

Specialty Crop Outlook

Samuel D. Zapata

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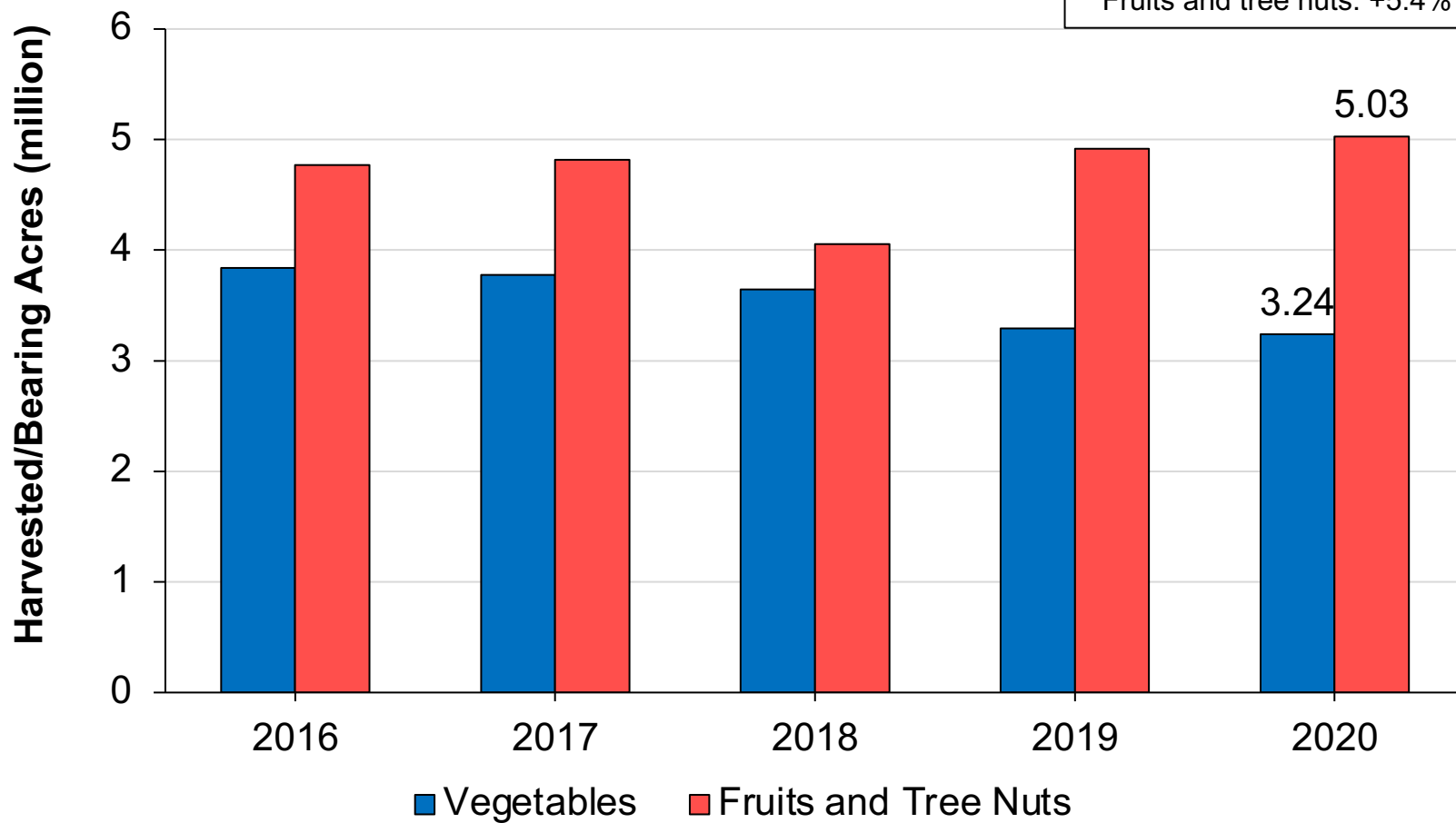
Outline

- Industry overview
 - Vegetables
 - Fruit and tree nuts
- Demand and supply considerations

Industry Overview

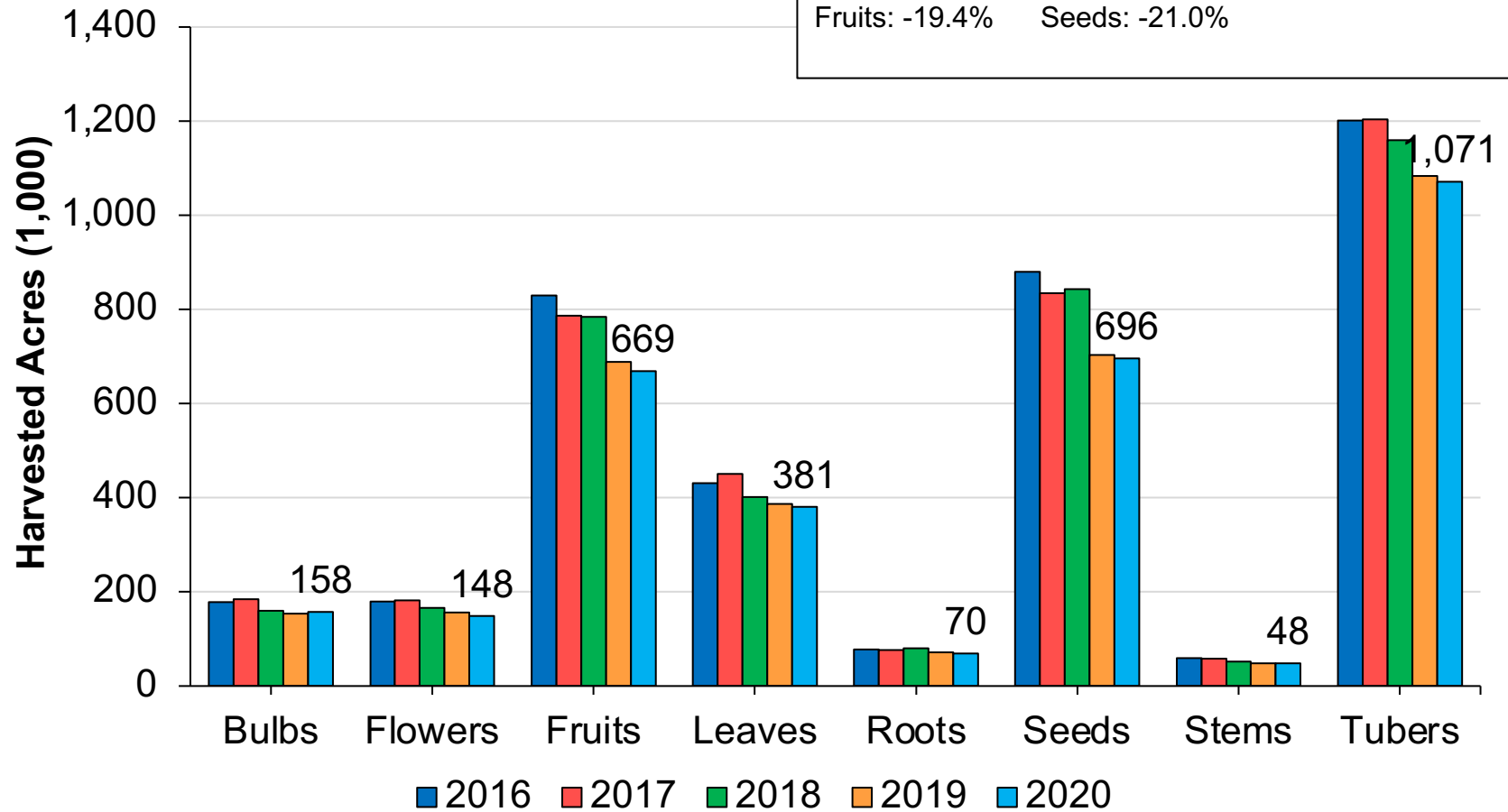
Specialty Crop Acreage

2016 to 2020
Vegetables: -15.6%
Fruits and tree nuts: +5.4%

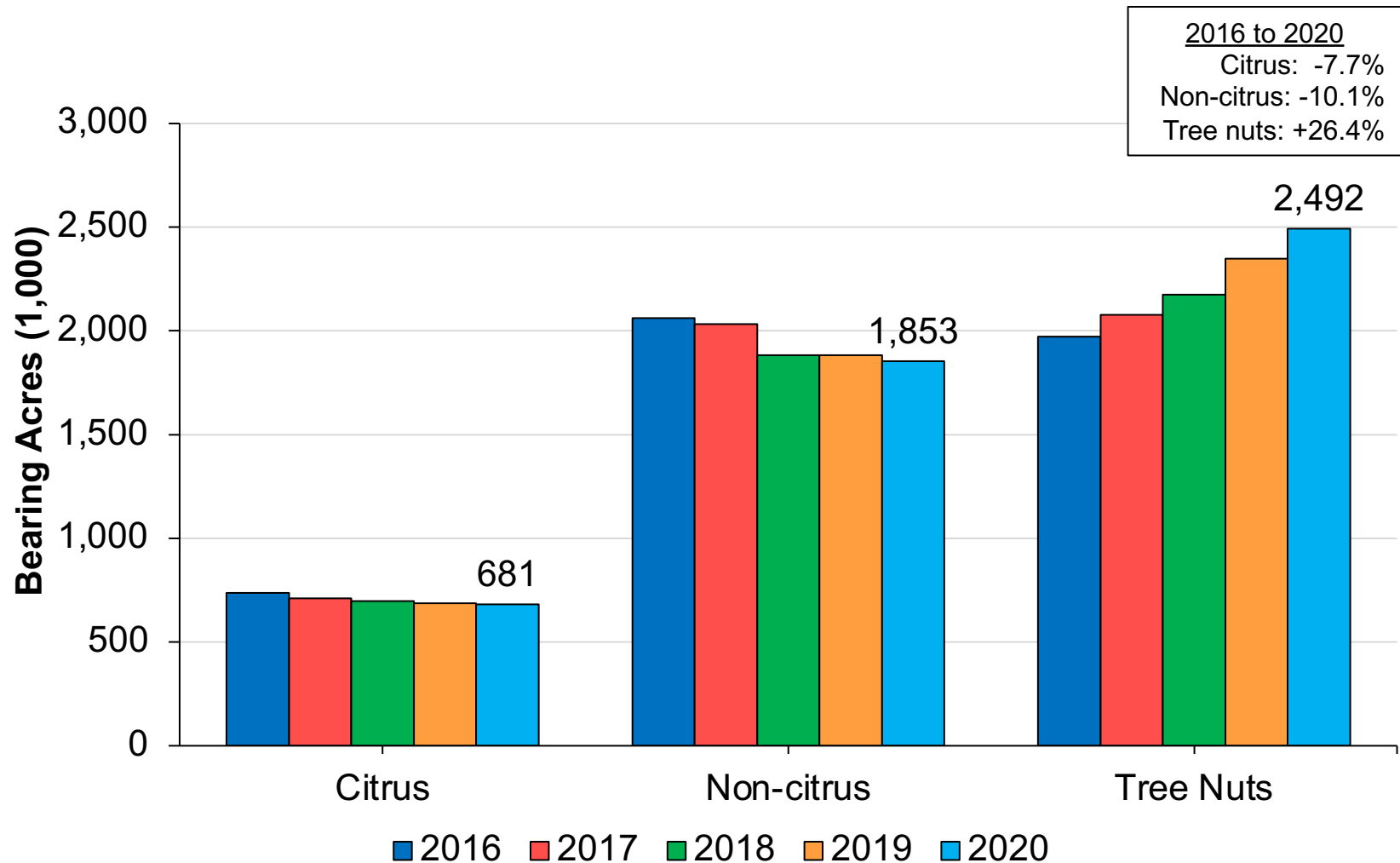


Vegetable Acreage

2016 to 2020
 Bulbs: -11.5% Leaves: -11.7% Stems: -18.6%
 Flowers: -17.6% Roots: -10.1% Tubers: -10.8%
 Fruits: -19.4% Seeds: -21.0%

