



Agricultural Issues Center  
University of California

**August 2004**

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**AIC Issues Brief No. 26**  
**August 2004**

Agricultural Issues Center  
University of California  
[www.aic.ucdavis.edu](http://www.aic.ucdavis.edu)

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Supported in part by the Agricultural Marketing Resource Center

# The 2002 Census of Agriculture: A Wealth of Useful Data

Daniel A. Sumner, Henrich Brunke, José E. Bervejillo

The recently released 2002 Census of Agriculture provides a wealth of new information that will help frame production, marketing and policy decisions about American agriculture. The Census, taken every five years, is the source of reliable information for many facts about U.S. agriculture and provides the benchmark to which other data are compared and adjusted.

This *AIC Issues Brief* presents some information on the census history and data collection methodology and highlights a few major findings of the 2002 Census of Agriculture for the United States and California.

The National Agricultural Statistics Service (NASS) of the United States Department of Agriculture (USDA) has again delivered a comprehensive and authoritative compendium of information. One purpose of this issues brief is to encourage readers to go directly to the 2002 Census itself at <http://www.nass.usda.gov/census/>. The NASS website presents interesting facts in every one of the hundreds of census tables. Chapter 1 of volume 1 deals with the United States as a whole and chapter 2 of volume 1 presents data at the state level. Much of the information

available from the census deals with specific commodities and farm inputs. Here we highlight a few topics that cut across commodities and especially those topics that are new for 2002.

## Background

The United States Constitution mandates that a census of population be conducted every 10 years to apportion representation of each state in the U.S. House of Representatives. In 1840, the census began collecting more detailed information about agriculture. Beginning in 1925, the agricultural data was collected every five years except for a four-year cycle in the 1970s. Beginning in 1997 the Census of Agriculture was moved from the Census Bureau in the U.S. Department of Commerce to NASS within USDA.

The 2002 Census, like its predecessors since 1969, used a mail survey. Mail and telephone follow-ups to non-respondents continued for six months after the initial mailing. Estimates for non-response were factored into the final tabulations for each state.

Because of improvements in coverage and adjustments, some data

in the 2002 Census are not comparable with those from prior years. In particular, NASS has improved the coverage of farms for this census and has also provided coverage adjustments for the 1997 Census. That means one must be very careful only to use the adjusted 1997 figures and to avoid direct comparisons with prior years.

For example, there were about 2.129 million farms in the United States in 2002 compared to about 2.216 million farms in 1997, using the adjusted 1997 data published along with the 2002 Census. In the original 1997 data, only 1.91 million farms were accounted for. Unless users are careful to make the right comparison, they might mistakenly think the number of farms was up by 220,000 rather than down by about 90,000. The correct data show that the long-term and very gradual decline in number of farms continued over the past five years (2002 Census, National Data, Table 1). In appendices, NASS provides details about methodology as well as about other important changes made for the 2002 Census.

Another caveat when comparing the 2002 data with data from prior censuses has to do with annual variations in farm prices and yields.

TABLE 1. Total farms, acres, size and sales, 1997 and 2002

United States	1997	2002	% change
Total farms	2,215,876	2,128,982	-3.9
Land in farms (1000 acres)	954,753	938,279	-1.7
Average size per farm (acres)	431	441	2.3
Sales (\$ million)	201,380	200,646	-0.4
Average sales per farm (\$)	90,880	94,245	3.7
<b>California</b>			
Total farms	87,991	79,631	-9.5
Land in farms (1000 acres)	28,796	27,589	-4.2
Average size per farm (acres)	327	346	5.8
Sales (\$ million)	23,280	25,737	10.6
Average sales per farm (\$)	264,574	323,205	22.2

One cannot simply assume that differences between two censuses reflect trends—differences may reflect the normal fluctuation of agricultural prices and yields. For example, 2002 was a year of low farm prices for many commodities, and 1997 was a relatively high-price year. This affects the comparison of revenue data for many commodities. Fortunately, the censuses contain data on yields per acre, acres and value of

production that can be used to calculate average revenue per unit.

### Farm numbers, acres and sales

U.S. farm numbers decreased 3.9 percent from 2.216 million in 1997 to 2.129 million in 2002.

The total acreage of U.S. farms decreased 1.7 percent from 954.8

million acres in 1997 to 938.3 million acres in 2002, but the average number of acres per farm increased 2.3 percent during that period to 441 acres in 2002 (Table 1). Total U.S. sales of agricultural products decreased slightly by 0.4 percent, but average sales per farm increased 3.7 percent from 1997 to 2002.

