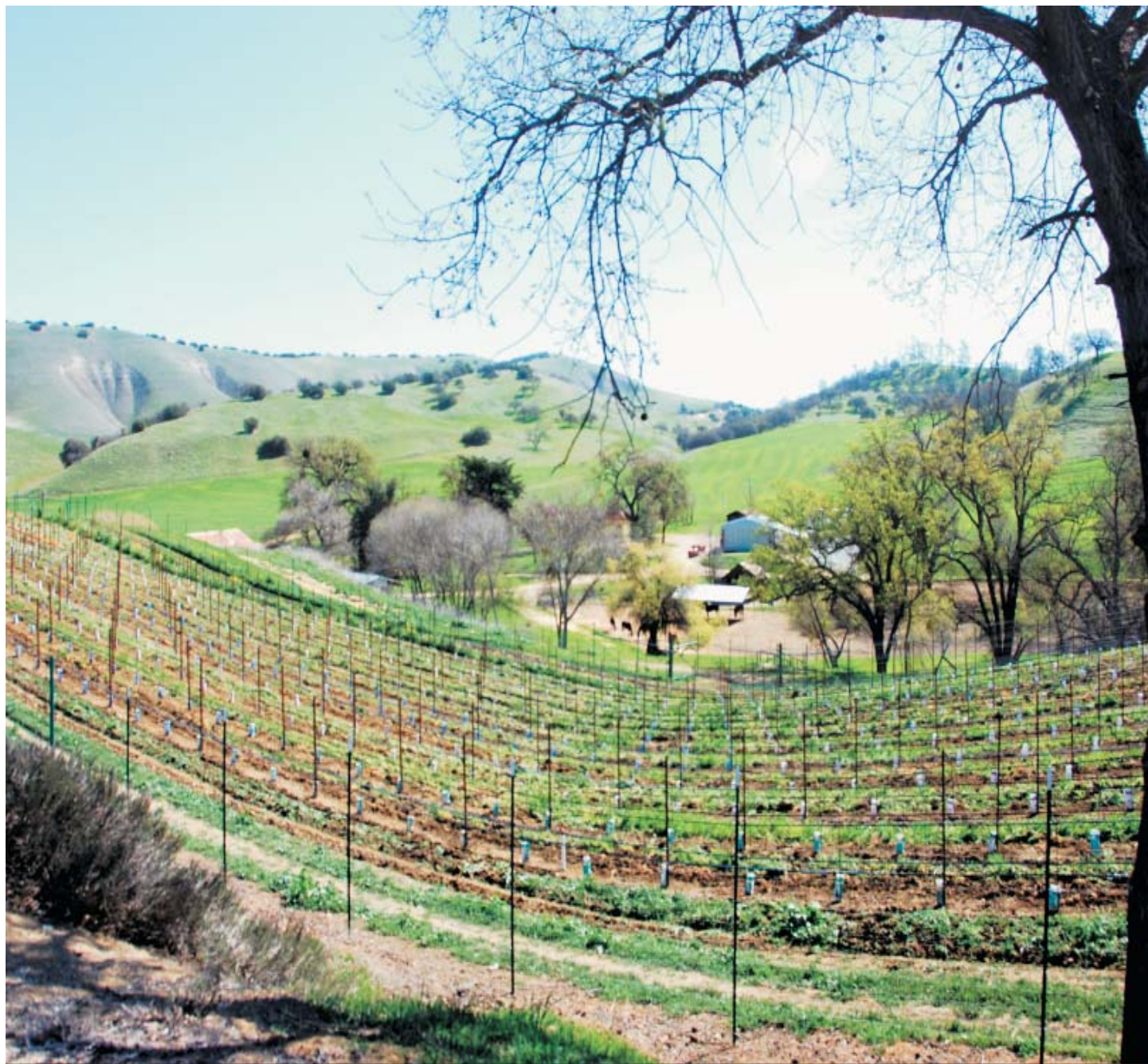


The Measure of California Agriculture



University of California Agricultural Issues Center

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Preface

The Measure of California Agriculture (MOCA) has been an important periodic publication of the University of California Agricultural Issues Center (AIC) for two decades. We hope that *MOCA* is useful for growers, policy makers, agribusiness, environmental interests, consumers, academics, students and others interested in California agriculture and its role in the economy and the broader physical and social environment.

For *MOCA*, the AIC staff assembles the most pertinent data from a variety of sources to describe agriculture in California and to place agricultural issues in perspective. Although principally an outreach document, *MOCA* draws on recent research including that conducted by AIC and our university colleagues.

MOCA is an ongoing project and we frequently update the summary data for publication in our *MOCA Highlights* that is made available on the AIC home page <aic.ucdavis.edu> and in a convenient brochure format that includes information about AIC. In addition to frequent updates to the *MOCA Highlights*, we expect a substantial update of many of the tables and charts presented here to be available in 2010.

The AIC staff primarily involved in assembling data, writing and editing for the latest *MOCA* include Jonathan Barker, Gary Beall, Jose Bervejillo, Hayley Boriss, Henrich Brunke, Antoine Champetier de Ribes, Marcia Kreith, William Matthews, Kurt Richter, John Thomas Rosen-Molina, Omid Rowhani, Daniel Sumner and Laurie Treacher.

Introduction

The Measure of California Agriculture (MOCA) documents the breadth and complexity of California agriculture and its links with the physical, economic and social environment in California and beyond. *MOCA* compiles information from many sources including our own research and provides interpretation of complex patterns in the data. *MOCA* yields insights into the circumstances faced by producers and consumers, and it illuminates forces shaping California agriculture. Highlights are described below.