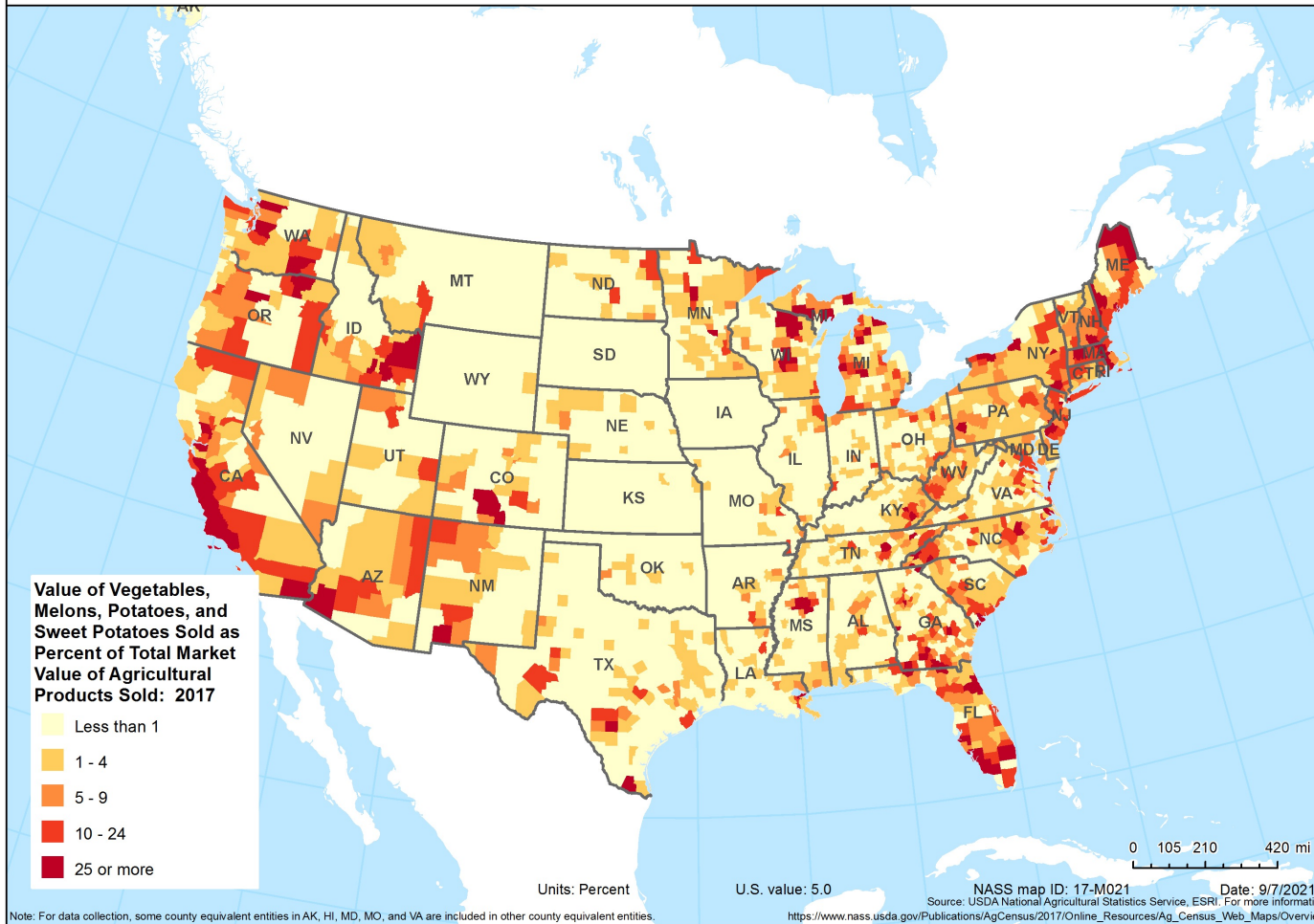


Fruit and Tree Nuts Acreage

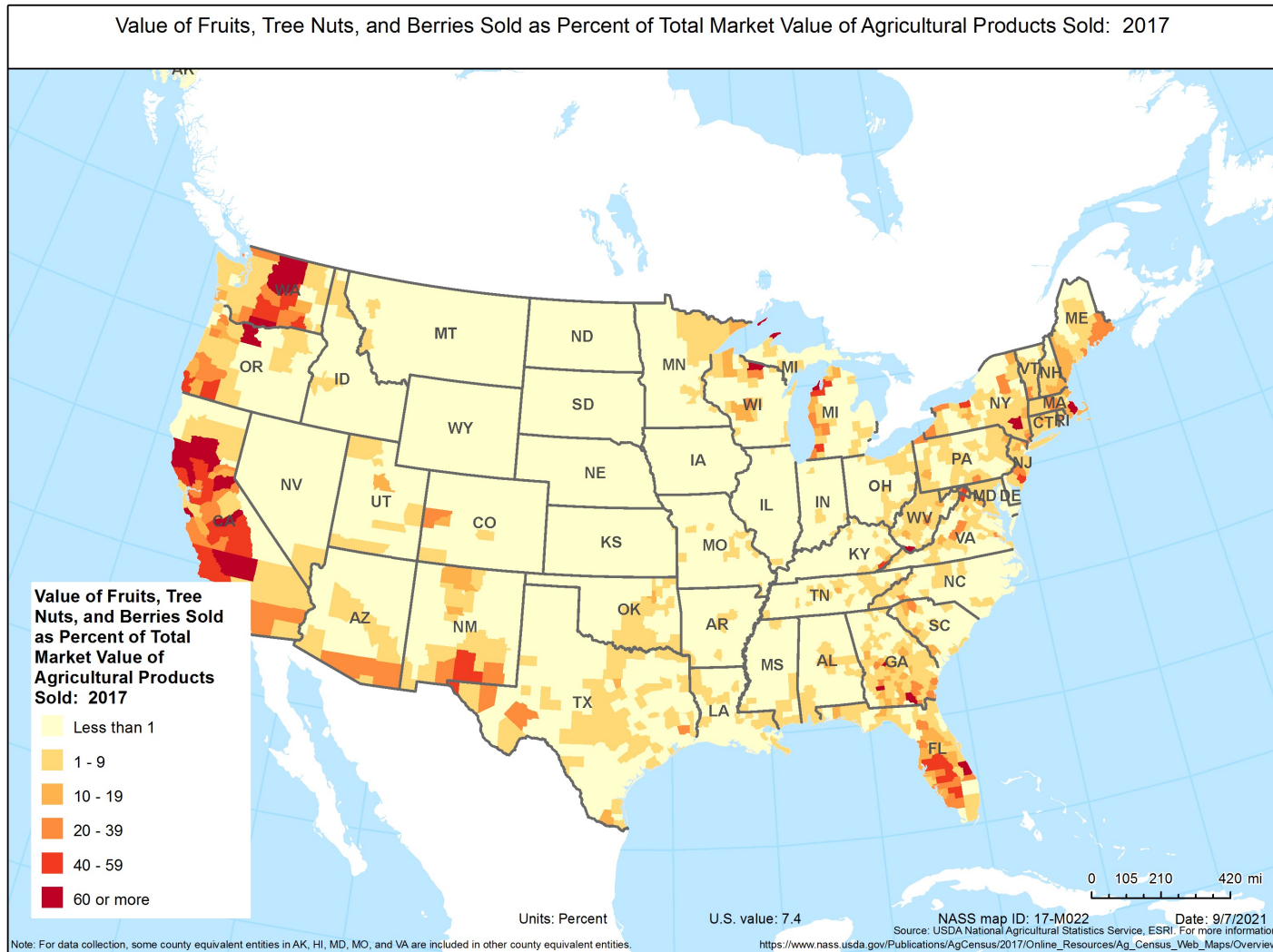


Vegetable Production Regions

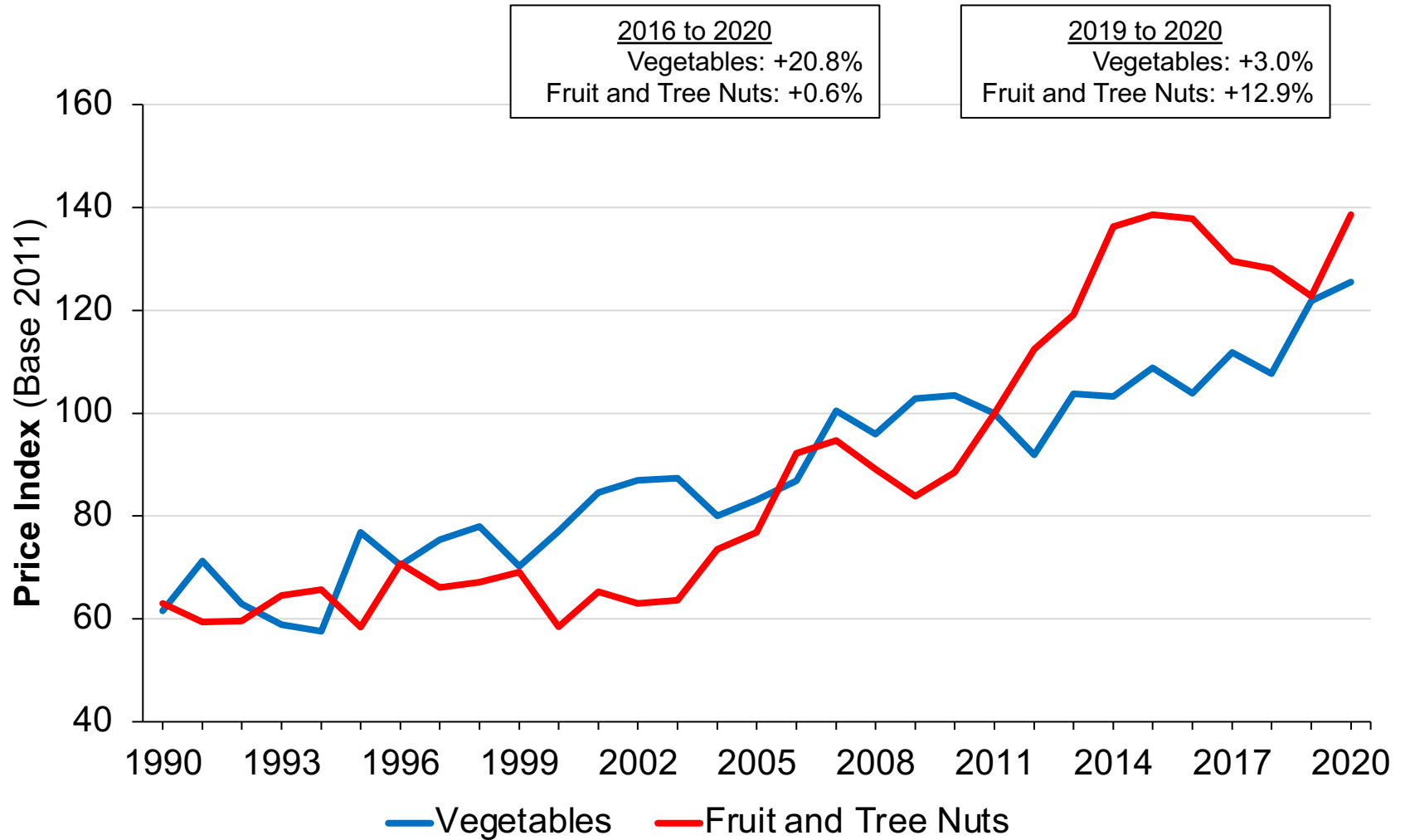
Value of Vegetables, Melons, Potatoes, and Sweet Potatoes Sold as Percent of Total Market Value of Agricultural Products Sold: 2017



