

Introduction

The COVID-19 pandemic disrupted labor supplies and commodity markets, at least initially. This project investigates how widespread and long-lasting disruptions were. Market evidence indicates that major disruptions were mostly temporary and isolated.

Purpose

This research seeks to identify evidence of significant impacts on U.S. fresh produce shipments and prices due to the COVID-19 pandemic. Comparing weekly produce shipment quantities and prices from mid-March through the end of the year across three years we put the 2020 data in context.

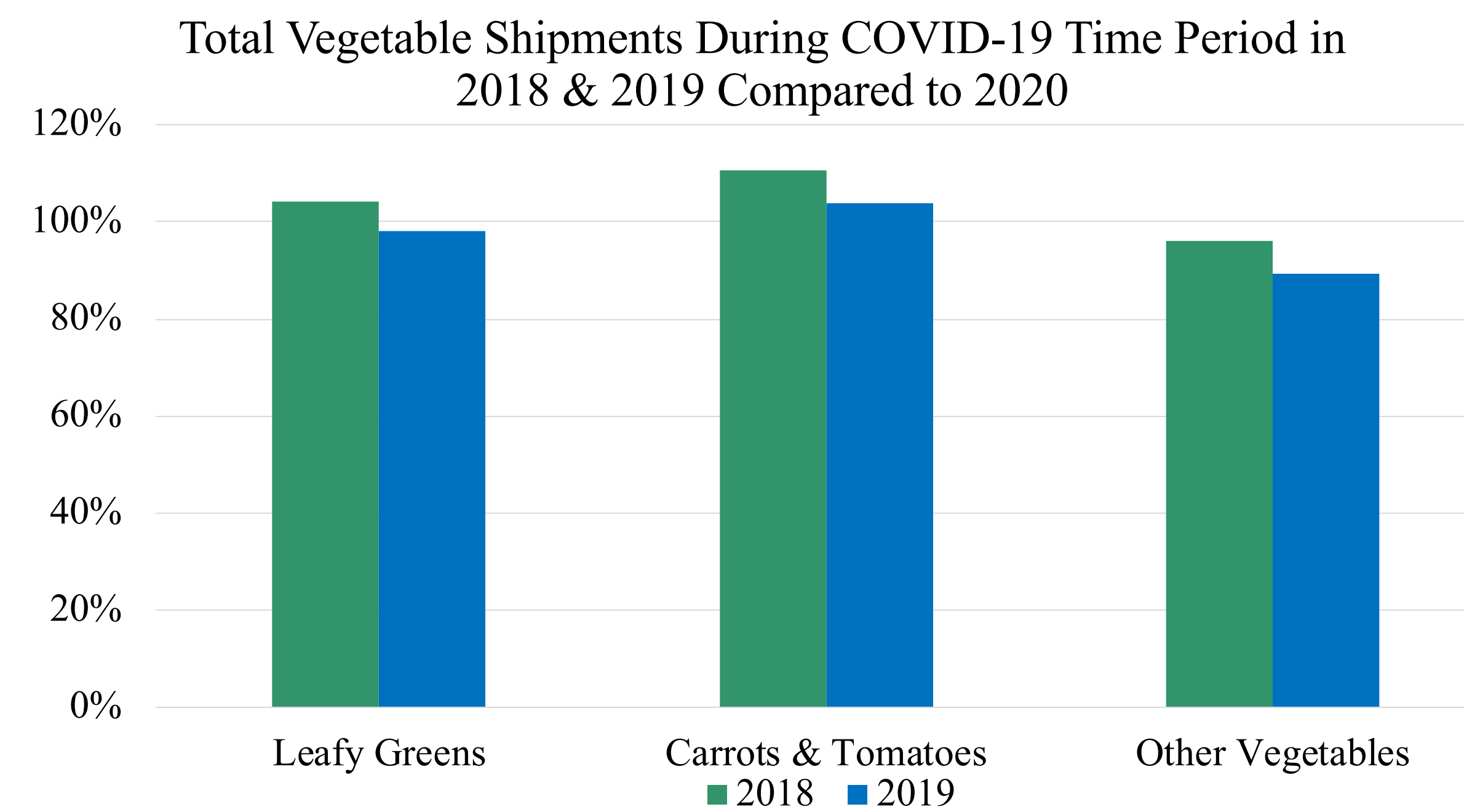


Table 1. Summary of produce shipment quantities and prices for COVID Weeks of 2020 compared to the same weeks in the prior two years

