

# Analyzing the Impact of COVID-19 on Farm Participation in Oregon's Farm to School Program

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## INTRODUCTION

### Background:

Farm to School (F2S) programs exist in many communities throughout the United States. They involve partnerships between farmers and neighboring K-12 school districts to provide students with fresh, local foods in school lunches, as well as educational opportunities surrounding nutrition, the environment, and food production. Proponents of these programs and current research on them suggests they may yield a range of potential benefits for the communities involved. These benefits may include improving nutrition and food security in children, creating more reliable marketing outlets for local farmers, strengthening community ties by keeping funds circulating within the local market, and increasing the overall resilience of the local food system (Vallianatos 2004). However, the COVID-19 pandemic has disrupted both our food systems and our school systems, potentially leading to a loss of resiliency for both the farms and communities involved in these programs

### Research Questions:

1. What kinds of changes (if any) have occurred in the patterns of farm participation in Oregon's F2S program between the 2018-2019 school year (pre-COVID), 2019-20 school year, and the 2020-21 school year?
2. Have there been significant changes to the characteristics of farms participating in OR's F2S program as a result of the COVID-19 pandemic?
3. What do these changes say about the strength of Oregon's local food systems, and do they reflect areas for potential improvement?



(Source: www.oregonfarmtoschool.org)

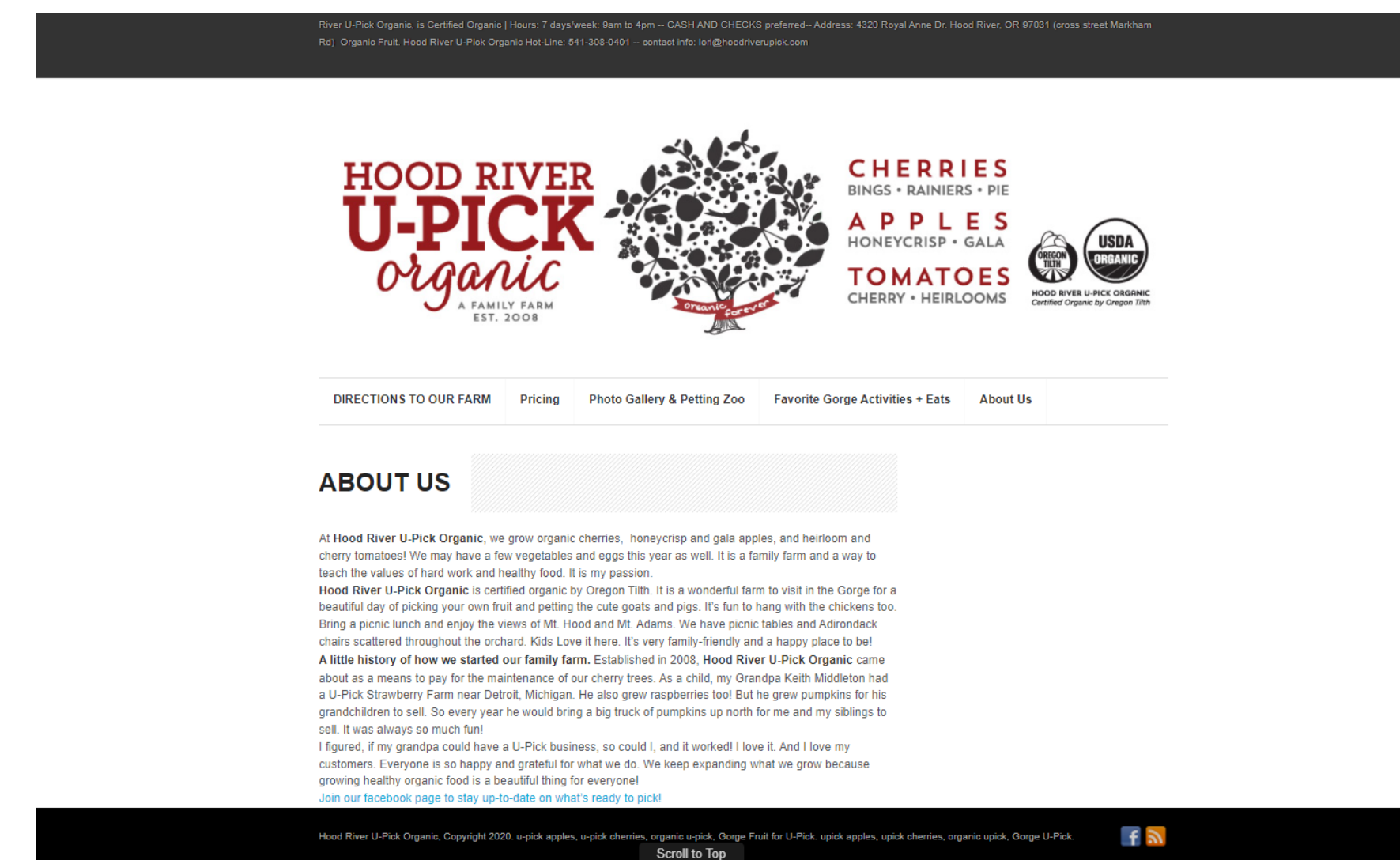
### Why is this Important?

