
Introduction

HISTORY

Selected irrigation data for on-farm irrigation operations have been collected in the census of agriculture since 1890. A census of farms which reported irrigation in the 1900 Census of Agriculture was authorized by Congress. Surveys of irrigation in humid areas were taken in connection with the 1954 and 1959 censuses.

The 2008 Farm and Ranch Irrigation Survey (FRIS) is the seventh survey devoted entirely to collecting on-farm irrigation data for the United States. For the first time, horticultural specialty operations with sales of \$10,000 or greater were included in the survey. The 1979, 1984, 1988, and 1994 Farm and Ranch Irrigation Surveys were conducted by the U.S. Department of Commerce, Bureau of Census. Responsibility for the survey was transferred from the Bureau of Census to the U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS) in 1997. The 1998 survey utilized the resources of the 45 NASS field offices which expanded opportunities for telephone follow-up or personal enumeration of nonresponse cases. The 1998 Farm and Ranch Irrigation Survey was the first survey to collect and publish data for each of the 50 States. Previous farm and ranch irrigation surveys published data only for leading irrigation States, with a U.S. total, excluding Alaska and Hawaii.

USES OF SURVEY DATA

The 2008 Farm and Ranch Irrigation Survey provides data that supplement the basic irrigation data collected from all farm and ranch operators in the 2007 Census of Agriculture. Irrigation data from this survey combined with 2007 census data provide one of the most complete and detailed profiles of irrigation in the United States.

Survey data are used by producers, farm

organizations, businesses, State departments of agriculture, elected representatives and legislative bodies at all levels of government, public and private sector analysts, the news media, and colleges and universities. The data are used to:

- Compare water use by application method;
- Develop improved technologies;
- Develop Federal programs;
- Appraise water use trends;
- Assess impact of congressional legislation; and
- Evaluate the impact of irrigated crops by State.

AUTHORITY

The census of agriculture is required by law under the "Census of Agriculture Act of 1997," Public Law 105-113 (Title 7, United States Code, Section 2204g). The law authorizes the Secretary of Agriculture to conduct surveys deemed necessary to furnish annual or other data on the subjects covered by the census. The 2008 Farm and Ranch Irrigation Survey was conducted under the provisions of this section.

FARM DEFINITION

A farm is any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census or survey year.

DATA COMPARABILITY

State level general FRIS data are not comparable between the 2008 and 2003 surveys. In the 2003 survey, the data included operations that reported horticultural production with sales less than \$10,000 during the previous census year. In 2008 data for these operations are included with data for horticultural specialty operations that reported \$10,000 or more of horticulture sales in the previous

census year in a separate set of data tables.

To provide a measure of comparability, the published 2003 U.S. level data were adjusted. Data for operations that reported horticultural production with sales less than \$10,000 were removed. See Appendix A, Statistical Methodology for a detailed discussion of data comparability.

WATER RESOURCES REGIONS MAP

The map on page 1 shows Water Resources Regions delineated to approximate actual basin boundaries based on topographic drainage characteristics. Data are tabulated separately for each of the 20 Water Resources Regions shown on the map.

PERCENT OF NORMAL PRECIPITATION MAP

The map on page 2 shows the areas of the United States with deviations from normal precipitation during 2008. The map is included for reference purposes only.

TABLES AND APPENDICES

Chapter 1, General Data. Table 1 shows farms and acres irrigated for the 1992 through 2007 Censuses of Agriculture for each State. Tables 2 through 42 present detailed irrigation data collected in the farm and ranch irrigation survey from operations that reported irrigated land in the 2007 census and also in the 2008 survey. Excluded from these data are institutional, research, and experimental operations and all operations reporting horticultural sales in the previous census year. Table 43 presents data for farm operations that irrigated in 2007 but discontinued irrigation either temporarily or permanently in 2008 while continuing to operate a farm or ranch. Comparable adjusted 2003 U.S. level survey data are also presented. Data are reported at the national level, for each State, and for the 20 Water Resources Regions.

Chapter 2, Horticultural Operations Data. Tables 1 through 9 present detailed 2008 irrigation data

collected on the horticulture version of the irrigation survey. Data are from horticultural operations that reported irrigating in the 2007 census and also in the 2008 survey. Data are reported at the national level and for each State.

Appendix A. Provides information about data collection and data processing activities and discusses the statistical methodology used in conducting and evaluating the survey. Table A provides the general 2008 FRIS sample counts and the sample's corresponding 2007 census irrigated acreage. It also provides the general 2008 FRIS unexpanded and expanded acres irrigated and 2007 census acres irrigated. Table B provides a comparison of the irrigated acres published in the 2007 Census of Agriculture and expanded 2008 FRIS acres irrigated by size group. Table C provides the standard error for selected data in the 2008 general FRIS sample. Table D provides the standard error for selected data in the 2008 horticultural operations sample.

Appendix B. Provides information about the development of the report forms and definitions of specific terms and phrases used in this publication, including items in the publication tables that carry the note "see text." It also provides facsimiles of the report forms and instruction sheets used to collect general FRIS data. Table A provides irrigated acreage and rank for the previous three censuses. Table B combines the quantity of water applied published in Chapter 1, general FRIS, and the quantity of water applied for horticultural operations data, Chapter 2.

RESPONDENT CONFIDENTIALITY

In keeping with the provisions of Title 7 of the United States Code, no data are published that would disclose information about the operations of an individual farm or ranch. All tabulated data are subjected to an extensive disclosure review prior to publication. Any tabulated item that identifies data reported by a respondent or allows a respondent's data to be accurately estimated or derived, was suppressed and coded with a 'D'. However, the number of farms reporting an item is not considered confidential information and is provided even though other information is withheld.

DATA PRODUCTS AND CUSTOM TABULATIONS

The 2008 Farm and Ranch Irrigation Survey data, as well as the 2007 Census of Agriculture Volume 1 Geographic Area Series and related reports, are available on the NASS website at www.nass.usda.gov.

Custom-designed tabulations may be developed when data are not published elsewhere. These tabulations are developed to individual user specifications on a cost-reimbursable basis and shared with the public. The census Volume 1 on CD-ROM and the census *Quick Stats* are alternative data sources that should be investigated before requesting a custom tabulation.

All custom tabulations are subject to a thorough disclosure review prior to release to prevent the disclosure of any individual respondent data. Requests for custom tabulations can be submitted via the internet from the NASS home page, by mail, or by e-mail to:

DataLab
National Agricultural Statistics Service

Room 6436A, Stop 2054
1400 Independence Ave, S.W.
Washington, D.C. 20250-2054
or
Datalab@nass.usda.gov

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used throughout the tables:

- Represents zero.
- (cwt) Hundredweight.
- (D) Withheld to avoid disclosing data for individual farms.
- gpm Gallons per minute.
- (NA) Not available.
- psi Pounds per square inch.
- WRR Water Resources Regions.
- (X) Not applicable.
- (Z) Less than half of the unit shown.