.5	14 051
Hawaii	2 275	1.7	11 970	.4	478	2.2	2 320	1.0	627	1.8	9 129	.5
Honolulu	623	1.8	7 063	.3	77	3.5	914	.3	193	2.0	2 771	1.0
Kauai	315	2.6	5 067	.4	68	4.4	(D)	(D)	58	4.6	407	2.7
Maui	659	1.9	10 132	.2	152	2.9	(D)	(D)	170	2.5	1 744	1.5

Farm production expenses ¹ —Con.												
Geographic area	Cash rent				Property taxes paid				All other farm production expenses			
	Farms		Value		Farms		Value		Farms		Value	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)
	Hawaii	1 583	1.6	15 249	.3	4 129	1.6	6 696	.8	4 701	1.6	74 443
Hawaii	884	1.8	3 239	.8	2 458	1.7	2 362	1.4	2 736	1.7	20 578	.4
Honolulu	345	2.2	6 235	.4	623	1.9	1 635	1.1	814	1.8	18 581	.2
Kauai	138	3.2	3 284	.2	339	2.7	975	1.3	379	2.5	7 488	.3
Maui	216	2.4	2 491	.4	709	2.0	1 724	.8	772	1.9	27 795	.1

Geographic area	Net cash return from agricultural sales for the farm unit (see text) ¹				Total cropland				Harvested cropland			
	Farms		Value		Farms		Acres		Farms		Acres	
	Number	Relative standard error of estimate (percent)	Total (\$1,000)	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)
	Hawaii	5 336	1.6	85 228	.5	4 735	1.6	293 371	.4	4 472	1.6	136 431
Hawaii	3 157	1.7	44 160	.6	2 893	1.6	116 068	.6	2 752	1.6	52 950	.6
Honolulu	892	1.8	20 457	.8	764	1.5	43 587	.6	745	1.5	20 692	.2
Kauai	437	2.4	-5 562	1.5	345	1.9	(D)	(D)	309	2.0	23 758	.1
Maui	850	1.9	26 173	.4	733	1.5	(D)	(D)	666	1.6	39 031	.2

Geographic area	Irrigated land				Livestock and poultry							
	Farms		Acres		Cattle and calves inventory				Beef cows 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)
Hawaii	2 220	1.5	134 338	.1	874	1.9	191 230	.4	655	2.0	87 620	.4
Hawaii	842	1.8	13 013	.4	486	2.1	123 114	.5	375	2.2	62 249	.5
Honolulu	579	1.6	27 196	.1	62	4.1	16 433	1.0	42	5.2	2 354	3.2
Kauai	258	2.2	32 580	.1	140	3.1	12 464	1.2	97	3.6	(D)	(D)
Maui	541	1.6	61 549	.1	186	2.8	39 219	.6	141	3.1	(D)	(D)

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)
Hawaii	57	4.1	10 816	.1	253	2.6	28 570	1.6	62	4.8	22 938	.9
Hawaii	30	6.1	1 973	.6	91	4.0	3 132	6.8	44	5.5	3 671	5.6
Honolulu	15	5.3	7 511	(D)	72	3.8	16 741	1.9	3	21.4	(D)	(D)
Kauai	5	15.1	(D)	(D)	26	7.3	2 066	4.9	2	23.1	(D)	(D)
Maui	7	11.9	(D)	(D)	64	4.4	6 631	2.5	13	11.0	(D)	(D)

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]

Livestock and poultry – Con.											
Hens and pullets of laying age inventory											
Broilers and other meat-type chickens sold											
Geographic area	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)	
Hawaii -----	174	3.3	916 055	–	14	7.7	1 201 331	–		–	
Hawaii	81	4.4	62 319	.2	6	14.2	(D)	150		(D)	
Honolulu	32	6.0	748 470	(L)	7	9.3	1 124 189			(L)	
Kauai	11	12.4	(D)	(D)	1	–	(D)			(D)	
Maui	50	5.3	(D)	(D)	–	–	–			–	

Selected crops harvested												
Sugar cane for sugar												
Pineapples harvested												
Geographic area	Farms		Acres		Quantity		Farms		Acres		Quantity	
	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Number	Relative standard error of estimate (percent)	Tons	
Hawaii -----	31	4.0	62 915	–	5 488 214	–	21	–	15 500	–	556 748	–
Hawaii	20	6.2	19 737	.1	1 726 881	.1	10	–	10	–	150	–
Honolulu	3	–	(D)	(D)	(D)	(D)	2	–	(D)	(D)	(D)	(D)
Kauai	6	–	14 911	–	1 110 542	–	4	–	(D)	(D)	85	–
Maui	2	–	(D)	(D)	(D)	(D)	5	–	8 997	–	(D)	(D)

Selected crops harvested – Con.										
Vegetables harvested for sale (see text)										
Land in orchards										
Geographic area	Farms		Acres		Farms		Acres			
	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)
Hawaii -----	602	1.8	5 129	1.7	2 537	1.7	38 590			.8
Hawaii	174	2.7	1 311	1.1	1 892	1.7	28 016			1.0
Honolulu	208	2.6	897	2.2	235	2.4	1 036			2.4
Kauai	55	4.8	99	9.1	140	3.1	6 482			.3
Maui	165	2.5	2 822	2.8	270	2.5	3 056			.6

¹Data are based on a sample of farms.