Fruit and Tree Nut Production Regions

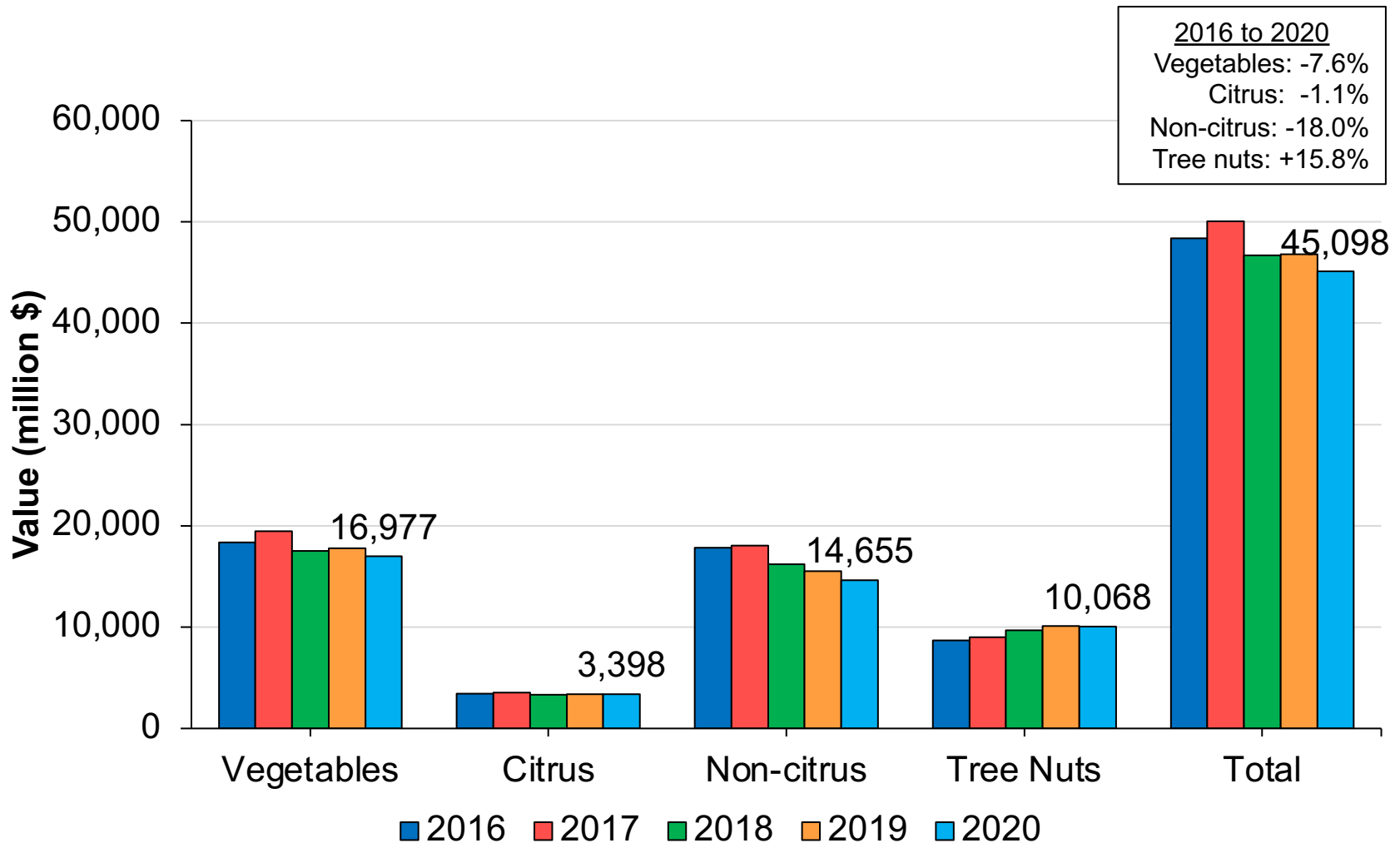


Specialty Crop Price Indices



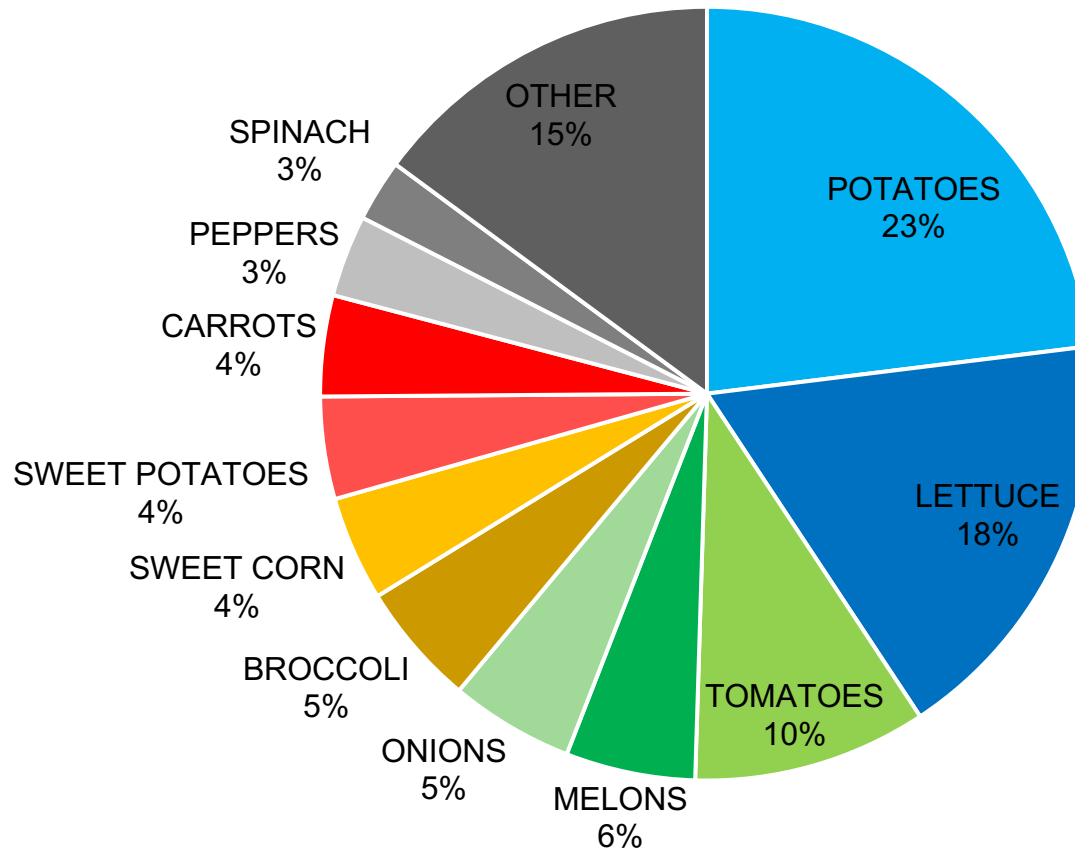
Source: USDA-NASS

Specialty Crop Value of Production



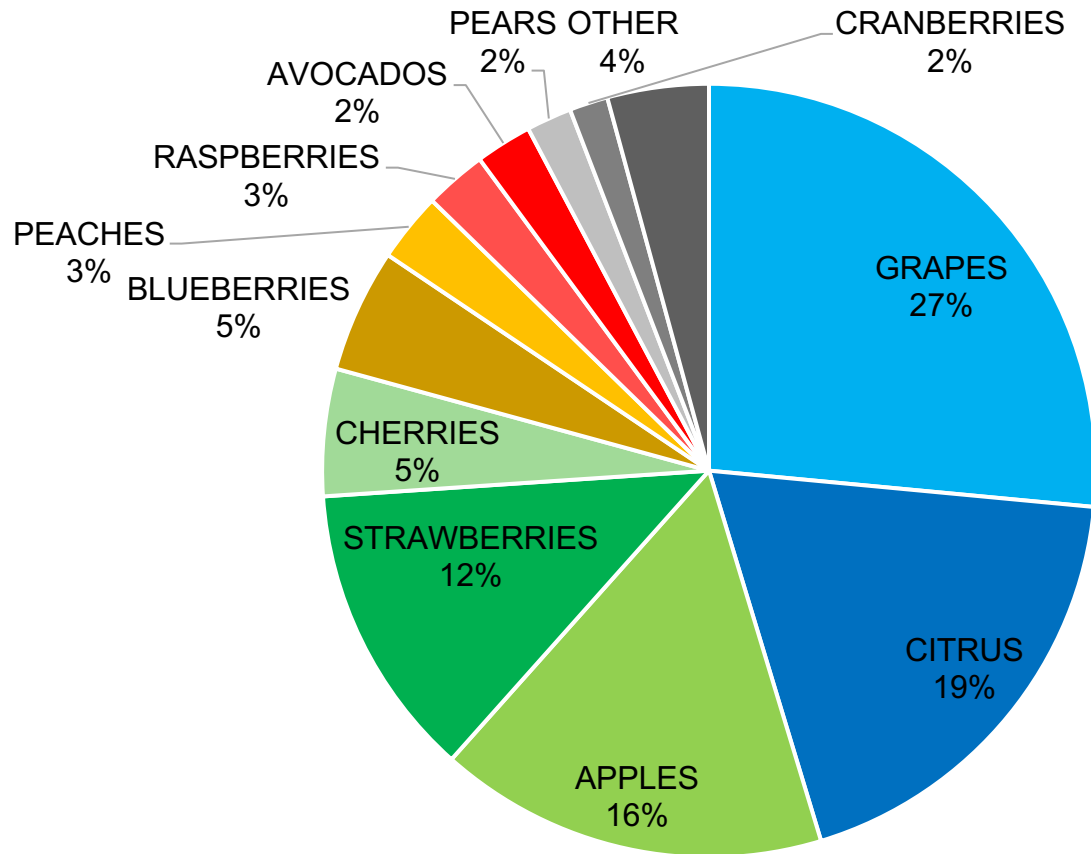
Main Vegetables Grown - 2020

Total Sales: \$16.98 billion



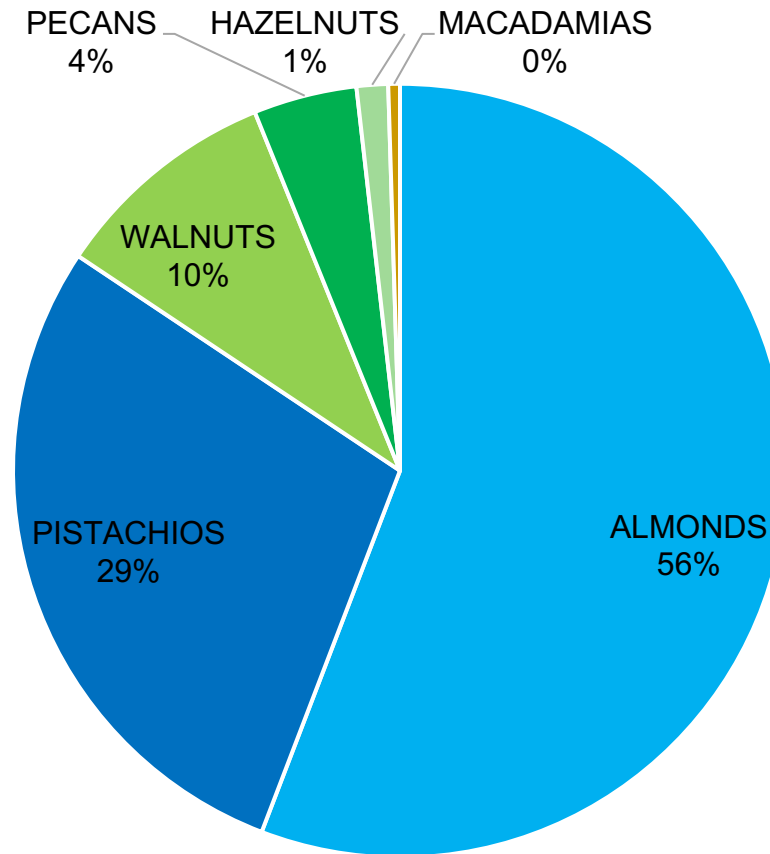
Main Fruits Grown - 2020

Total Sales: \$18.05 billion



Main Tree Nuts Grown - 2020

Total Sales: \$10.07 billion

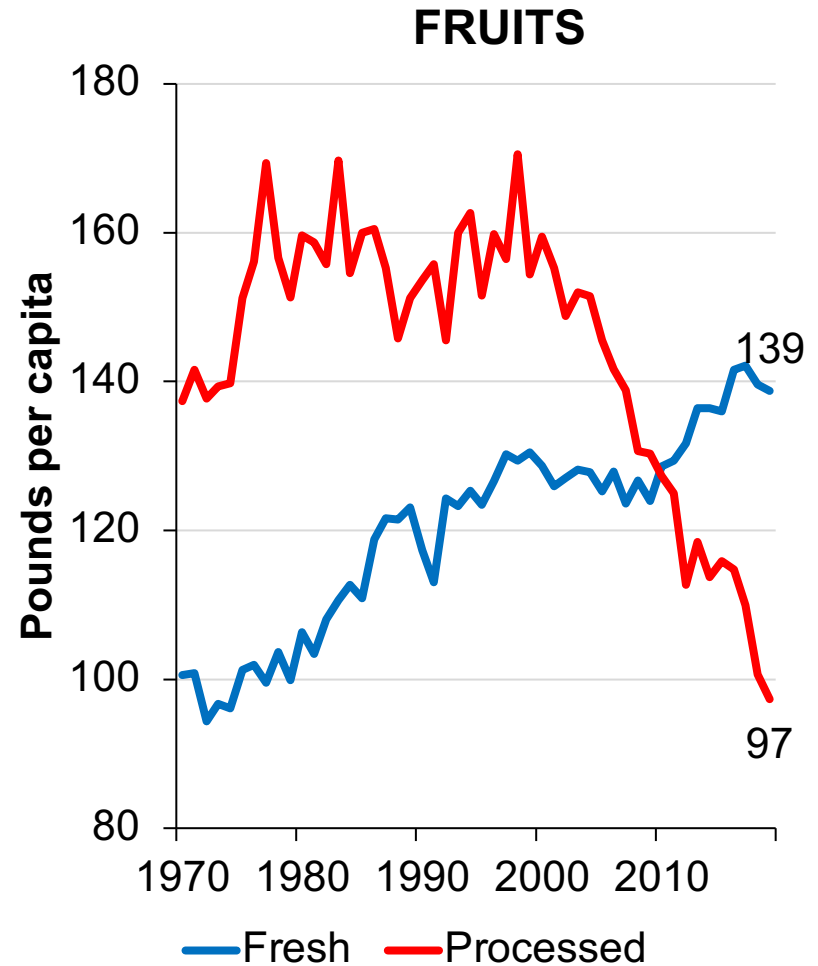
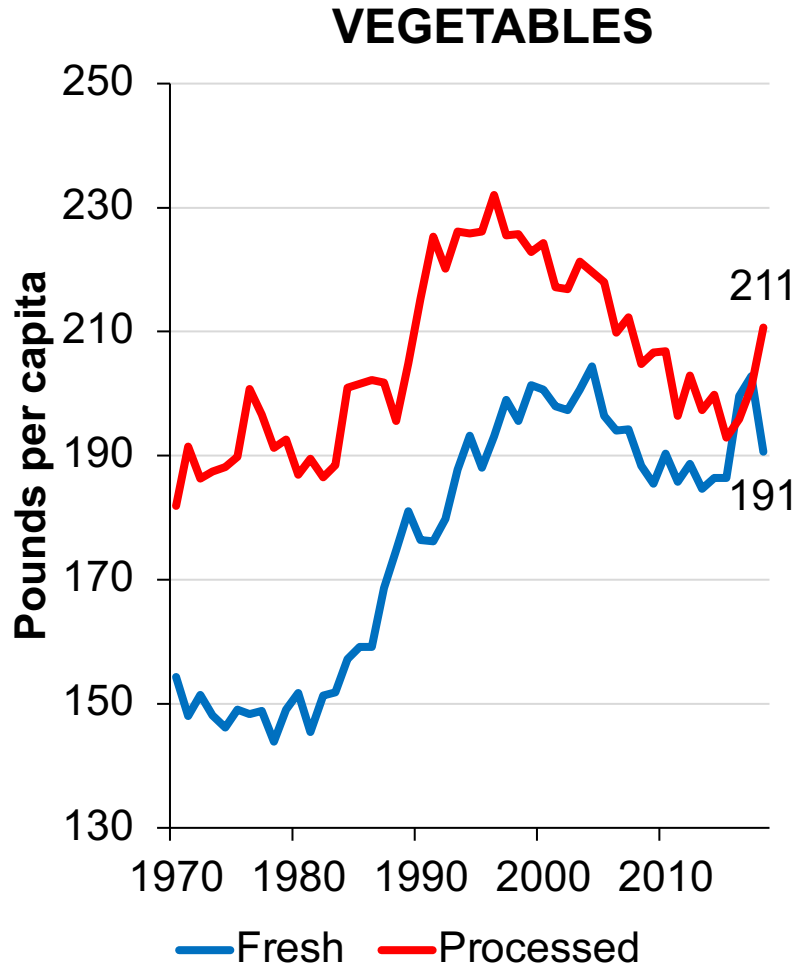


Demand and Supply Considerations

Market Trends

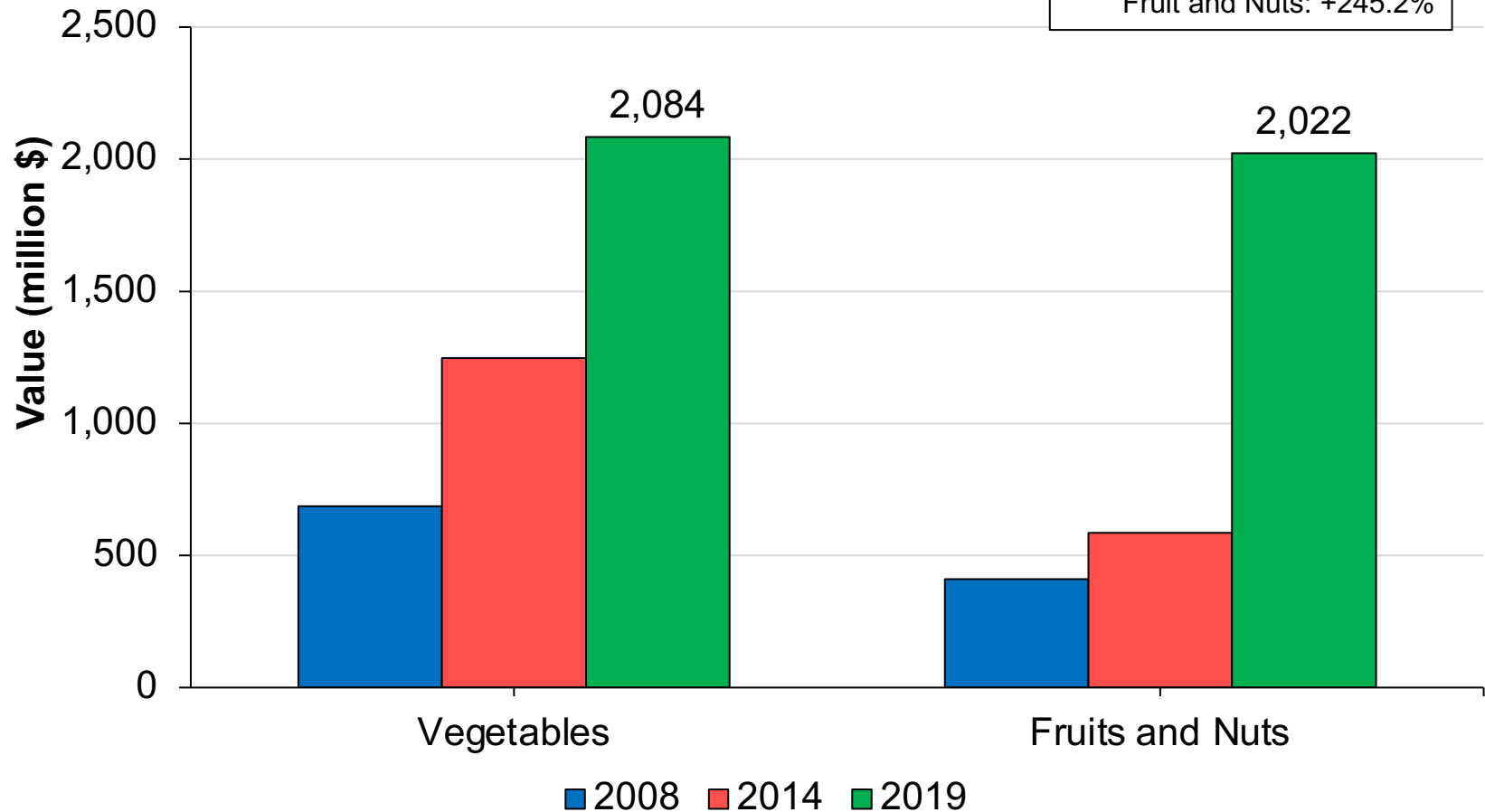
- Growing demand for premium produce
 - Increasing availability of fresh produce
 - Growing organic market
 - More greenhouse products
- Increasing imports share
 - Shrinking local market windows
 - Growing negative net trade
- Convenience
 - Food away from home expenditures
 - Salad mixes, pre-cuts, ready-to-it, ready-to-use
- Production challenges
 - Higher input prices
 - Labor shortages
 - Irrigation water shortages

