

---

# Organic Produce Association: 3-Year Transition Rule Economic Analysis

**Timothy J. Richards** *Arizona State University*

---

## Executive Summary

- **Project Objectives:** The primary objective of this analysis is to estimate the effect of allowing existing conventional produce growers to test out of the existing three-year-transition-to-organic rule on consumer and producer welfare.
- **Study Design:** The proposed research will use econometric methods to disentangle the effect of allowing produce growers to test out of organic soil-content requirements and sell into the organic product market, given the state of demand for conventional and organic produce, the existing production capacity in the conventional produce industry in general, and the cost of converting from conventional to organic production.
- **Data:** In our analysis, we estimate the necessary econometric and economic simulation models using demand data for conventional and organic produce from industry sources, estimates of the relative production costs of conventional and organic produce from the academic literature, and the cost of conversion from industry members.
- **Methods of Analysis:** Our analysis consists of two stages. In the first stage, we estimate the percentage of growers who would be likely to convert from organic to conventional using data on the relative profitability of producing and selling conventional and organic produce, and the cost of converting from conventional to organic. In the second stage, we use the estimated conversion rates in the first stage to estimate the likely impact on consumer and producer surplus (well-understood measures of economic benefit to buyers and sellers, respectively) from eliminating the three-year conversion rule. We use econometric methods to estimate the expected impact on market prices and volumes, and use economic simulation methods to estimate conversion rates, and the expected increment to consumer and producer surplus. We focus on three important commodity groups for our analysis: Fresh apples, berries, and tomatoes.
- **Key Measures:** Our analysis produces several measures of interest: The expected conversion rate for growers in each of our case-study commodity industries, the expected impact on

market prices and shipment (demand) volumes, and the impact on consumer surplus and producer surplus. In each case, we conduct sensitivity analysis to examine the robustness of our numerical findings to alternative modeling assumptions.

- **Findings:** We find that our "most likely" estimated conversion rates lie between 20% and 30%, depending on the case-study commodity. Specifically, we expect 29.8% of conventional apple growers to convert to organic, 24.3% of berry growers, and 25.7% of tomato growers under our base-assumption scenarios. We find that retail prices for organic produce will fall for all three commodities, but shipments will rise. Organic growers, both incumbent and converting growers, will lose revenue due to lower market prices, but benefit from larger total shipments. The net benefit to growers therefore depends on the data and the relative magnitude of each effect. Consumers, however, benefit from both lower organic prices and greater shipments. Under our base assumptions, and average conversion rates, we expect an increase in grower surplus (profit) of \$22.6 million per year for apples, \$55.6 million per year for berries, and \$32.7 million per year for tomatoes. We expect most of the gains to accrue to consumers, however, as consumer surplus will rise by \$83.6 million for organic apples, \$205.9 million for berries,<sup>1</sup> and \$121.3 million for tomatoes.
- **Broader Implications:** Our findings have a number of implications for the broader macro and agricultural economies. First, increasing domestic production of organic fruits and vegetables will reduce our reliance on foreign sources of food. Second, reducing the price of organic produce will largely benefit lower-income consumers - a demographic that currently under-indexes in consumption of fresh fruits and vegetables. Third, the COVID-19 pandemic exposed the U.S. agricultural system as less resilient than we expected. Allowing additional flexibility to move not only between distribution channels, but among production systems and types of commodities is one way to improve the resilience of our food supply. Fourth, food price inflation emerged in 2022 as an issue of national

priority. Reducing the price of organic produce, which comprises a growing share of the overall food supply, will provide a measure of protection against resurgent fresh fruit and vegetable prices. Finally, increasing the consumption of organic fresh fruits and vegetables serves a broader and longstanding policy goal of improving the diets of American consumers, as we continue to consume less than our recommended daily amounts of fruits and vegetables.

- **Conclusion:** We conclude that removing the three-year transition rule will accelerate the conversion to organic production for our three case-study commodities, with substantial economic benefit to both consumers and producers of organic produce. The benefit to consumers, however, is roughly 4 times the benefit to producers as consumers will see lower prices due to increased production that is currently allocated to conventional-produce production.

---

<sup>1</sup>As we explain in more detail below, the conversion rates are based on data for strawberry production so we assume the conversion rates will be the same for all berry growers.