- The full impact that the COVID-19 pandemic has had on the US food system is still being explored
- Using Oregon's F2S program as a case study in this research helps demonstrate the pandemic's impact on local/regional-level food systems, as opposed to a national scale.
- Identifying farm characteristics associated with continued participation (or lack thereof) in the Oregon F2S program throughout COVID may point to important farm-level factors that impact food system resiliency, and areas for additional improvement and support.

## MATERIALS & METHODS

### Data Collection:

- The methodology of this project involves collecting and analyzing data from F2S purchasing records provided to us by the state of Oregon.
- Information on the farms in the dataset was collected through extensive research of various online resources such as farm business websites/social media information/database entries/etc.
- If information regarding a farm entry could not be uncovered through the process of this web search, the entry was marked accordingly



(Source: hoodriverupick.com)

### Identifying Participating Farms:

In order to analyze farm-level characteristics, producers had to be separated from other parties (such as processors, wholesalers or distributors) included in the dataset. This process involved:

- Filtering purchasing records to include only entries of those involving OR-grown produce
- Collecting all party names listed as a secondary source for these items (which contained those identified as a farm/producer/vendor in the original dataset)
- Manually filtering out non-farm entries through the process of online research

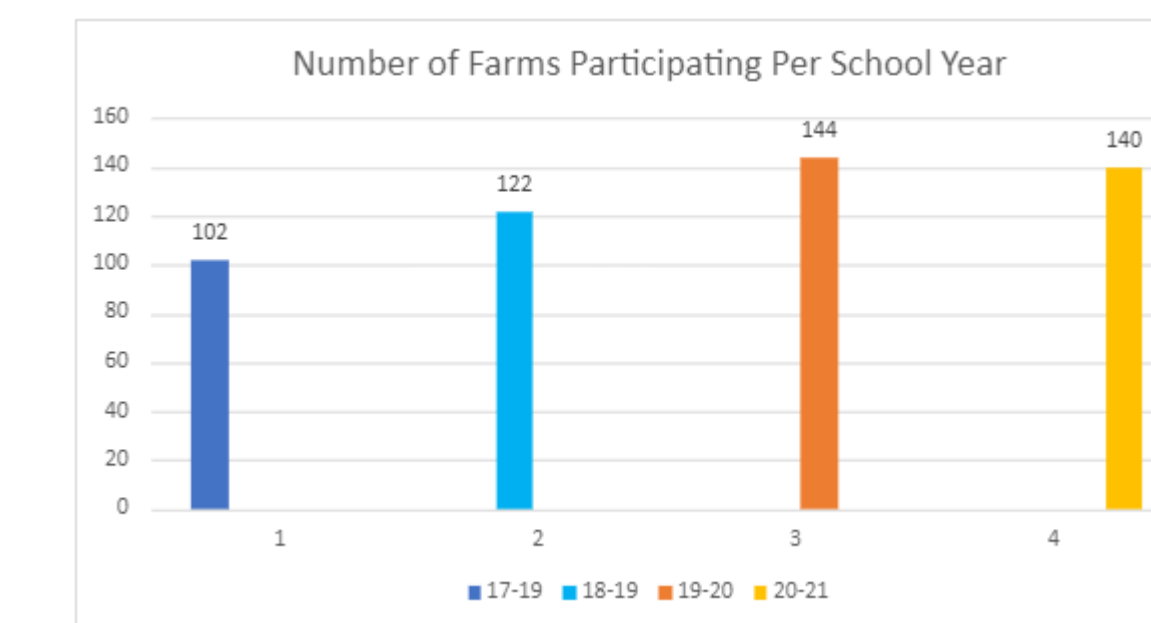
### Data Analysis:

The statistical analysis process involved:

- Un-paired T-Tests to compare the average number of transactions and the average number of school district connections per farm in Pre-Pandemic School Years (17-18, 18-19) vs During-Pandemic School Years (19-20, 20-21)
- Paired T-Tests to analyze the average number of transactions and the average number of school district connections per farm, for those who participated in years before and during the pandemic.
- 2-proportion Z-tests comparing farm characteristic proportions. This test was done to compare the 17-18 vs 18-19, 18-19 vs 19-20, 19-20 vs 20-21, and 17-18 vs 20-21 school years.

