



# Agricultural and Resource Economics ARE UPDATE

Giannini Foundation of Agricultural Economics, University of California

Vol. 23, No. 5 May/June 2020

## Special Issue: Implications of the Coronavirus Pandemic on California Food, Agriculture, and the Environment

Although the coronavirus pandemic continues to afflict most parts of the world, states and countries are attempting to reopen their economies and assess the damage that has been wrought. In this special, expanded issue of *ARE Update*, we look at impacts of the pandemic on California agricultural industries and the implications of these impacts for the environment and for consumers, especially the most vulnerable among us.

The issue features three articles and seven profiles of key California agricultural commodities. No state relies upon agricultural labor more than California, where crop and support employment peaks seasonally in June. In our lead article, Tim Beatty, Ali Hill, Phil Martin, and Zach Rutledge examine farm labor supply conditions facing California amidst the pandemic. They analyze the challenges faced by employers in finding sufficient workers to meet the June peak and assess risks due to potential outbreaks among workers. The authors conclude that disruptions caused by the pandemic are likely to hasten the pace of mechanization and the use of H-2A guest workers.

Processing plant closures, consumer stockpiling of key staple foods, and other supply chain disruptions have raised serious questions about food

security in the United States. Prominent economists such as Nobel Laureate Joseph Stiglitz have warned that the safety net will not survive the pandemic. Charlotte Ambrozek and Tim Beatty examine U.S. food assistance programs and their ability to respond to the pandemic. They report that SNAP (CalFresh) enrollments are up 60–80% in the state relative to a year ago, and address ongoing legislative efforts to expand benefits and reduce red tape associated with enrollment in the program. The authors also address the roles that the National School Lunch program, the Women, Infants, and Children (WIC) program, and food banks can play in meeting these food-insecurity challenges.

Michael Anderson shows how “near real-time data” can give us key insights into how the pandemic and economic shutdown have impacted behavior in California. He uses Caltrans traffic sensor data and Apple data on route requests to show that travel in California dropped precipitously when the stay-at-home orders were issued—down 40–80% depending on the data source. However, the rate of decline varied considerably by regions within California, and travel began increasing around the beginning of April, long before any restrictions on the stay-at-home order

were lifted. While many commentators have noted that shuttering of economies would produce environmental benefits, Anderson finds no effect of the shutdown on one key pollutant, fine particulate concentrations (PM2.5).

The issue concludes with profiles of seven leading California agricultural industries: Brittney Goodrich on tree nuts, Dan Sumner on milk and dairy, Julian Alston on grapes and wine, Tina Saitone on cattle and beef, Rachael Goodhue and colleagues on strawberries, Kristin Kiesel on lettuce and other produce items, and Ellen Bruno and Mark Evans on tomatoes. The profiles create a fascinating mosaic of the different ways the pandemic has impacted California agriculture. Industries like dairy, beef, and produce have scrambled to repurpose products from foodservice to retail. Produce and dairy have seen farm product go unsold amidst retail shortages, while tree nuts, a storable commodity, saw a temporary spike in sales, as they were among the products panicked consumers hoarded at the onset of the shutdown. Each of the expert authors gives his/her assessment of what the future holds for these essential California industries.

**ARE Update Co-editors**

Ellen Bruno  
Richard Sexton  
David Zilberman

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