Fresh and Processed Availability



U.S. Organic Vegetable, Fruit and Nut Sales

2014 to 2019
Vegetables: +67.1%
Fruit and Nuts: +245.2%



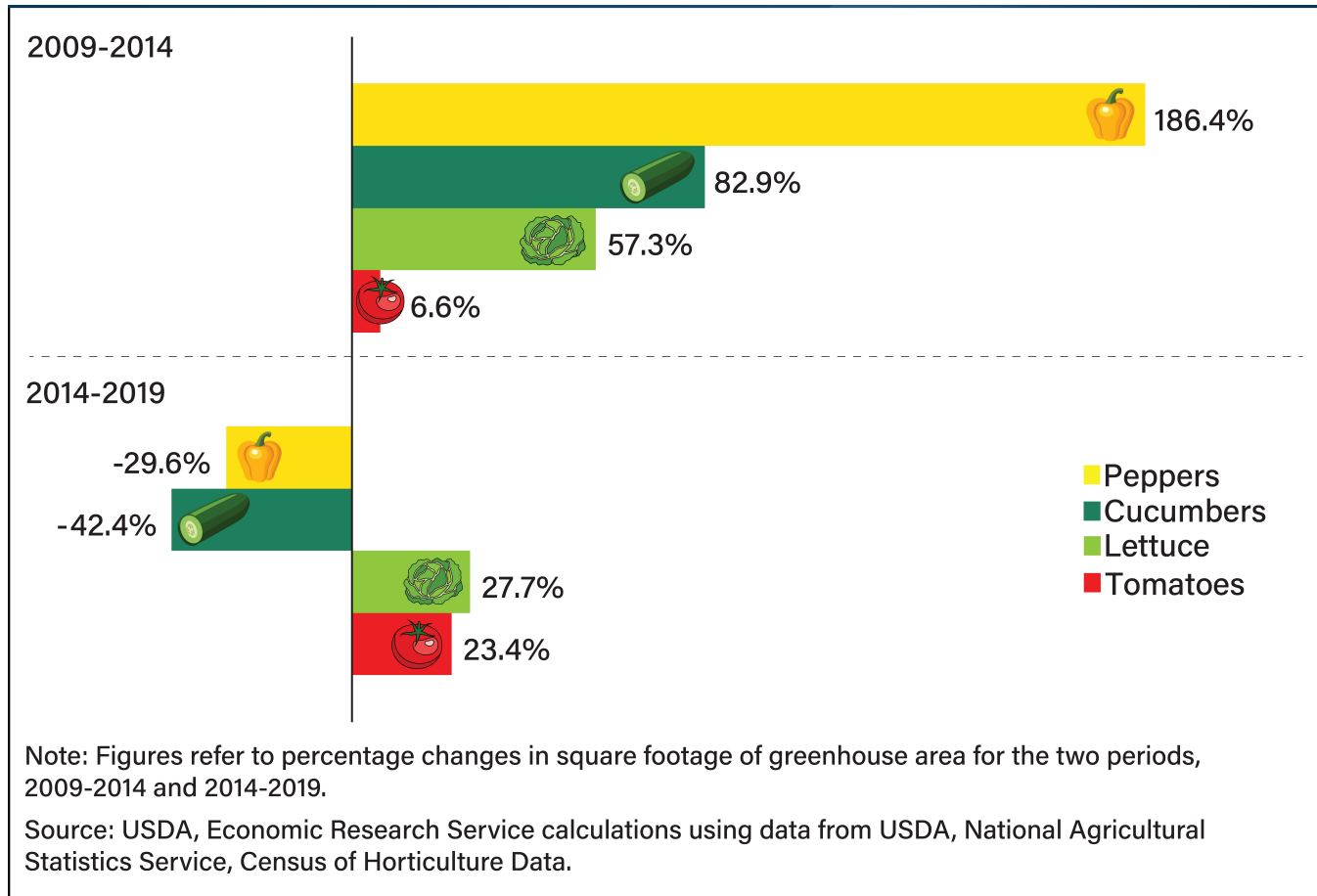
U.S. Organic and Conventional Fresh Vegetable Imports

Table 1. U.S. fresh vegetable imports: conventional vs. organic, 2011-2020

Category	Conventional	Organic
2011-13 (million pounds)	8,617.80	11.41
2018-20 (million pounds)	12,219.09	102.58
Change (percent)	+42	+799

Source: USDA, Economic Research Service calculations using U.S. Dept. of Commerce, Bureau of the Census data.

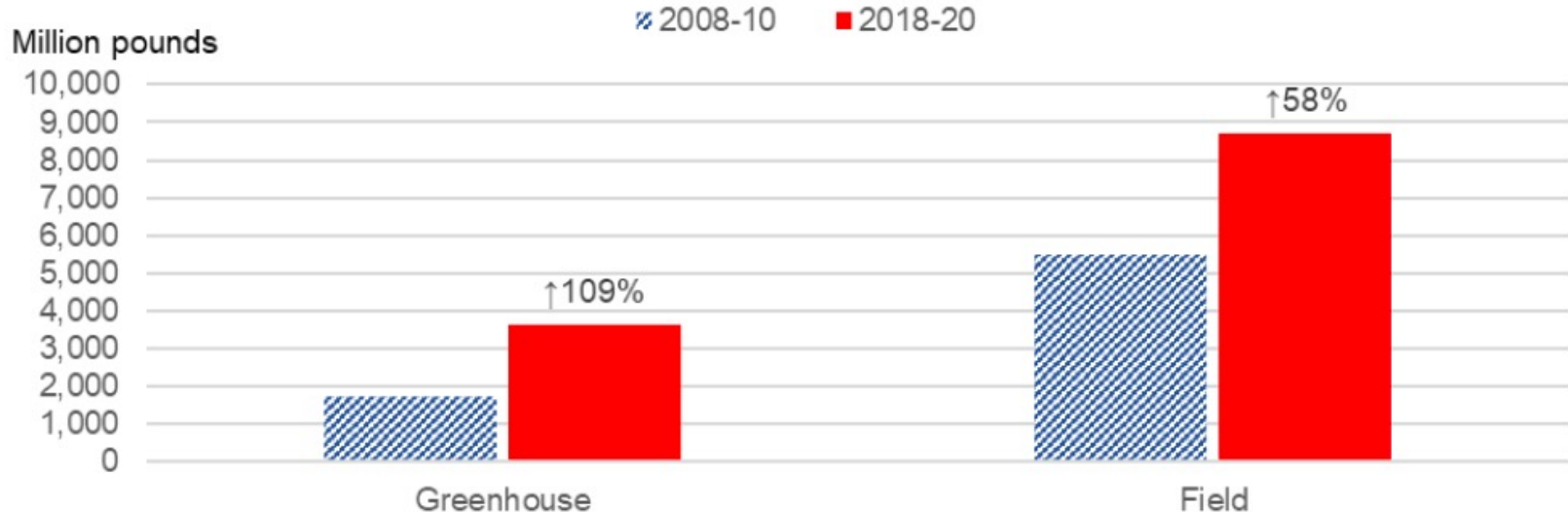
Changes in U.S. Greenhouse Production Area



Greenhouse and Field-grown Fresh Vegetable Imports

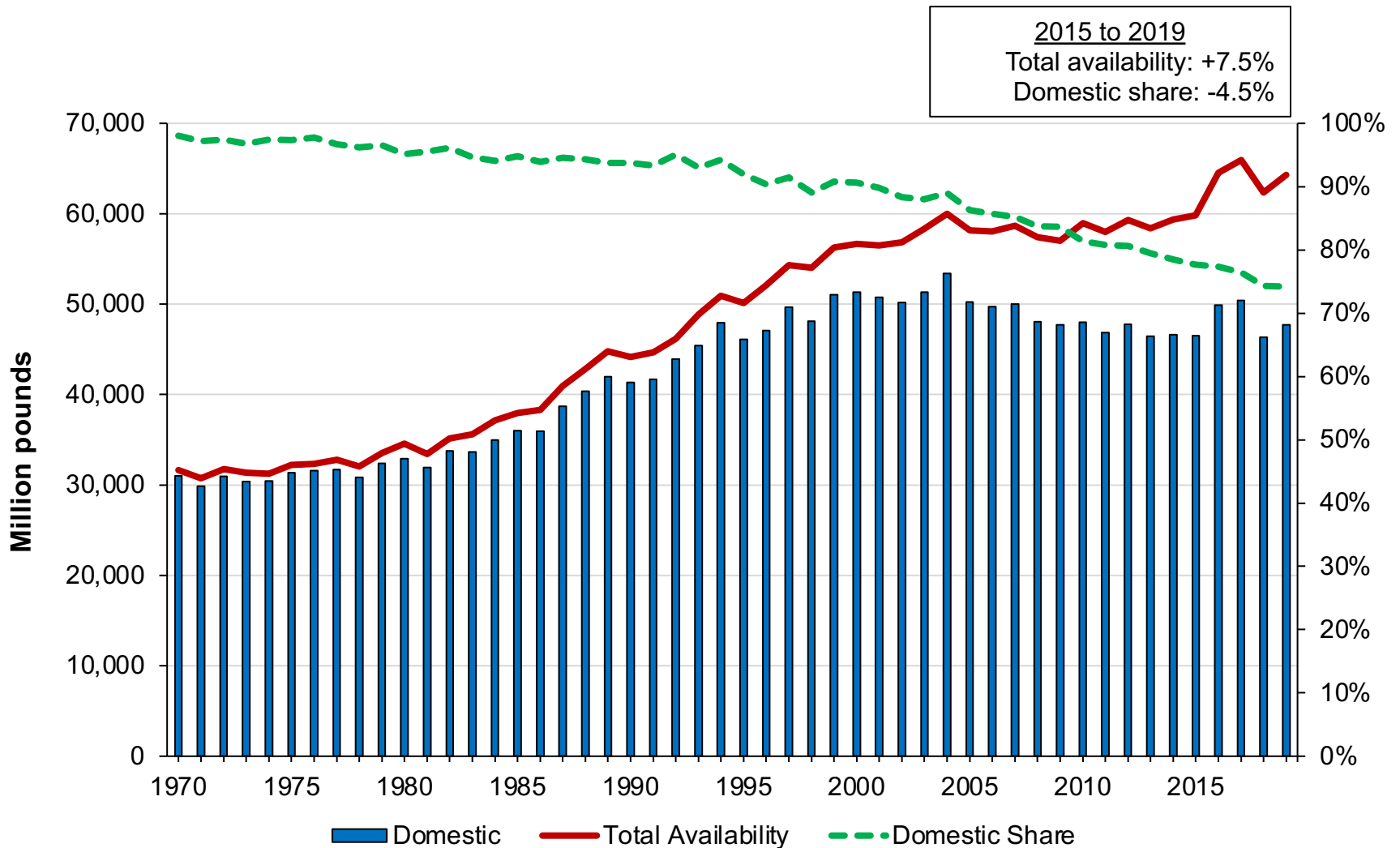
Figure 2

Greenhouse vs. field-grown fresh vegetable import volume, 2008-10 and 2018-20



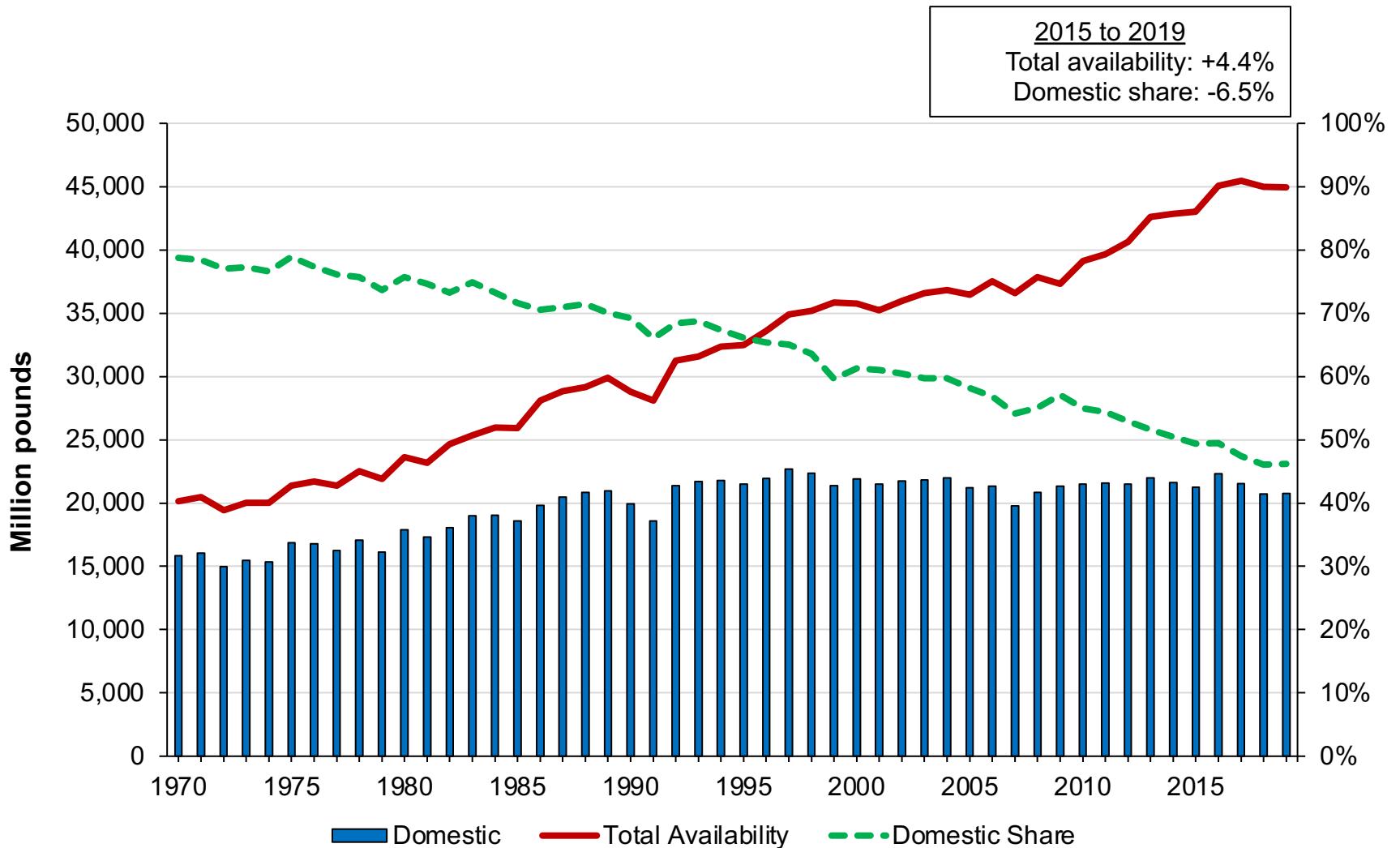
Source: USDA, Economic Research Service calculations using U.S. Dept of Commerce, Bureau of the Census data.