The changes in California farm numbers are more dramatic (Table 1). They decreased 9.5 percent from 87,991 farms in 1997 to 79,631 farms in 2002. With a simultaneous 4.2 percent decrease in total acreage to 27.6 million, the average farm size increased 19 acres or 5.8 percent to 346 acres per farm. California farm size was 78 percent of the national average farm size in 2002. Total California agricultural sales increased 10.6 percent to \$25.7 billion in 2002 and average sales per farm increased even higher to \$323,205, an increase of 22.2 percent over 1997.

The data collected for the 2002 Census show that on average California farms have fewer acres but higher sales per farm than the nation as a whole. This reflects the fact that high value-per-acre dairies and fruit and vegetable farms are important in California agriculture.

FIGURE 1. Percent of farm and total sales, by sales category, United States, 2002

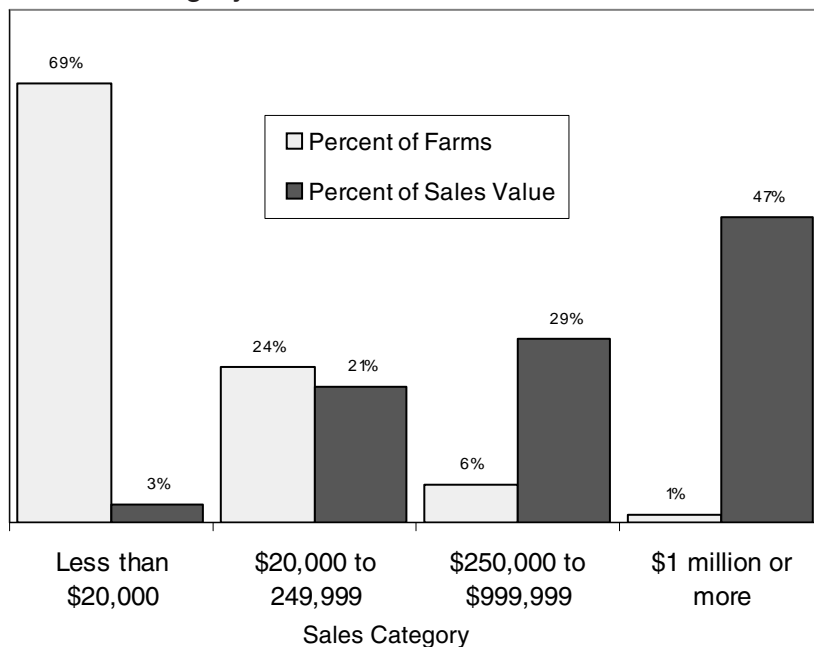
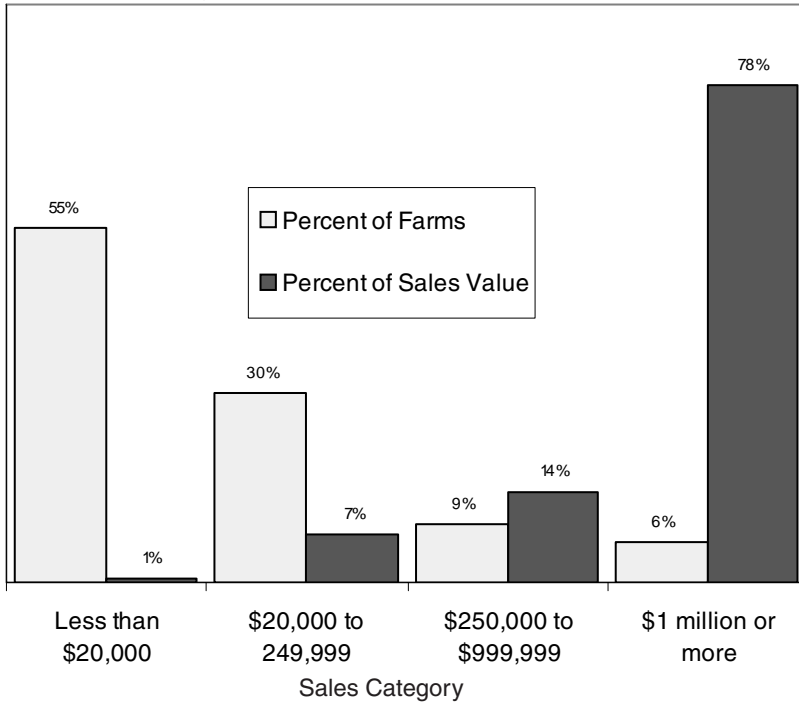


FIGURE 2. Percent of farms and total sales, by sales category, California, 2002



Some data in the 2002 Census confirm information that we have come to expect. For example, this census again shows that most farms in the United States (and in California) are small (Figure 1). About 69 percent of farms in the United States sold less than \$20,000 worth of output, but these farms comprised only 2.8 percent of total farm sales. The 30 percent of the farms that sold between \$20,000 and \$1 million of products accounted for about half of the total sales. The

largest 1.3 percent of farms that sold \$1 million or more of farm products accounted for 47.4 percent of all sales. The share of sales in the upper category expanded from 1997 to 2002, a trend also reflected in prior census years (2002 Census, National Data, Table 2).