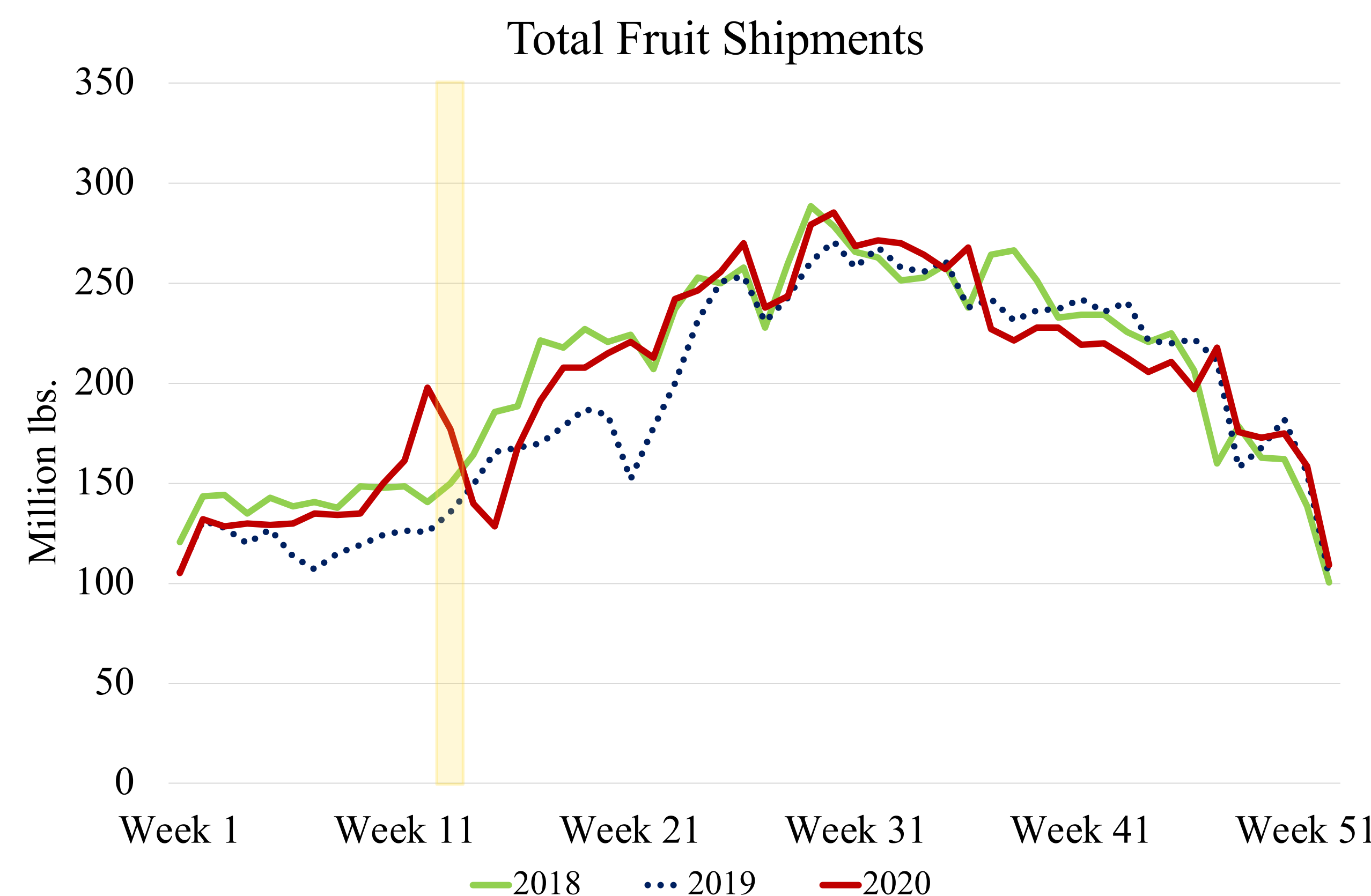
Mid-March through December		2020-2018	2020-2019
Shipments			
All	Mean	-12.78%	2.09%
	(s.e.)	(4.24)	(1.65)
Fruits	Mean	-10.42%	2.61%
	(s.e.)	(9.67)	(3.38)
Vegetables	Mean	-5.56%	3.51%
	(s.e.)	(1.82)	(1.37)
Melons	Mean	-92.71%	-13.87%
	(s.e.)	(12.02)	(7.91)
Prices			
All	Mean	9.58%	-5.79%
	(s.e.)	(1.44)	(2.41)
Fruits	Mean	5.52%	2.53%
	(s.e.)	(2.26)	(2.32)
Vegetables	Mean	6.80%	-16.68%
	(s.e.)	(1.80)	(3.57)
Melons	Mean	57.14%	53.16%
	(s.e.)	(5.32)	(6.10)
Number of Observations (All, Fruit, Vegetables, Melons): Shipments (821,341,431,49) and Prices (707, 237, 425, 45)			