U.S. Fresh Vegetable Availability



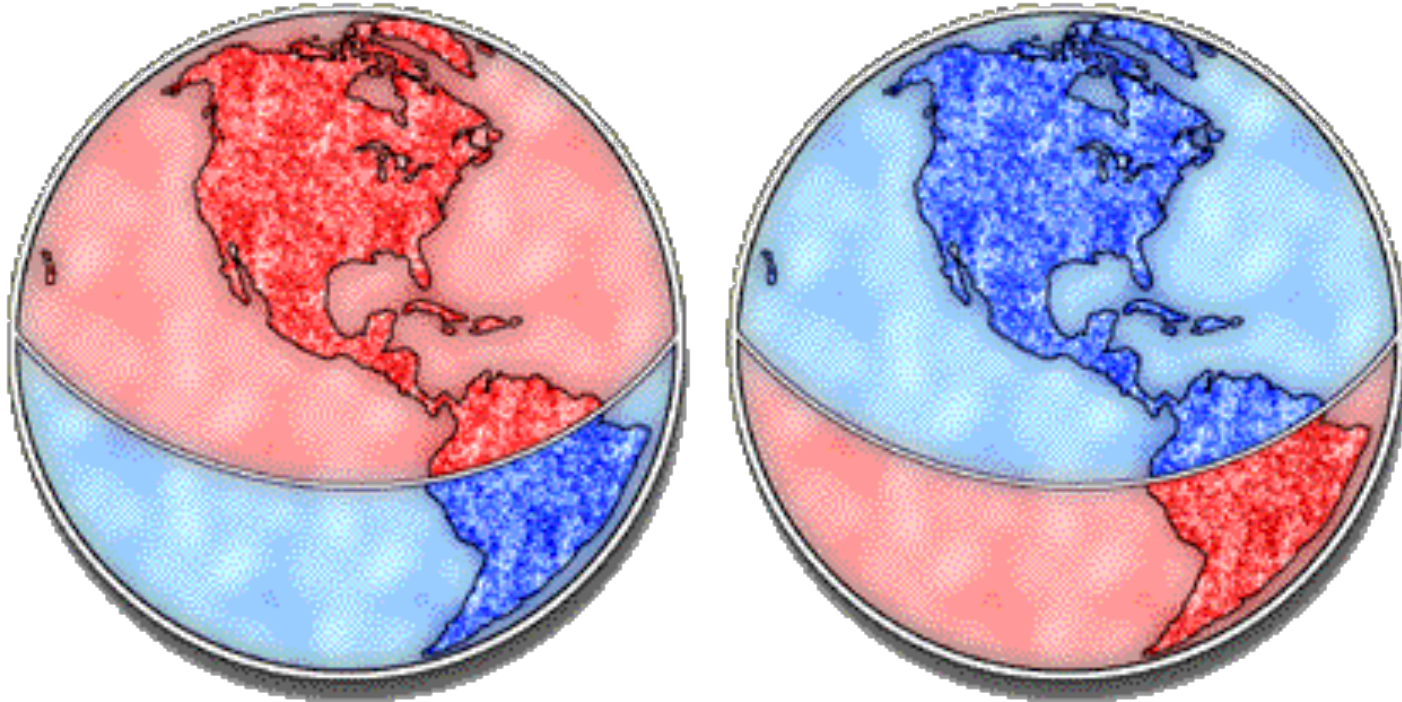
Source: USDA-ERS

U.S. Fresh Fruit Availability



Source: USDA-ERS

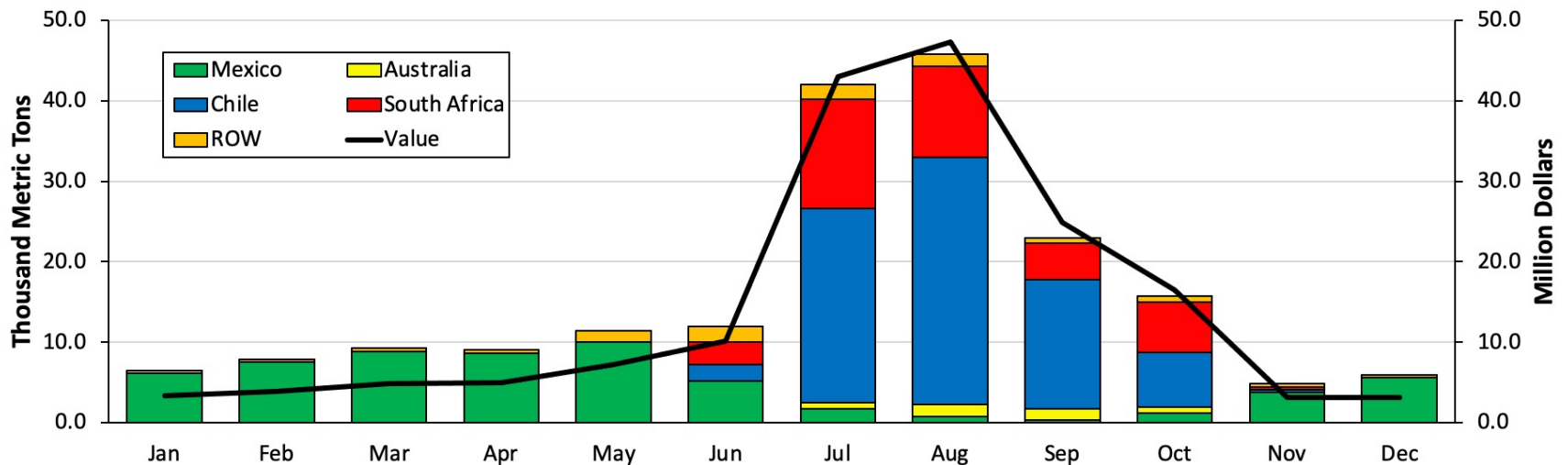
Seasonality



Adapted from NOAA

Global and Domestic Seasonality - Oranges

U.S. Average Imports, 2016-2020



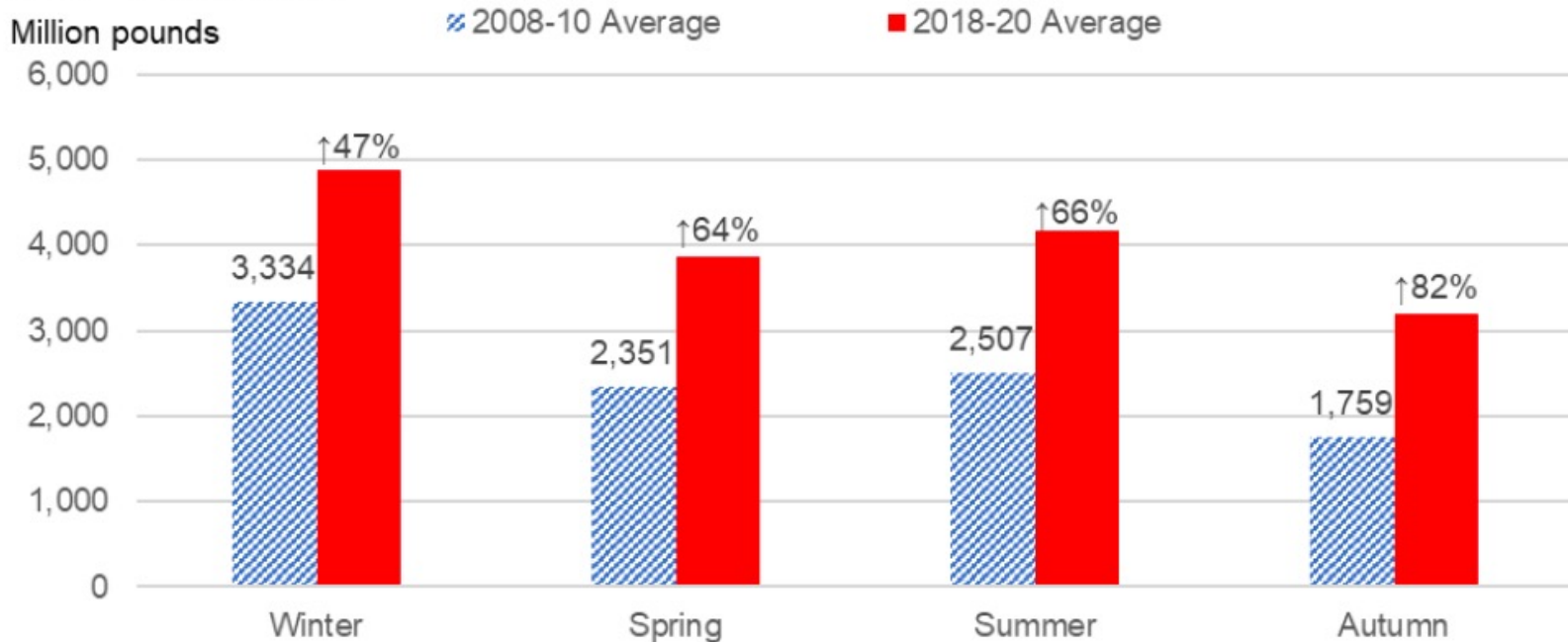
Domestic Availability

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CA	9%	12%	11%	13%	12%	11%	8%	4%	4%	4%	4%	7%
TX	19%	15%	13%	6%	1%	0%	0%	0%	1%	10%	15%	20%
FL	11%	9%	11%	11%	9%	5%	0%	0%	1%	8%	15%	19%

Fresh Vegetable Seasonal Imports

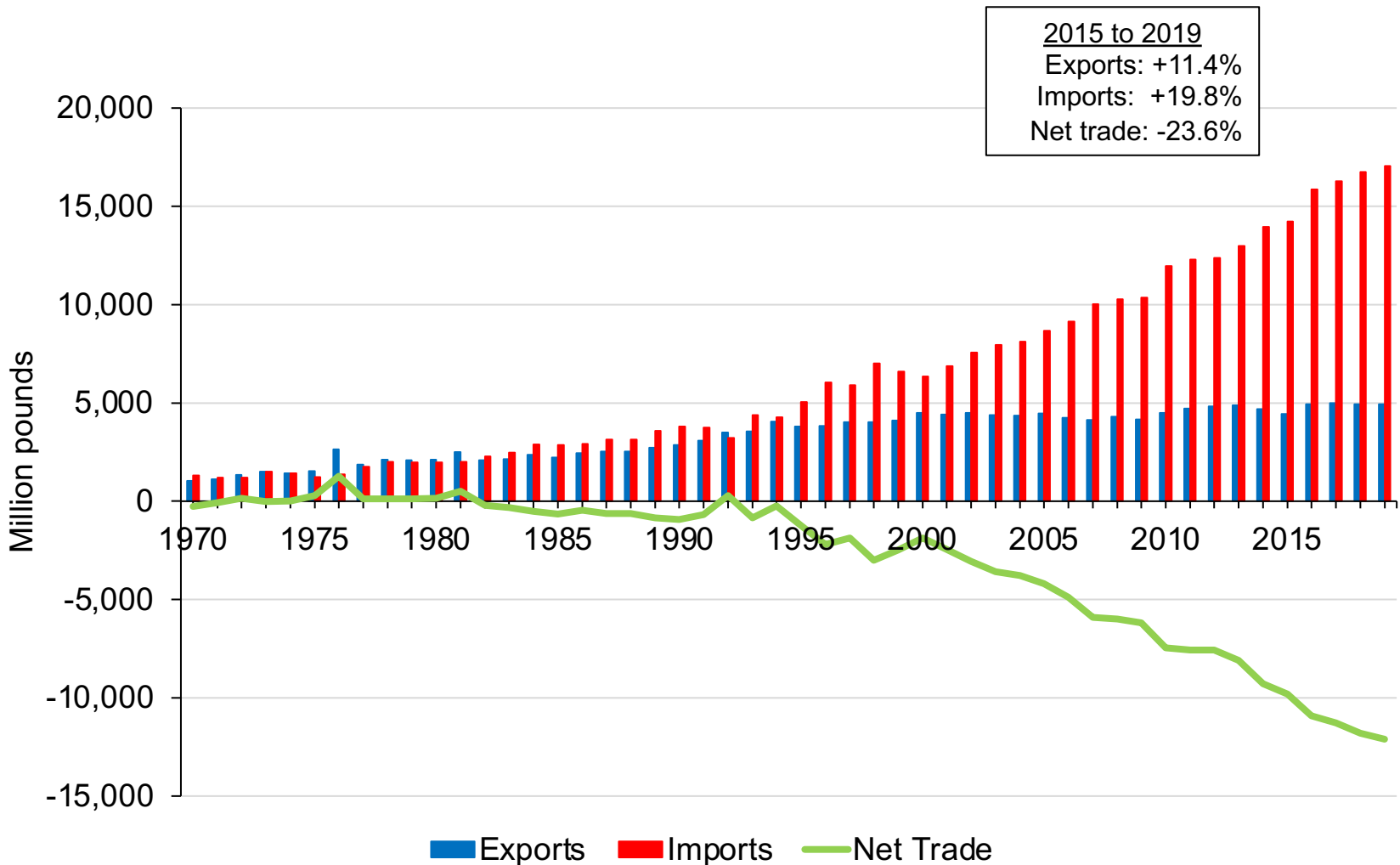
Figure 6

Fresh vegetable seasonal import volume and average percentage change, 2008-10 vs. 2018-20



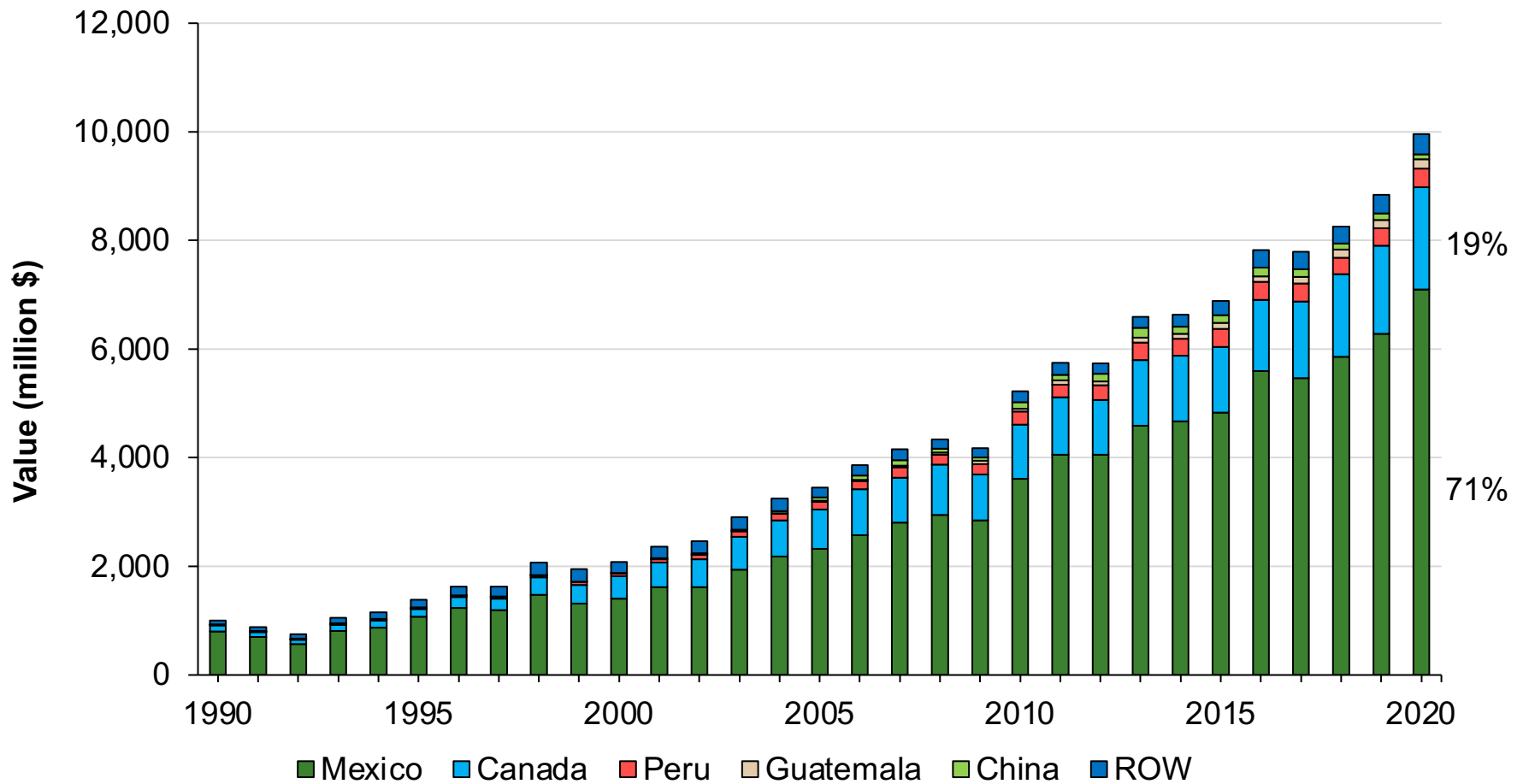
Source: USDA, Economic Research Service calculations using U.S. Department of Commerce, Bureau of the Census data.