These same patterns are reflected in California (Figure 2). In California, 6.3 percent of the farms had sales of \$1 million or more and accounted for 78 percent of the value of sales in the state. One reason that the share of

farms and output in the large-farm category is high is because 60 percent of the commercial dairies in California have sales greater than \$1 million, accounting for about 14 percent of total California sales and 24 percent of the farms with sales of \$1 million or more (2002 Census, California Data, Table 2).

### New information on U.S. and California agriculture

The 2002 Census provides detailed data on farm operators by gender, race and related demographic characteristics. It is also the first census to include data on the number of operators per farm (Table 2), documenting that many farms had several partners or a hired manager. In the United States, 37.7 percent of all farms and 58.9 percent of farms with sales greater than \$1 million had more than one operator. In California, about 43.5 percent of all farms and 58.1 percent of the farms with sales of \$1 million or more had more than one operator.

First-time data on direct marketing through such outlets as roadside stands and farmers' markets and on organic production and marketing are also included in the 2002 Census (Table 3). Nationally, 5.5 percent of all farms sold at least some output

TABLE 2. Total farms, sales and number of operators, 2002

United States	One operator	Share (%)	More than one operator	Share (%)
Total farms	1,325,855	63.4	803,127	37.7
Sales less than \$1 million	1,313,704	62.6	785,741	37.4
Sales \$1 million or more	12,151	41.1	17,386	58.9
<b>California</b>				
Total farms	44,967	56.5	34,664	43.5
Sales of less than \$1 million	42,483	57.5	31,713	42.5
Sales of \$1 million or more	2,124	41.9	2,951	58.1

TABLE 3. U.S. and California farms: direct sales, organic production and crop insurance, 2002

Direct sales to the public	Total farms	Share (%)	Sales (\$1000)	Share of all sales (%)
U.S.	116,733	5.5	812,204	0.4
California	6,436	8.1	114,356	0.4
Certified organic production	Total farms	Share (%)	Sales (\$1000)	Share of all sales (%)
U.S.	11,998	0.6	392,813	0.2
California	1,443	1.8	149,137	0.6
Crop insurance (enrolled)	Total farms	Share (%)	Acres (1000)	Share (%)
U.S.	394,538	18.5	214,806	71.0*
California	15,804	19.9	4,109	48.5*

\*Percentages expressed in terms of areas enrolled over harvested cropland.

directly to consumers, but these sales were only 0.4 percent of all farm sales. In California, the share of farms that sold directly to the public was higher at 8.1 percent, but as a share of all California farm sales, such direct sales were still just 0.4 percent of all sales.

Organic agriculture also remained a small niche; only 0.6 percent of U.S. farms sold organic products and only 0.2 percent of total sales were certified as organic (2002 Census, National Data, Tables 2 and 56). Most organic sales were from relatively large farms. About five percent of organic sales were from farms selling less than \$10,000 of farm output per farm, and 45 percent were from farms selling \$1 million or more per year. In California, which produces 38 percent of the national organic output, 1.8 percent of farms (1,443)

sold any organic products, and organic production was about 0.6 percent of sales in the state (2002 Census, California Data, Tables 2 and 56). California organic production was even more concentrated than national organic production, with 68.4 percent of organic sales coming from farms selling \$1 million or more of farm output. In California, these 95 large farms comprise 6.6 percent of all farms selling organic production.

Another new item in the 2002 Census is data on land enrolled in crop insurance programs. Nationally, 71.0 percent of harvested cropland was enrolled in crop insurance programs. Crop insurance participation is less important in the West. In California, 48.5 percent of harvested cropland was enrolled. For total cropland, the percentages were 50 percent nationally and 37 percent in

California.

## Conclusion

This *AIC Issues Brief* highlights the 2002 Census of Agriculture findings for the United States in general and California in particular. The 2002 Census includes some new items, but the bulk of the data is an update of information included in previous censuses. The 2002 Census documents land use, production, revenue, expenses, farmer characteristics and much more. A more complete overview of census data together with many other facts about California agriculture will appear in the updated AIC publication *The Measure of California Agriculture* that will be published in the fall of 2004. ■