

## Trends and Challenges in Fruit and Tree Nut Sectors

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*JEL Classifications: Q10*

*Keywords: Consumption, Fluctuations, Fruits and nuts, Labor shortage, Production, Trade*

This series of *Choices* articles describes trends, issues, and problems facing the U.S. fruit and nut sectors. With \$30.59 billion in cash receipts in 2017, fresh fruits and nuts account for about 20% of the value of farm production and are a vital part of U.S. agriculture (USDA, 2020a). As important inputs in food processing, fruits and nuts are also essential in value-added production in U.S. agri-food supply chains. Yet the sector faces many challenges: long-term locked-in investments, stagnant or falling bearing acreages and production, small growers being squeezed out as farm sizes expand, water shortages, groundwater restrictions, labor shortage, higher labor costs, pests and disease, production fluctuations, foreign competition, decline in juice consumption, and food safety issues. Many of these challenges are more pronounced for fruit and nut tree growers than for annual short-term crop farmers because of long-term investment and the irreversibility of planting decisions. The articles in this theme elaborate on these issues and focus on how growers can cope with these problems. They further consider the potential role of government policies—such as expanded crop insurance programs, the enactment of more favorable farm labor and immigration policy, export promotion and market expansion efforts, and incentives for agricultural research and development—to assist the sector.

The first article, by William Ridley and Stephen Devadoss, reviews trends in acreage, production, competition, and consolidation in the U.S. fruit industry. Fruit production is a vital part of the U.S. farm sector and underpins the agricultural economies of several states. In recent years, however, the industry has been faced with several ongoing disruptions to its long-term sustainability. Supply disruptions include declining bearing acreage and output, consolidation of growing operations toward fewer growers, and rising labor costs. These trends have coincided with falling domestic demand and ever-increasing foreign competition, suggesting that the fruit industry faces challenges on multiple fronts. This article describes the origins and consequences of these trends and explores their economic implications for production, input use, market structure, consumption, and trade.

### Articles in this Theme:

- **Challenges for the U.S. Fruit Industry: Trends in Production, Consolidation, and Competition**  
*William Ridley and Stephen Devadoss*
- **Economics Issues Related to Long-Term Investment in Tree Fruits**  
*Reetwika Basu and R. Karina Gallardo*
- **Trends and Issues Facing the U.S. Citrus Industry**  
*Jeff Luckstead and Stephen Devadoss*
- **Issues Facing the Californian Fruit Sector**  
*Serhat Asci and Karthik Ramaswamy*
- **Trends and Issues Relevant for the US Tree Nut Sector**  
*Serhat Asci and Stephen Devadoss*

The second article, by Reetwika Basu and Karina Gallardo, covers economic issues related to long-term investment in tree fruits. Asset fixity deals with investment in inputs and how these inputs adjust in the long run. In this context, fruit trees differ significantly from short-term crops. Many fruit trees start producing 2–7 years after planting, and they achieve full production only after 7–10 years. The investment in orchard infrastructure is quite expensive, irreversible, and often there is a lack of a secondary market for such capital goods. The recuperation period on the investment depends on the market price of fruits and ranges from 7 to 15 years. This article discusses the issues associated with asset fixity and the related asset specificity in tree crop production.

The third article, by Jeff Luckstead and Stephen Devadoss, deals with issues facing the citrus industry. Citrus is a key specialty crop with a production value of more than \$3.35 billion in 2019. Florida and California account for most of the bearing acres (56% and 39%), with limited acres in Texas (3.6%) and Arizona (1.1%) (USDA, 2020a). Over the last two decades, total U.S. acreage has declined by 40%, with much of the decline in Florida. Citrus production endures wide fluctuations

due to weather, pests, and diseases such as citrus greening and citrus canker. Because of health concerns and changing preference, orange juice consumption in the United States is declining. Further, the citrus industry faces greater import competition, particularly from orange juice imports from Brazil and Mexico. Unless these issues are resolved, the citrus industry will continue to exhibit a downward trend and the survival of many growers will be threatened. This article examines trends in production, consumption, foreign competition, severity of pests and diseases, and provides policy implications.

The fourth article, by Serhat Asci and Karthik Ramaswamy, describes the California fruit sector. The farm-gate value of fruits in California was about \$18 billion in 2018 and accounted for 65% of US total fruit values (CDFA, 2020b; USDA, 2020a). The value of California fruits utilized for domestic consumption exhibited sustained growth, from \$10 billion in 2009 to \$13 billion in 2018, and fruit exports have also expanded noticeably, from \$3.4 billion in 2009 to \$4.7 billion in 2018 (CDFA, 2020a; USDA, 2020b). However, California fruit growers increasingly face several problems, including water curtailment, ground water management, labor shortages, labor regulatory compliances, invasive pests, and food safety issues. Public opinions on water, environmental, immigration and labor policies are diverse, and all stakeholders expect a legislative fix for these issues (CFFA, 2020). The authors present current and potential issues and future trends the Californian fruit sector may experience by assessing factors related to trade, policy, labor, water access, climate, pests and disease, and financial risks.

The final article, by Serhat Asci and Stephen Devadoss, covers trends and issues relevant for U.S. tree nut sector. Cash receipts from U.S. tree nut farming have expanded significantly in the last two decades, from \$1.4

billion in 1998 to \$3.9 billion in 2008 and to \$10 billion in 2018 (CDFA, 2020c; USDA, 2020a). The United States ranks second in the world, behind only China, in total tree nut production. It ranks first in almond and pecan production, second in pistachio and walnut, and fourth in hazelnut. The leading nut producing U.S. states are California (94%), New Mexico (2%), Georgia (1%), and Oregon (1%). Most U.S. production is exported, generating \$7.6 billion in trade revenue in 2018 (USDA, 2020c). Domestic demand is also steadily growing as nuts are promoted as nutritious and healthy snacks. However, tree nut growers experience several problems, including water shortages, labor shortages, immigration policies, and environmental issues (Hawkes, 2019). While policies pressure nut growers to decrease their water demand, policy makers should also focus on labor and trade issues. This article examines the trends in supply, domestic demand, export demand, and current and future potential issues surrounding the U.S. tree nut sector.

The articles in this theme are useful to growers, processors, and policy makers. Growers can use the information in their planting, production, and marketing decisions. Growers will need to be aware of import competition and the potential to expand overseas market opportunities for their products. They can also approach state and federal governments to seek financial support and research enhancements to help with pest and disease control and weather-related damages. Processors can utilize the information, particularly the production trend, to assess the availability of fruits and nuts for agri-food production in the downstream supply chain. The materials in these articles will be valuable to government agencies in deciding funding allocations for and coordination of various research projects aimed at controlling the pest and disease occurrences, climate impacts, weather incidences such as a freeze, and preventing acreage declines.

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## For More Information

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**Acknowledgements:** All the authors in this theme acknowledge eight anonymous reviewers for their time and effort in carefully reviewing the articles and providing valuable comments.

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