U.S. Net Trade of Fresh Vegetables



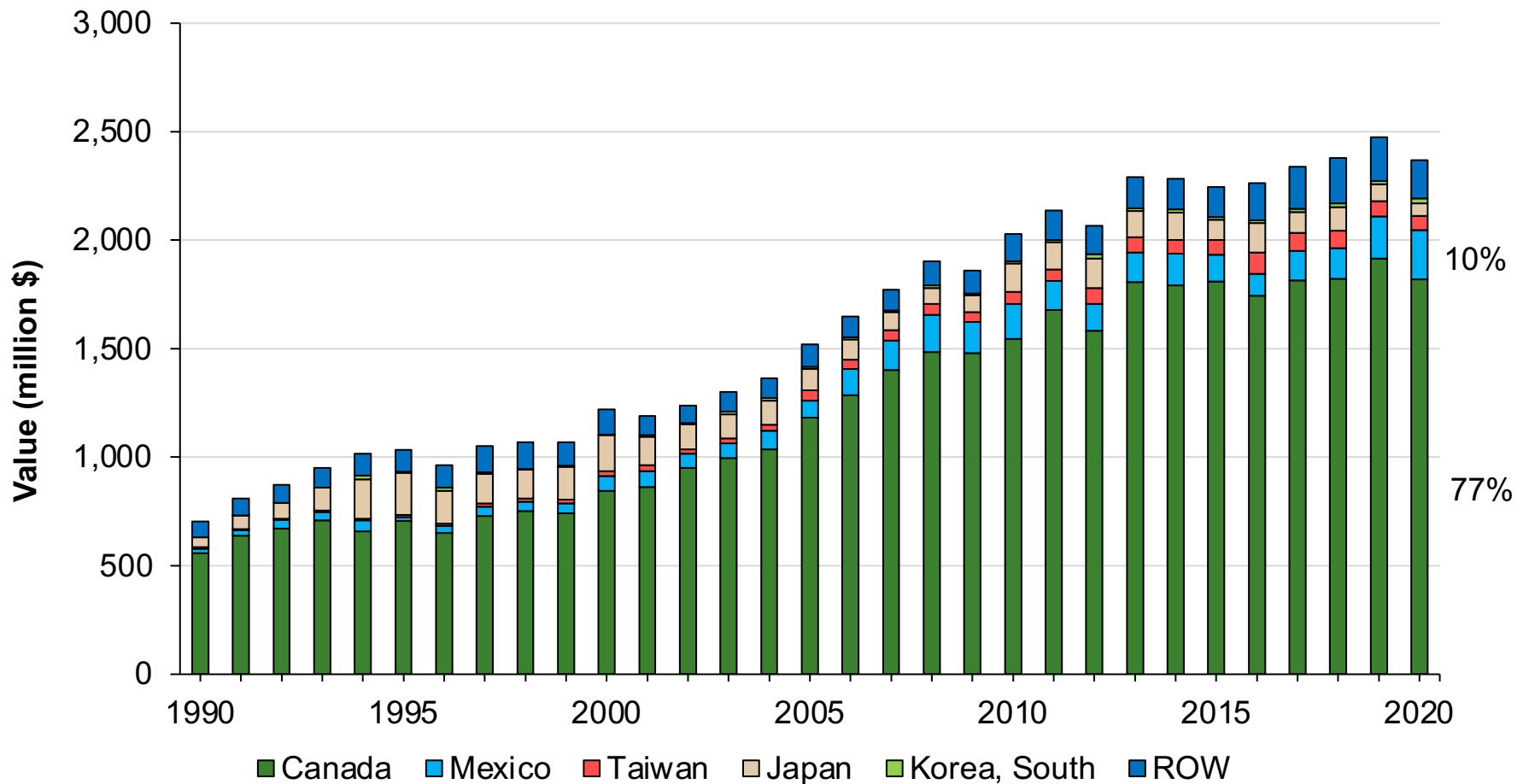
Source: USDA-ERS

U.S. Fresh Vegetable Imports



Source: USDA-FAS

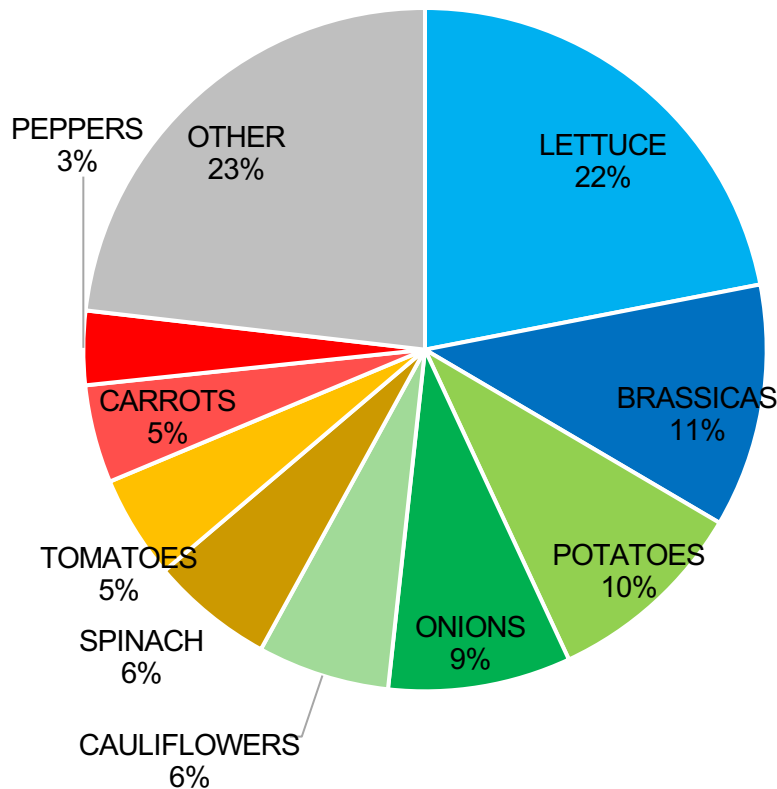
U.S. Fresh Vegetable Exports



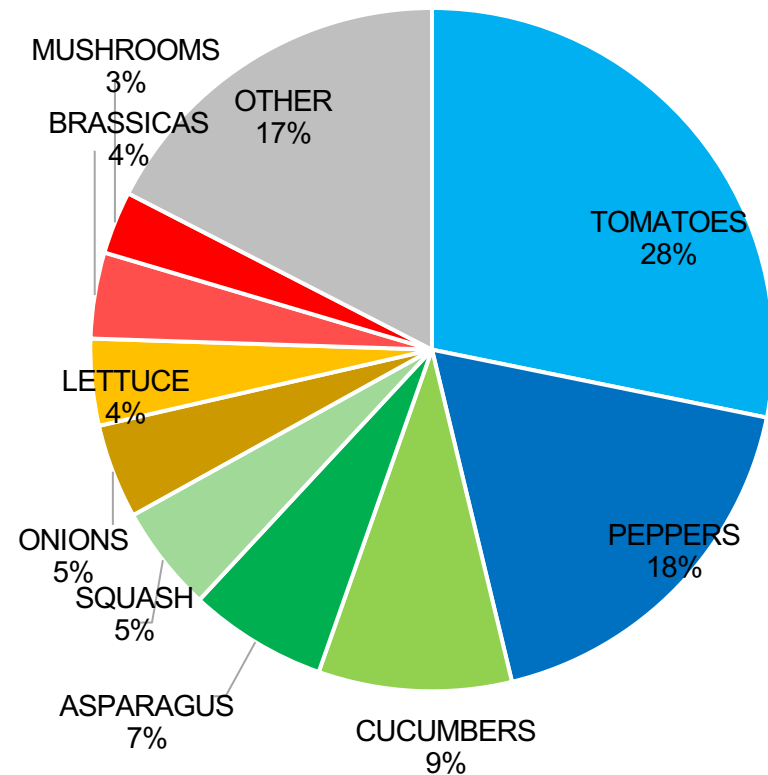
Source: USDA-FAS

Top Fresh Vegetables Traded – 2020

EXPORTS: \$2,370M

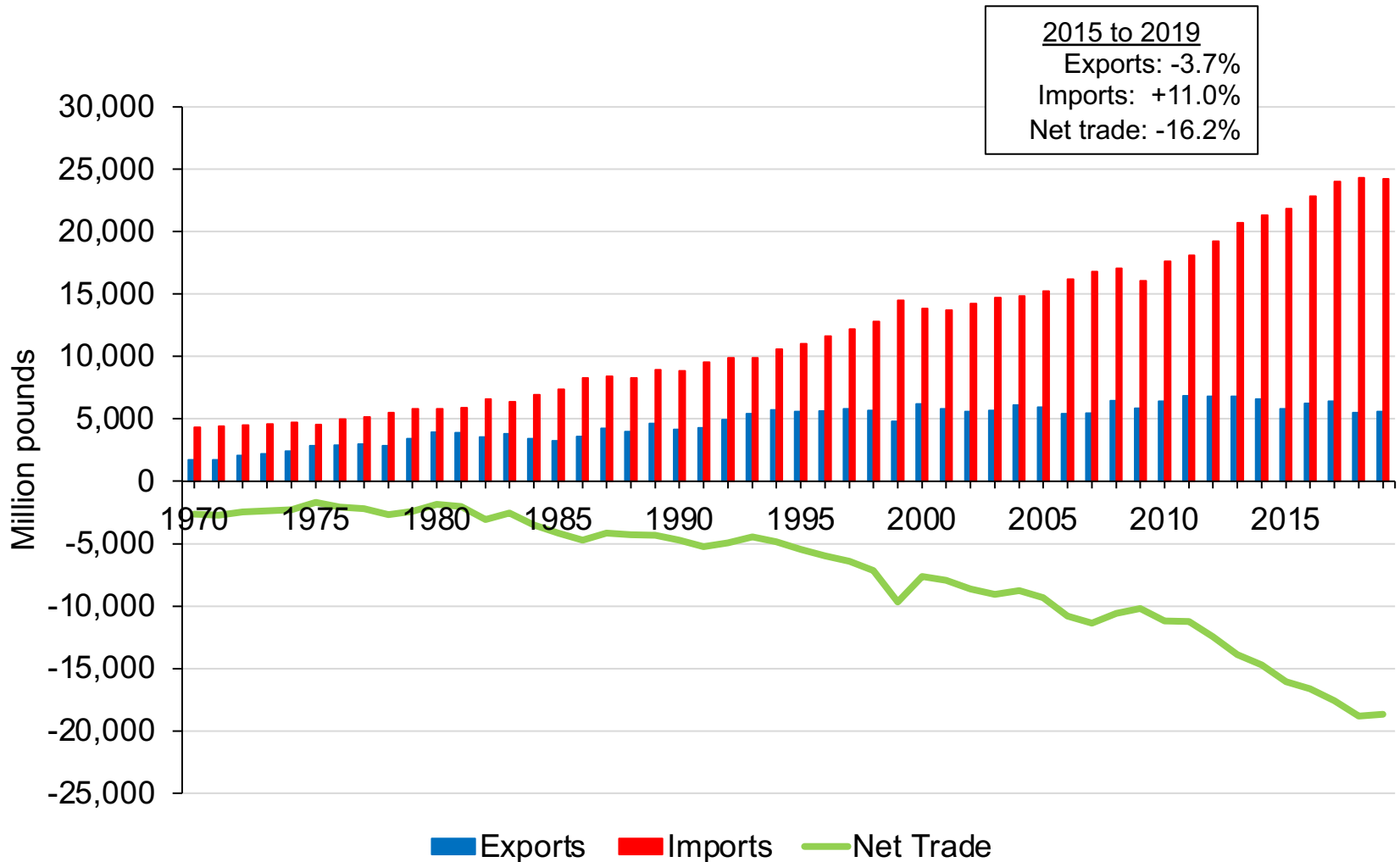


IMPORTS: \$9,955M



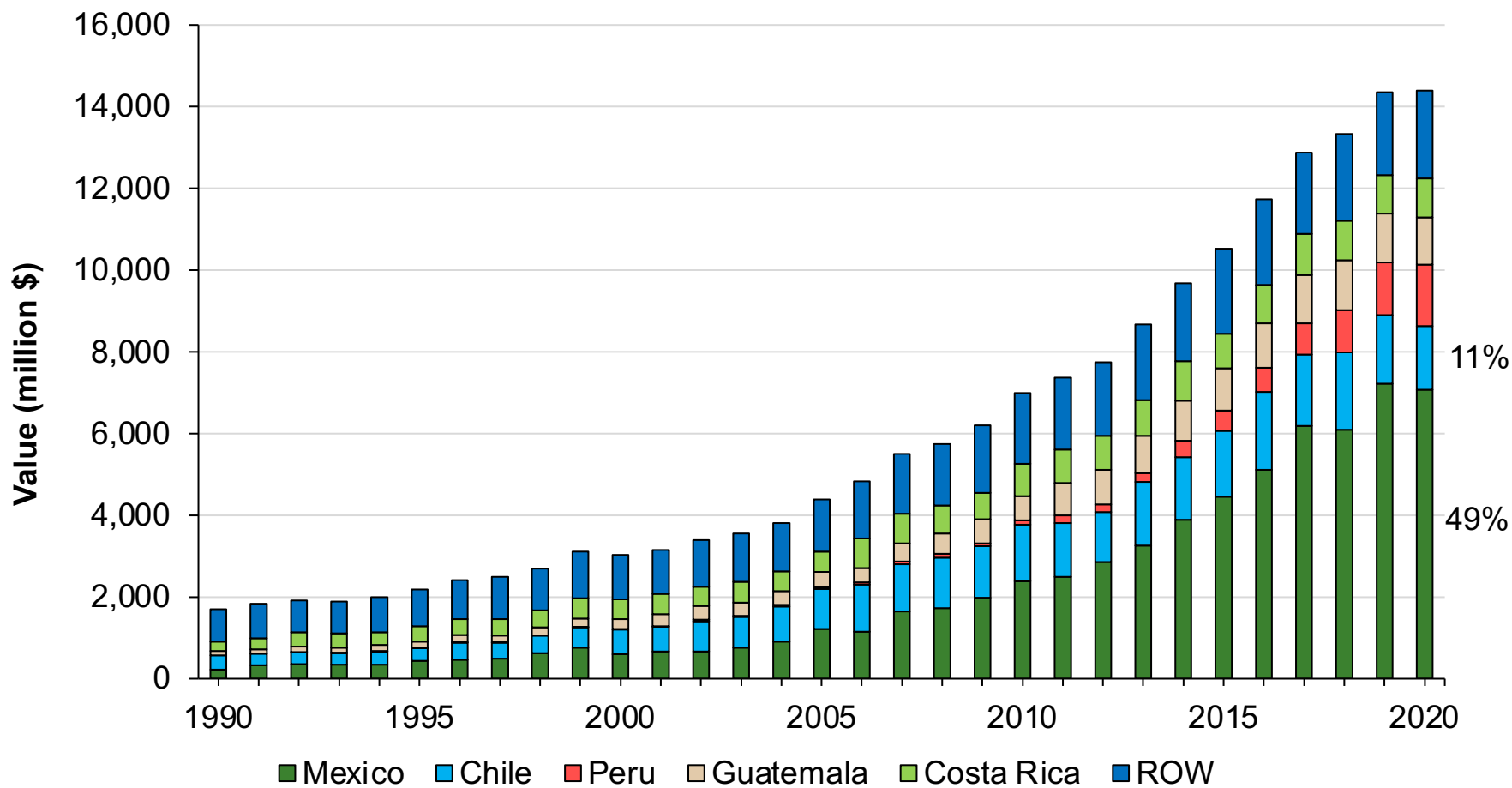
Source: USDA-FAS

U.S. Net Trade of Fresh Fruits



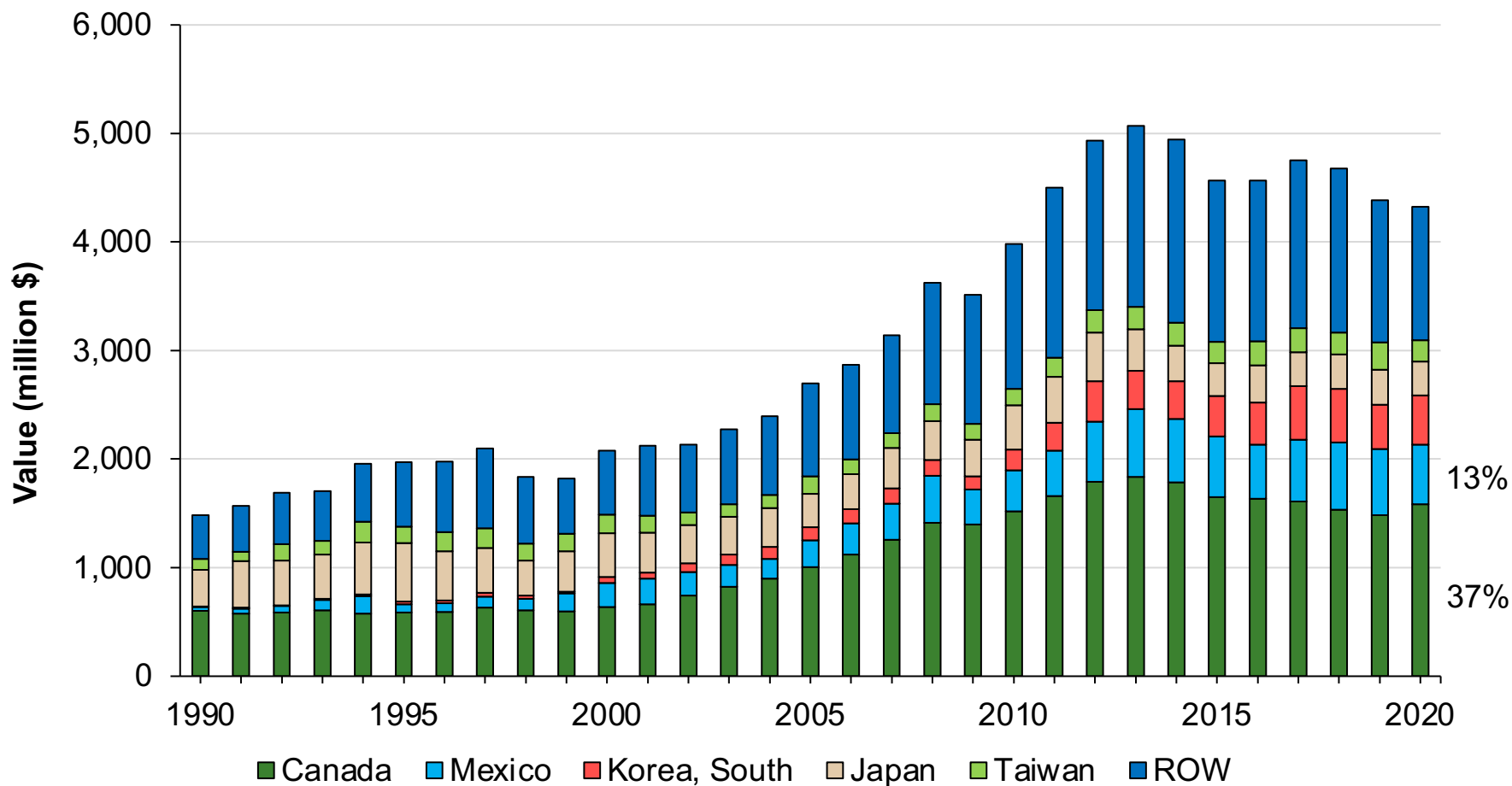
Source: USDA-ERS

U.S. Fresh Fruit Imports



Source: USDA-FAS

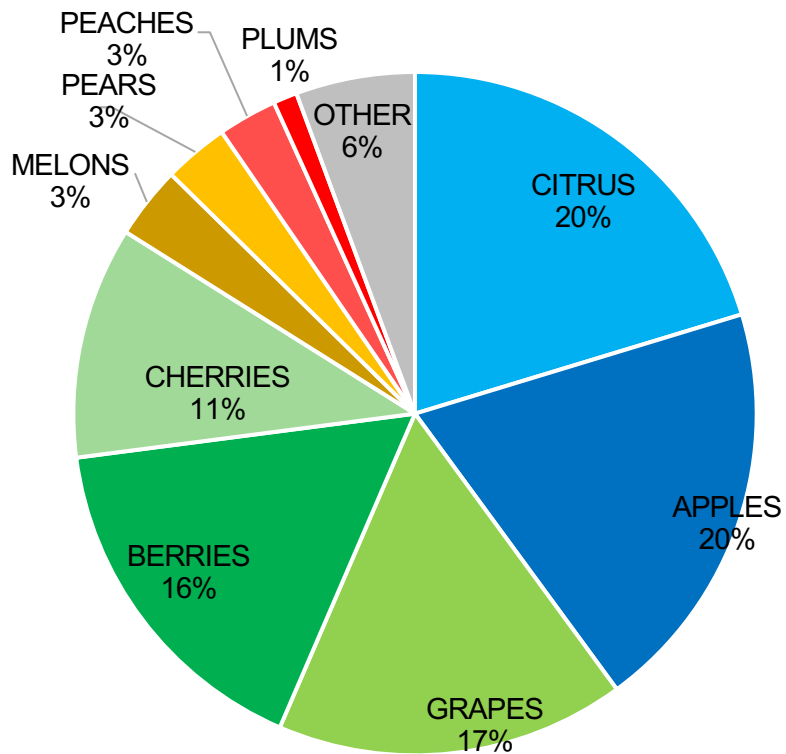
U.S. Fresh Fruit Exports



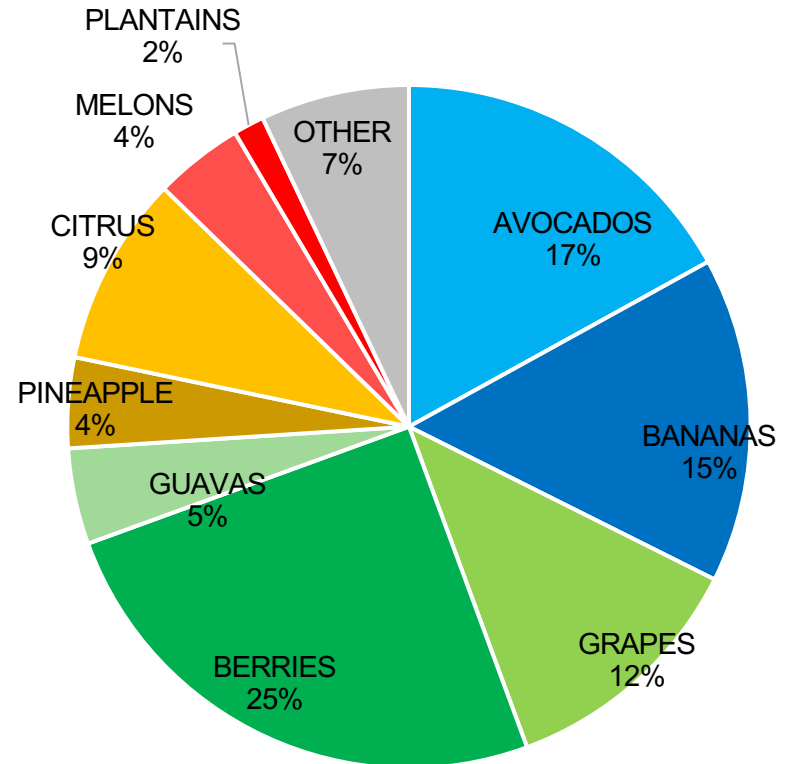
Source: USDA-FAS

Top Fresh Fruits Traded - 2020

EXPORTS: \$4,324M

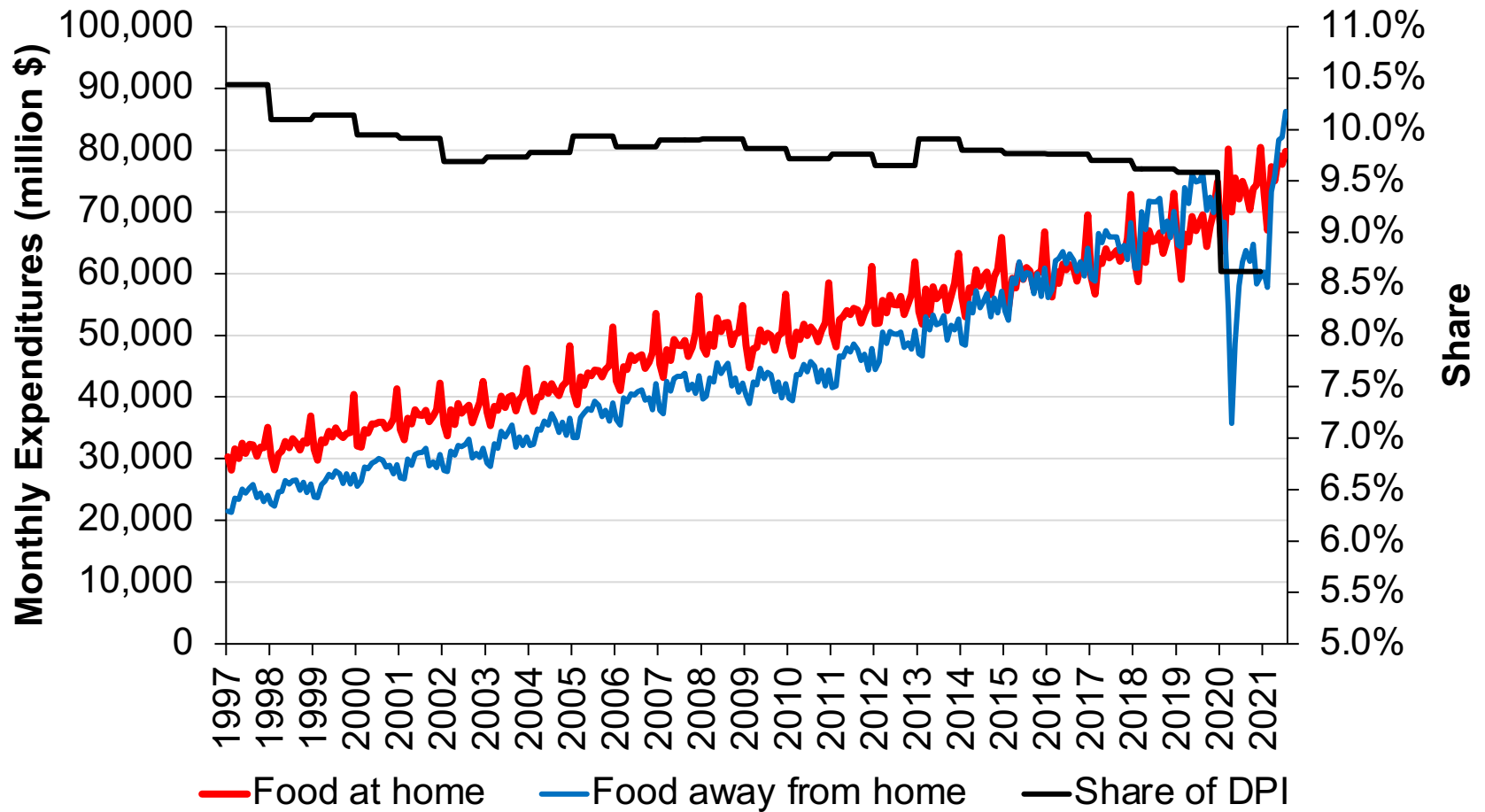


IMPORTS: \$14,388M



Source: USDA-FAS

Food Expenditure



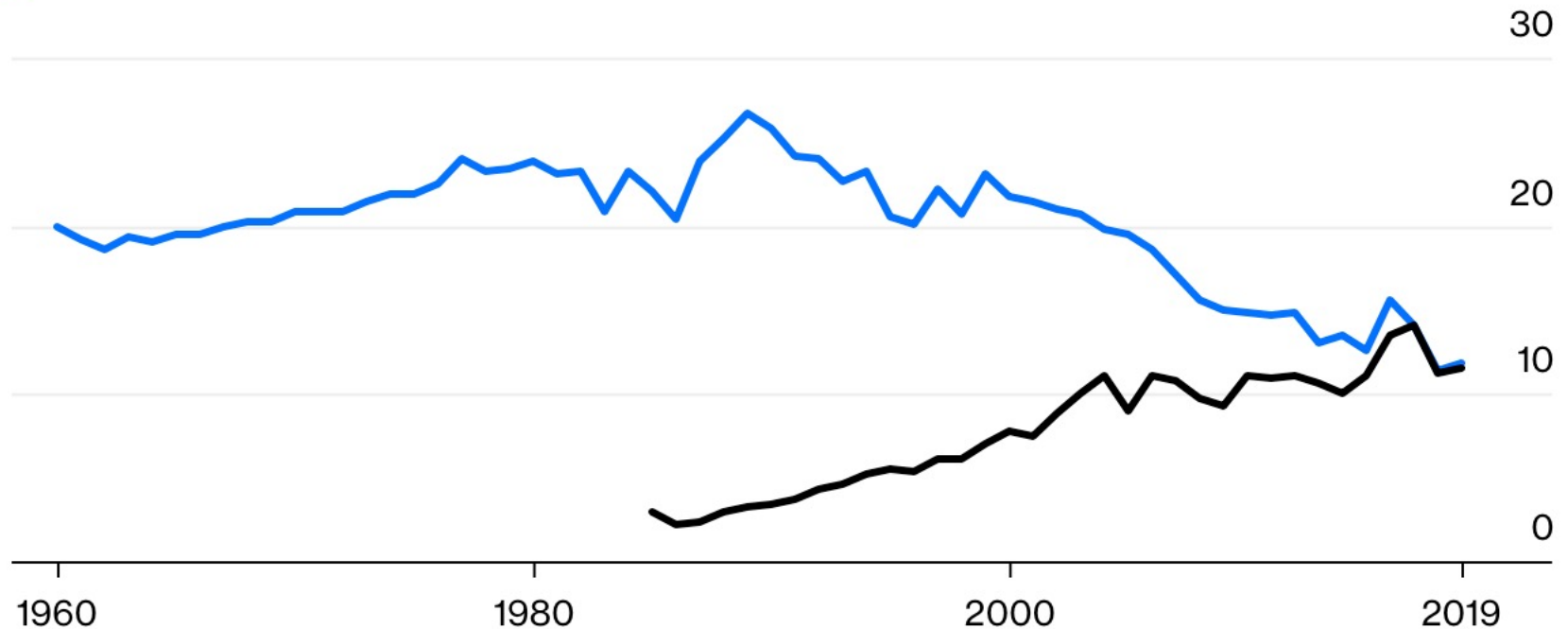
Data Source: USDA-ERS

Lettuce Consumption



Per-capita U.S. availability of lettuce, in retail-weight pounds*

Head lettuce (iceberg, Bibb, Boston and butterhead) / Romaine and leaf lettuce



Source: U.S. Department of Agriculture Economic Research Service

*Romaine and leaf lettuce data not available before 1985