Chapter 1 deals with the land and people that comprise California agriculture. It provides an overview of land use patterns including conversion of farmland to urban uses, land ownership, and size distributions of farms in California. It also describes the legal organization of agricultural production and the demographics of agricultural producers in the state.

Of the state's roughly 100 million acres, agriculture uses slightly more than one-quarter of which about 40 percent is cropland. The average size of a farm in California is about 350 acres. Most farms are much smaller. The largest operations in terms of land area are livestock operations that concentrate on livestock grazing. Relatively few large farms occupy large acreage. Large crop farms and dairies generate a large share of farm sales, with the top ten percent of farms accounting for about 86 percent of total sales value. Farm operators are predominantly middle aged or older and U.S. natives. Only 18 percent of operators are less than 45 years old and about a quarter more than 65 years old.

Chapter 2 concerns demand for and supply of California farm output. After detailing aspects of demand for California's agricultural output, the chapter describes agricultural production of leading farm commodities. The geographic distribution of production is described for regions and counties. Chapter 2 includes an overview of California organic agriculture based on data reported and analyzed in AIC publications.

U.S. food expenditures away-from-home continue to grow and account for about 43 percent of total food expenditures. Consistent with principles of comparative advantage, California ships most of its production to other states and to foreign destinations, while much of the demand for food consumed in California, especially for meats and grains, is met through shipments into the state from other parts of the United States and from abroad.

California is a large producer of many fruit, vegetable and tree nut products and accounts for more than 70 percent of U.S. sales for at least 25 crops. The leading five commodities by cash receipts are dairy products, nursery products, grapes, almonds and cattle, which together account for almost half of the state's total 2007 cash receipts of nearly \$32 billion. Organic agriculture continues to grow and registered nearly \$330 million in gross sales, which was about one percent of the state's total agricultural sales.

Chapter 3 gives an account of the inputs used by farmers including capital, labor, pesticides, energy and water. The chapter describes productivity growth and investments in agricultural research and development.

California farms average more than \$2 million in assets per farm, mostly in the form of real estate. Average value of machinery and equipment is only about \$87 thousand per farm. The hired farm work force is predominantly foreign born (70 percent) and young, with an average age of 33 years.

Undocumented immigrants supply more than half of the hired labor for California agriculture. Relatively low wages, seasonal and inconsistent employment mean that many of these workers are very poor by California standards.

Agricultural usage of pesticides represents only about one-quarter of all pesticides sold in California, with the rest accounted for by residential, and other urban and rural non-farm use. Grapes (wine, table and raisin), almonds and processing tomatoes use the most pesticides by weight. Energy expenditures in recent years have risen considerably for California farmers, driven by higher petroleum prices.

In a normal water year, agriculture accounts for about 41 percent of applied water usage in California and surface supplies account for 68 percent of the total use by agriculture, the urban sector, and instream environmental flows combined.

Advances in technology and research and development have contributed to significant productivity gains. Productivity growth has occurred for many crops and livestock products. Increases in milk per cow, bales of cotton per acre and tons of almonds per acre are leading examples. For some commodities, improvements in farm practices and technology are not reflected in higher yields but in improved product quality (wine grapes), more output per unit of water or smaller environmental consequences.

Chapter 4 covers cooperatives, marketing channels, international trade, exotic pests and diseases, government support policy and risk management. Cooperatives play a role in marketing for California producers, especially for fruits and tree nuts. For other commodities, farmers establish contracts with or without predetermined prices with processors.

California exports to almost 150 countries and accounts for more than 90 percent of U.S. exports for some commodities such as wine, almonds and walnuts. Agricultural exports were valued at more than \$8 billion in 2004, or about 24 percent of the state's total agricultural output. California farm export value expanded rapidly in the past few years and accounted for about 30 percent of farm sales in 2007. Top export destinations include Canada and the European Union, but Mexico and the Asian Pacific Rim are also important destinations. Almonds, wine and dairy products are the top three export products.

About \$450 million, including \$161.6 million in federal emergency funds, was spent by the state and federal governments to control invasive agricultural pests and diseases in California during 2003, including an outbreak of Exotic Newcastle Disease on poultry farms.

Since most important California commodities are not subject to regular government subsidies, California receives a small share of direct payments from the federal government relative to farm sales. Government subsidy is also provided through input subsidies and trade barriers. Because of its protection from imports and its size, the California dairy industry accounts for about half of all farm subsidy equivalent received by California agriculture.

Results of analysis presented in **Chapter 5** show that California farms and closely related processing industries account for 7.3 percent of the state's private sector labor force (including part-time workers) and generate 5.6 percent of the state labor income.

We find that a \$1 billion increase in the value added from agricultural production results in a total increase of \$1.9 billion to the Gross State Product. For every \$1 billion in farm sales, there are 18,000 jobs created in the state, about 11,000 in the farm sector itself plus about 7,000 among other employers. Farming, processing and closely related activities are especially significant to the economy of the Central Valley where, including ripple effects, agriculture generates 24.2 percent of the private sector employment and 18.5 percent of the private sector labor income. Excluding ripple effects, agriculture directly accounts for 12.6 percent of jobs and 8.4 percent of labor income in the Central Valley.

MOCA provides the reader with an objective overview of California agriculture. However, the complexity of California agriculture is difficult to summarize with only a few statistics. For more depth the reader is encouraged to consult the original sources for further information on the subject. We have provided complete citations for all tables and figures and additional citations to documents used in discussion of the data.