

# The Contribution of Arizona's Vegetable and Melon Industry Cluster to the State Economy

Ashley Kerna, Dari Duval, George Frisvold, Azhar Uddin  
Department of Agricultural & Resource Economics, University of Arizona Cooperative Extension  
October 2016

## What Is the Issue?

Vegetable and melon production is an important part of Arizona's agricultural economy. In addition to on-farm production, there is a cluster of other industries that perform post-harvest activities, ensuring high-quality produce reaches consumers. The perishable nature of these products requires coordination between industries and logistical efficiency. Estimating vegetable and melon production's contribution to the Arizona economy warrants an examination of the whole value chain:



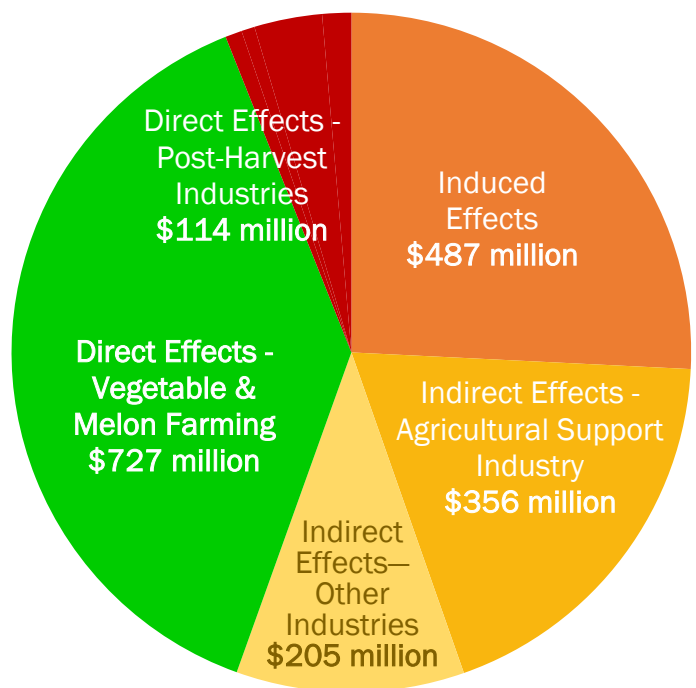
This study estimates the contribution of Arizona's vegetable and melon industry cluster to the state economy in 2014, including direct sales, as well as economic activity supported through indirect and induced multiplier effects.

## Key Findings

### Estimates of Economic Contribution

- The vegetable and melon industry cluster contributed a total of nearly **\$1.9 billion** in sales to the Arizona economy in 2014.
- Direct sales from on-farm production activities totaled **\$727 million** in 2014.
- In 2014, the industry cluster's total contribution to Arizona's gross state product (GSP) was **\$946 million**, including approximately **\$745 million** in wages, salaries and proprietor income.
- The total state/local tax contribution attributable to the vegetable and melon industry cluster (including multiplier effects) was **\$59.2 million** in 2014.
- Prices and production can change considerably from year to year. In 2015, the vegetable and melon industry cluster contributed to more than **\$2.5 billion** in sales to the Arizona economy and contributed **\$1.45 billion** to state GSP, including nearly **\$1.2 billion** in wages, salaries, and proprietor income.

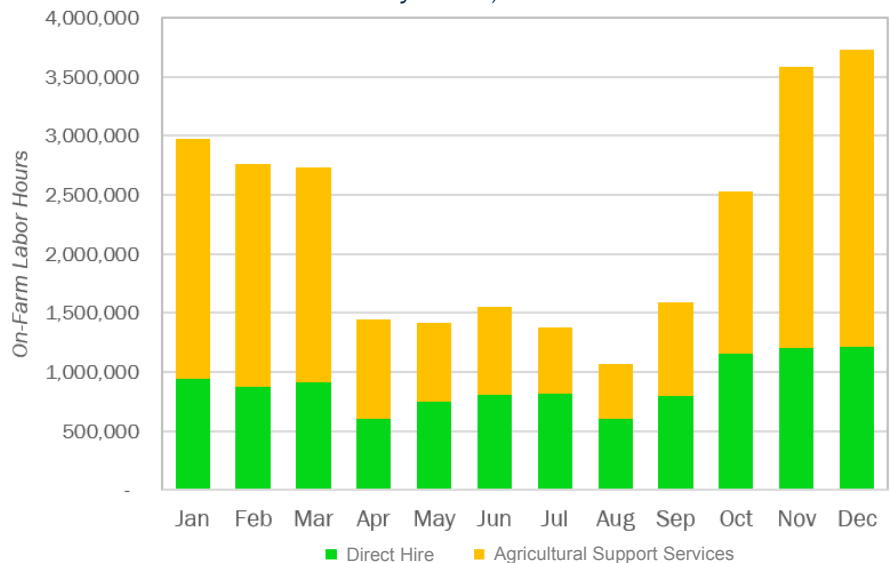
Vegetable & Melon Industry Cluster Contribution to State Output (Sales) by Component, 2014



## Employment

- In 2014, Arizona vegetable and melon production required more than **26.7 million** hours of hired on-farm labor. This included directly hired, contract, and other agricultural support service workers employed on-farm.
- Monthly labor demand fluctuated from lows of less than 1.5 million hours in slack months to highs above 3.5 million hours per month in peak winter months.

On-Farm Labor Hours Worked on Arizona Vegetable and Melon Farms by Month, 2014



## Industry Structure

**2<sup>nd</sup>**

....Arizona's rank in the nation among states in vegetable and melon production by weight in 2014

**2<sup>nd</sup>**

....Arizona's rank among states for **production** of broccoli, cantaloupe, honeydew, spinach, and head, leaf, and Romaine lettuce in 2014

**3<sup>rd</sup>**

....Arizona's rank among states in vegetable and melon production by value of production and by area harvested in 2014

**Top 0.1%**

....Yuma County's rank in the nation among counties with vegetable and melon sales in 2012

**Top 1%**

....Maricopa County's rank in the nation among counties with vegetable and melon sales in 2012

## How was the study conducted?

This economic contribution analysis was conducted using input-output modeling and the premiere software for this type of analysis, IMPLAN Version 3.1. The model was refined using best available, recent data to accurately reflect economic conditions and agricultural practices in Arizona. Additional model customizations were made to parse out estimated economic activity in cluster industries attributable to Arizona-produced vegetables and melons. Economic contributions were measured through sales, value added (gross state product), labor income, and state and local taxes. Labor and employment estimates were obtained using the U.S. Labor Department's Quarterly Census of Employment and Wages, research findings on per acre labor requirements, data on acreage by crop, and data on average wage rates paid from the Department of Agriculture.

To access the full report, please visit:

<https://cals.arizona.edu/arec/publication/contribution-arizona's-vegetable-and-melon-industry-cluster-state-economy>