Adapted: Bloomberg Opinion

Production Input Prices

Table 12. Selected U.S. indices of prices paid by farmers, 2016-21

Input	2016	2017	2018	2019	2020	2021f	Change
	----- <i>Index, 2011 = 100</i> -----						<i>Percent</i>
Seeds and plants	121.4	119.9	118.5	116.0	113.4	112.9	-0.4
Fertilizer, nitrogen	71.6	66.5	66.5	71.4	73.7	84.2	14.3
Fertilizer, potash/phosphate	70.5	64.4	62.9	63.0	70.0	91.5	30.6
Chemicals, insecticides	107.7	103.1	100.9	99.2	93.6	99.0	5.8
Chemicals, herbicides	109.7	106.4	101.7	101.8	100.9	105.0	4.1
Chemicals, fungicides/other	98.7	95.1	95.7	99.5	101.0	104.0	3.0
Fuels, diesel	51.8	57.6	67.4	71.5	62.3	70.4	12.9
Fuels, gasoline	59.0	64.5	70.9	75.1	67.0	80.2	19.7
Farm machinery	115.4	117.7	120.0	124.1	123.9	127.6	3.0
Farm supplies	106.3	107.6	111.6	115.5	117.4	120.0	2.2
Custom services	111.6	114.3	113.3	118.4	119.6	119.6	0.0
Building materials	107.6	110.4	116.1	118.1	120.8	128.0	6.0
Cash rent	130.4	130.4	126.1	123.3	124.7	123.3	-1.1
Interest	103.9	108.3	114.7	115.1	100.9	101.4	0.5
Taxes	110.7	115.5	117.1	117.9	118.7	120.4	1.4
Wage rates	115.9	119.1	126.3	133.2	135.2	140.6	4.0
Crop sector 2/	106.6	108.0	110.2	111.7	111.4	115.9	4.1

f = forecast. 1/ Change from 2020 to 2021. 2/ Input items common to crop production.