Results & Discussion

We find no evidence that shipments and prices of produce in 2020 were significantly different than previous years.

- Average weekly shipments in 2020 were -12.78% lower than 2018 but 2.09% higher than 2019.
- Average weekly prices in 2020 were 9.58% higher than 2018 but 5.79% lower than 2019.
- Both vegetable and fruit shipments follow a very similar trend across the three years.
- When we look closer at vegetable shipments we see that 2020 was down compared to 2018 and 2019 for Carrots and Tomatoes, but were down for Other Vegetables. For Leafy Greens, we see 2020 was in range between 2018 and 2019.

This leads us to conclude that it is hard to see differences in 2020 shipments and prices as indicative of impacts from COVID-19 rather than normal variability in produce harvest.



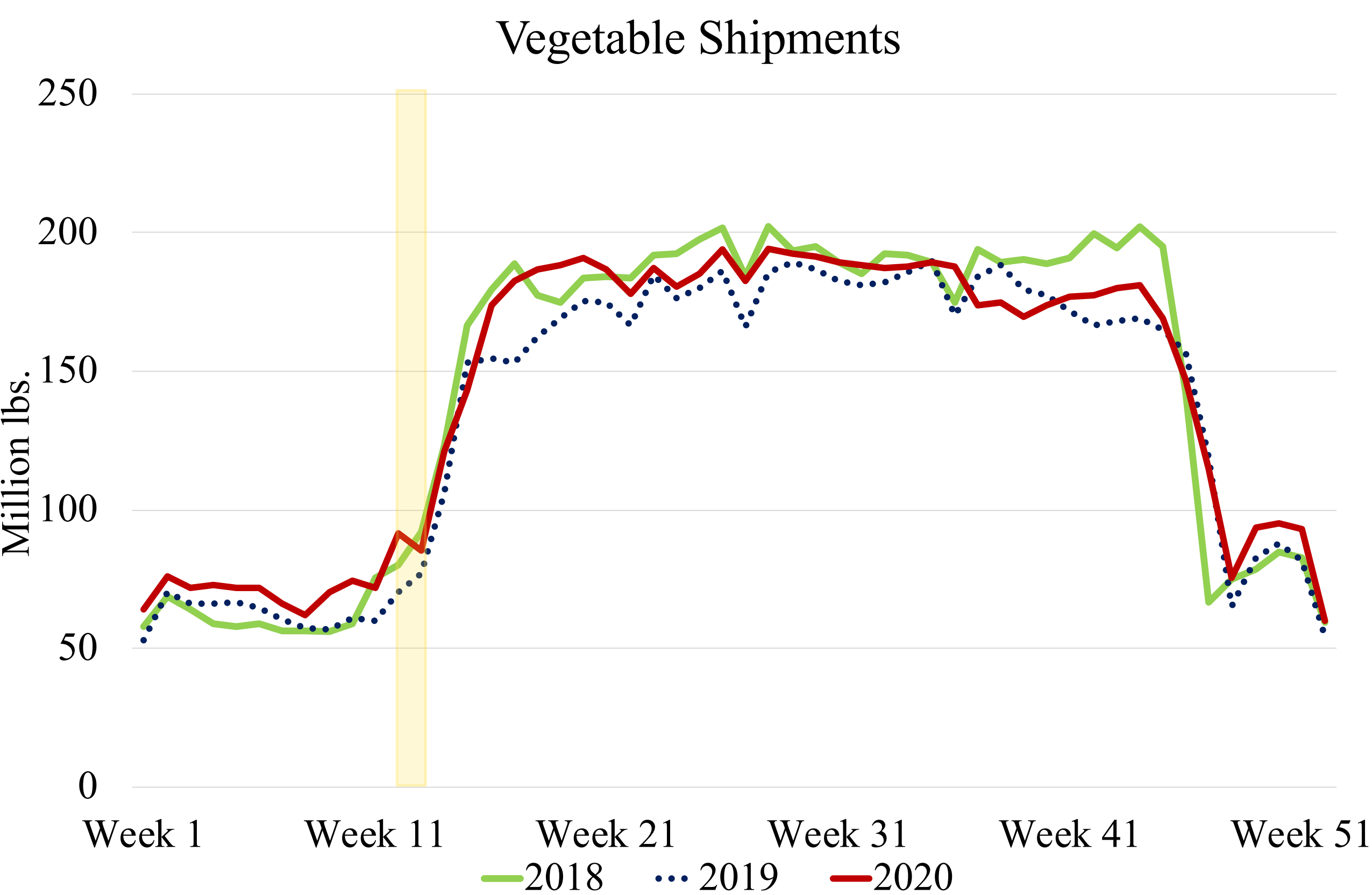
Conclusion

Despite concerns and reports of labor shortages and loss of produce due to lack of market, the produce shipments and the average prices in 2020 are relatively similar to the previous two years for most commodities. This is not to say that there was no impact on the produce farms or laborers, but the data reject the hypothesis that instances of food loss or discouraged planting or harvest caused systemic differences in quantities or prices.

Sources

1. USDA Agricultural Marketing Service: Custom Reports for 2018, 2019, and 2020 Seasons. <https://www.ams.usda.gov/market-news/custom-reports>
2. USDA Agricultural Marketing Service: Custom Average Pricing: Shipping Point Average Prices. <https://www.ams.usda.gov/market-news/custom-reports>. Prices are per lb.

*Commodities include: apples, artichokes, avocados, blackberries, blueberries, broccoli, brussels sprouts, cantaloupes, carrots, cauliflower, celery, grapes, iceberg lettuce, romaine lettuce, nectarines, peaches, bell peppers, raspberries, spinach, strawberries, tomatoes, and watermelons. (CA for all, except cherries and apples which are WA only)



Methods

We gathered data on the volume of weekly select produce shipments (lbs.) and the average shipping point price (per lb.) from the U.S. Department of Agriculture (USDA) Agricultural Marketing Service (AMS). The COVID-19 time period starts at the Week 12, indicated on the graphs as a yellow bar, and runs through the end of the year. We calculated the percent difference between each individual week of the previous two years compared to 2020 for all commodity shipments and prices and then grouped by commodity types. We then took the average percent change of each year, with 2020 as the base year.