Source: USDA, National Agricultural Statistics Service except 2021 projections by USDA, Economic Research Service.

Fertilizers Use

Table 1. Fertilizers Applied to Selected Vegetables, by percent of planted acres, 2014 Crop Year

	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (mil lbs)
Corn, sweet (FM)			
Nitrogen	98	190	34.1
Phosphate	87	83	13.2
Potash	85	175	26.9
Cucumbers (FM)			
Nitrogen	97	130	4.7
Phosphate	94	44	1.6
Potash	96	125	4.5
Onions			
Nitrogen	98	211	24.2
Phosphate	91	122	12.8
Potash	68	134	10.0
Snap beans (PR)			
Nitrogen	88	94	10.5
Phosphate	84	91	9.6
Potash	84	50	5.2
Watermelons			
Nitrogen	94	133	10.8
Phosphate	85	80	5.9
Potash	94	146	12.0

FM = fresh market. PR = processing.

Table 1. Fertilizer Applied to Cotton Planted Acres, 2015 Crop Year

	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (mil lbs)
Nitrogen (N)	78	79	503.7
Phosphate (P ₂ O ₅)	56	41	187.7
Potash (K ₂ O)	42	74	250.3

Table 1. Fertilizer Applied to Corn Planted Acres, 2014 Crop Year

	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (bil lbs)
Nitrogen (N)	97	144	11.2
Phosphate (P ₂ O ₅)	80	64	4.1
Potash (K ₂ O)	65	82	4.3

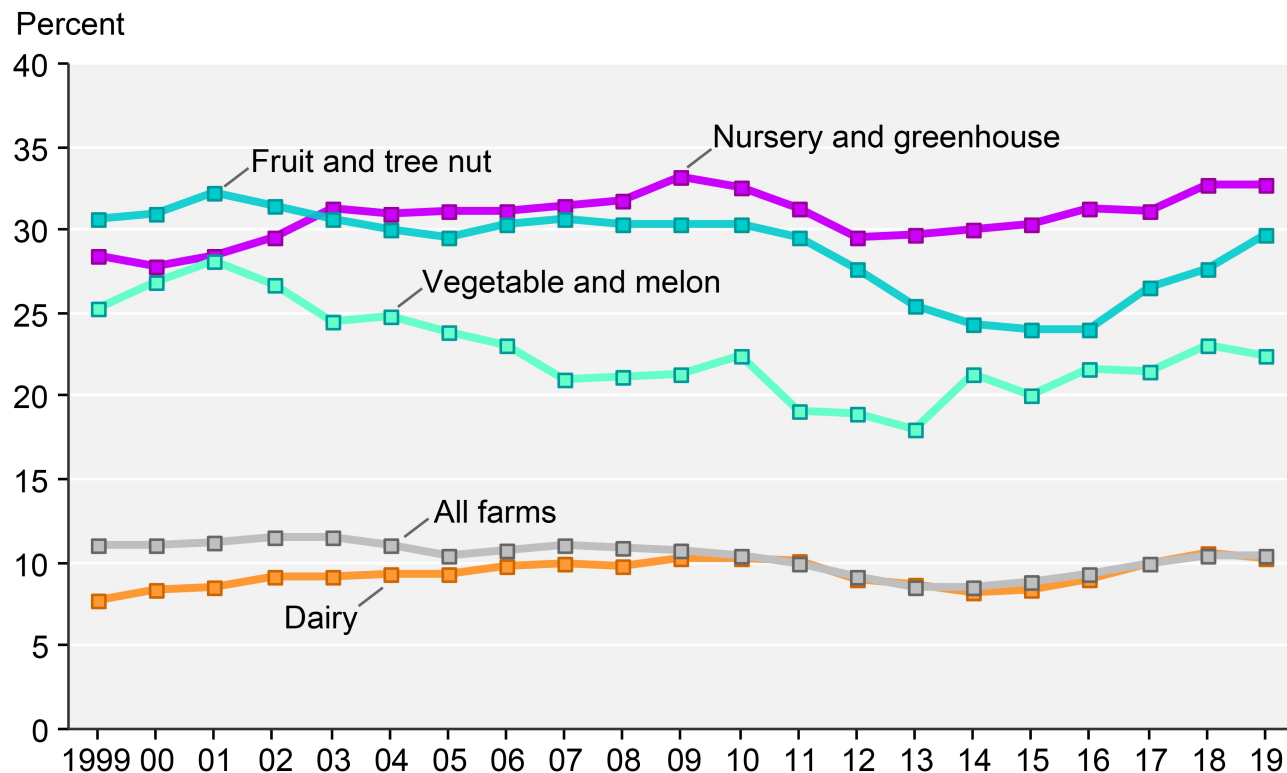
vs.

Table 1. Fertilizer Applied to Soybean Planted Acres, 2015 Crop Year

	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (mil lbs)
Nitrogen (N)	28	17	382.3
Phosphate (P ₂ O ₅)	39	51	1,563.1
Potash (K ₂ O)	38	83	2,503.5

Labor Costs

Labor costs as a share of total gross cash farm income for selected farm specializations, 1999-2019



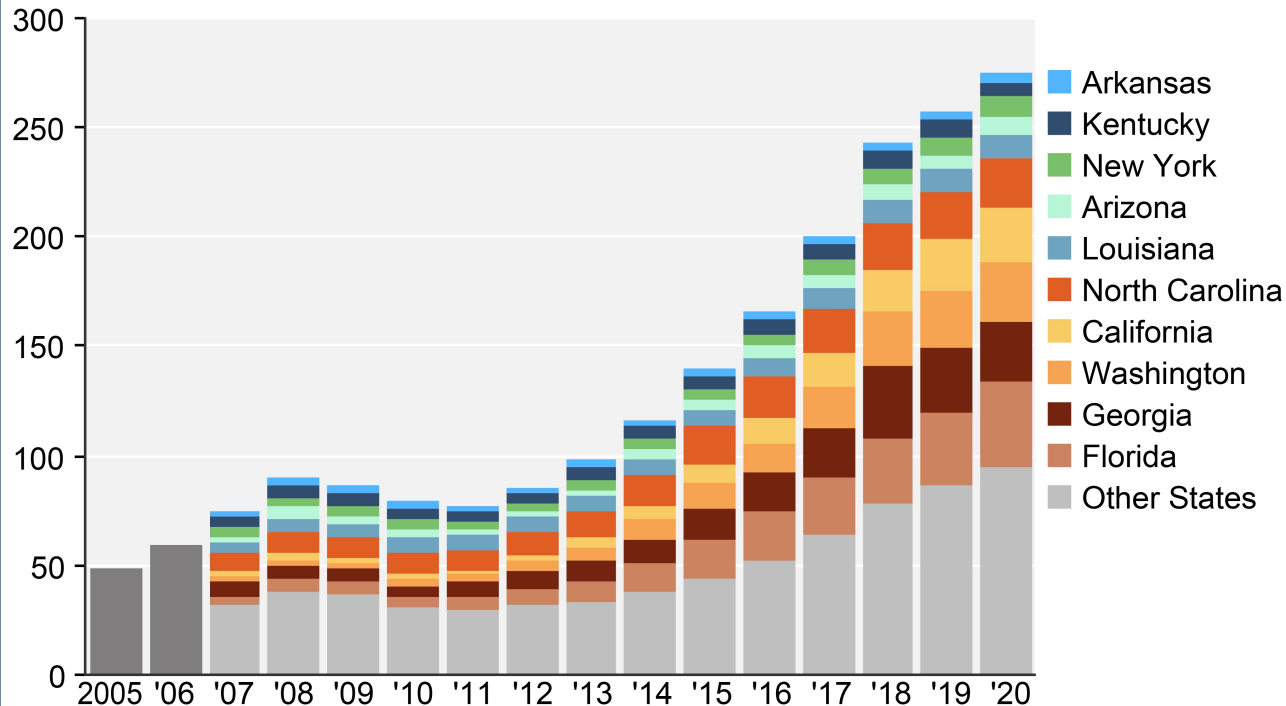
Note: Values for each year are 3-year moving averages to smooth fluctuations because of small sample sizes, e.g., the estimate reported for 2019 is the average over 2017-19.

Source: USDA, Economic Research Service and USDA, National Agricultural Statistics Service, Agricultural Resource Management Surveys, selected years.

Temporary Farmworkers (H2-A)

U.S. H-2A (temporary agricultural employment of foreign workers) positions certified by State, fiscal years 2005-20

Seasonal positions certified (thousand)

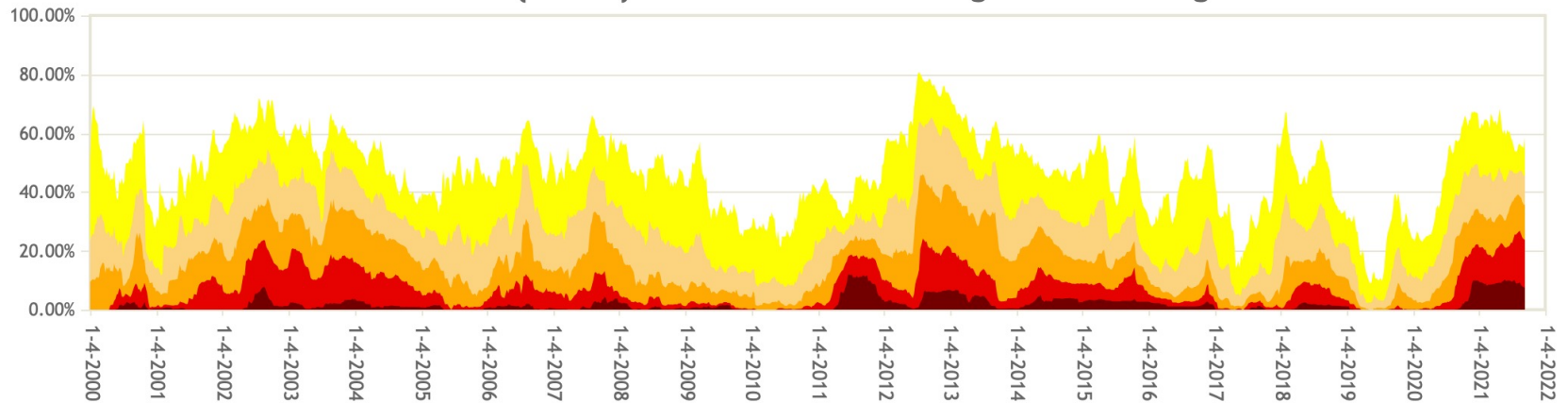


Note: State-level data are not available for fiscal years 2005-06. The individual States included in the chart had more than 2,000 H-2A positions certified in fiscal year 2010.
Source: USDA, Economic Research Service using data from U.S. Department of Labor, Office of Foreign Labor Certification.

Drought Conditions

2000 - 2021

Continental U.S. (CONUS) Percent Area in U.S. Drought Monitor Categories



THE AMOUNT OF WATER NEEDED TO GROW THESE CROPS

As California heads into its fourth year in drought, many of the crops grown in its rich Central Valley — and eaten all over the US — are at risk of drying up. Some crops need far more water than others.

CROPS	WATER NEEDED (IN GALLONS)
1 ORANGE	13.8
1 HEAD OF BROCCOLI	5.4
1 WALNUT	4.9

1 TOMATO	3.3	1 = 1 GALLON
1 ALMOND	1.1	
1 PISTACHIO	0.75	
1 STRAWBERRY	0.4	

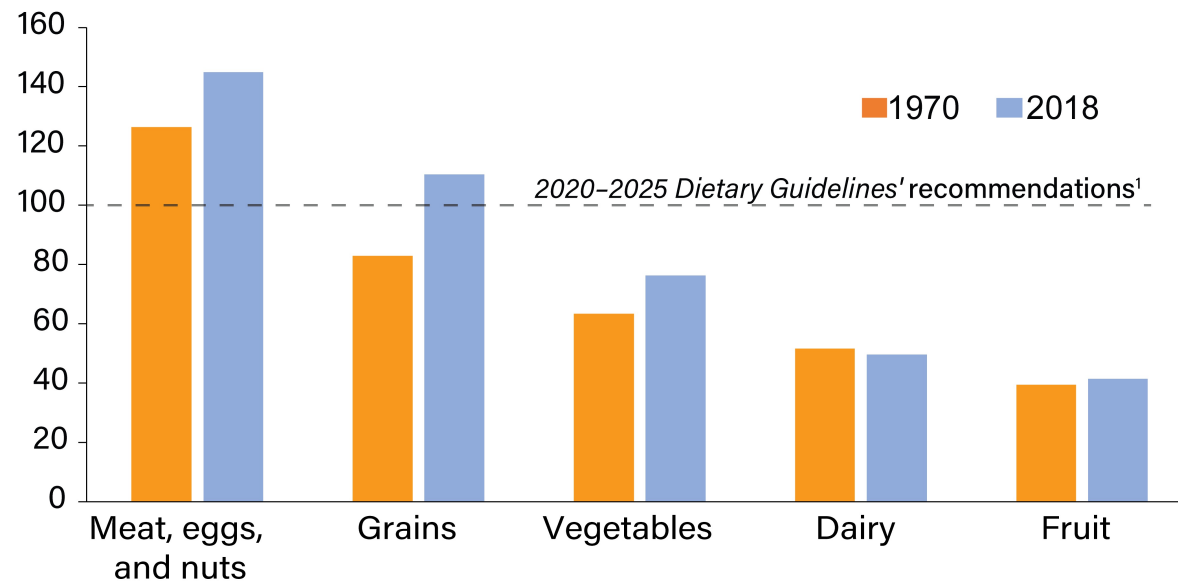
Source: "The green, blue, and gray water footprint of crops and derived crop products." by M. M. Mekonnen and A. Y. Hoekstra (Hydrology, Psychology and Earth Sciences), International Agricultural Council. BUSINESS INSIDER

Source: National Drought Mitigation Center

Make Mama proud, eat your vegetables!

Estimated average U.S. consumption compared to recommendations, 1970 and 2018

Percent of 2020-2025 Dietary Guidelines' recommendations



¹Based on a 2,000 calorie-per-day diet.

Notes: Loss-adjusted food availability data are proxies for consumption. Rice availability data were discontinued in 2010 and thus are not included in the grains group.

Source: USDA, Economic Research Service, Loss-Adjusted Food Availability Data and 2020-2025 Dietary Guidelines.

Questions

Samuel D. Zapata

Associate Professor and Extension Economist

Department of Agricultural Economics

Texas A&M AgriLife Extension Service

samuel.zapata@ag.tamu.edu

956.968.5581

 @SZapataD12

<https://agrilife.org/samuelzapata>