## RESULTS

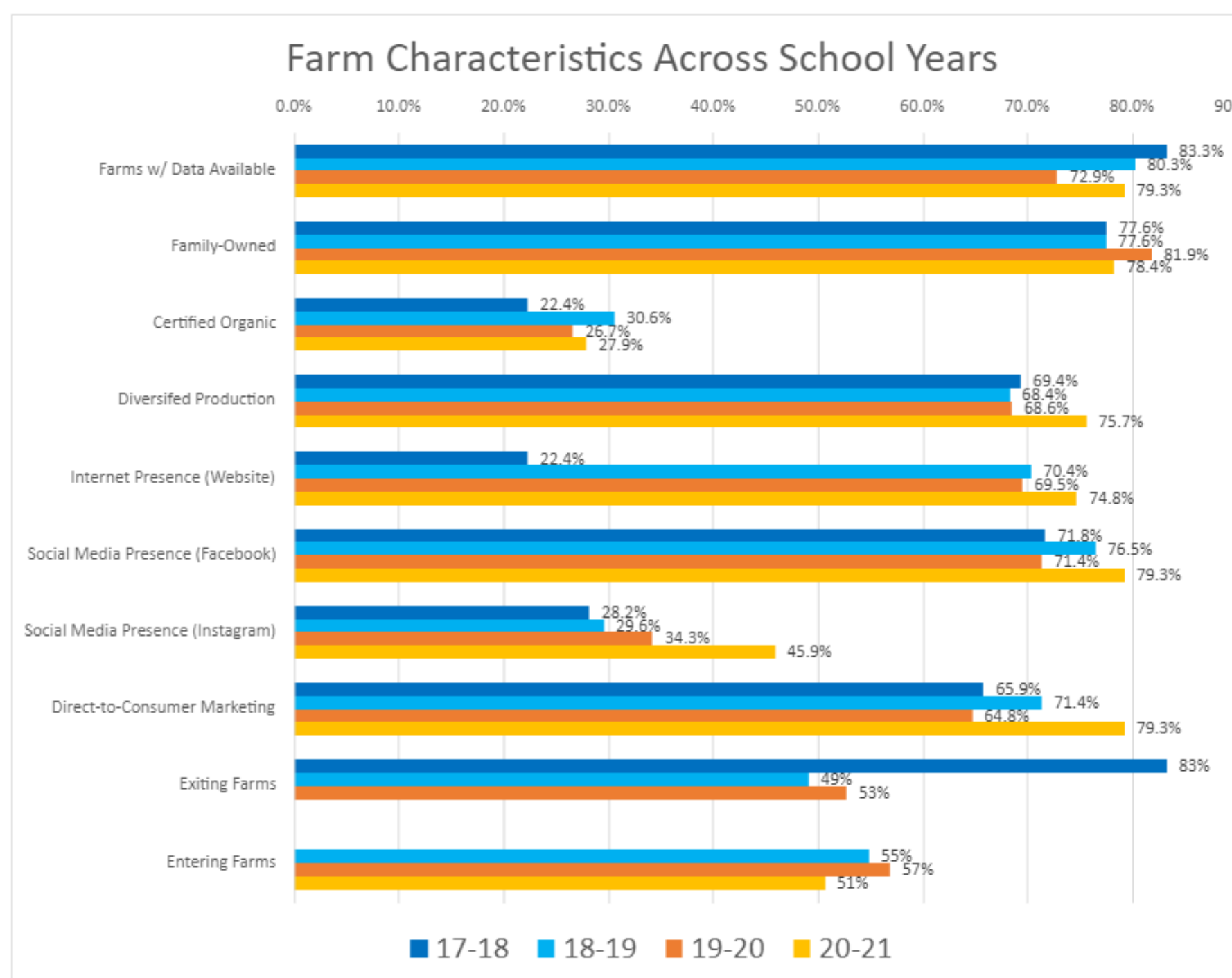
### Participation & Transaction Data



	17-18 School Year	18-19 School Year	19-20 School Year	20-21 School Year
Number of Farms Participating	102	122	144	140
Number with Characteristic Data Available	85	98	105	111
Number of Entrances	N/A	67	82	71
Number of Exits	47	60	76	N/A
Avg # of Transactions	17	13	11	7
Avg # of School District Connections	2	2	2	2
Average Size	476 acres (29 reported)	610 acres (44 reported)	910 acres (30 reported)	520 acres (39 reported)

(Note: No data was available for entrances during the 17-18 School Year, or exits after the 20-21 School Year.)

### Farm Characteristic Data



	17-18 School Year (85 Farms)	18-19 School Year (98 Farms)	19-20 School Year (105 Farms)	20-21 School Year (111 Farms)
Family Owned	66 (83.3%)	76 (80.3%)	86 (72.9%)	87 (79.3%)
Number organically certified	19 (22.4%)	30 (30.6%)	28 (26.7%)	31 (27.9%)
Number with diversified production	59 (69.4%)	67 (68.4%)	72 (68.6%)	84 (75.7%)
Number w/ Website	56 (65.9%)	69 (70.4%)	73 (69.5%)	83 (74.8%)
Number w/ FB	61 (71.8%)	75 (76.5%)	75 (71.4%)	88 (79.3%)
Number w/ IG	24 (28.2%)	29 (29.6%)	36 (34.3%)	51 (45.9%)*
Number w/ Direct Marketing	56 (65.9%)	70 (70.4%)	68 (64.8%)	88 (79.3%)*

\* = shown to be significant using a 2-proportion Z-test comparing 17-18 vs 20-21 School Years (P-value < .05)  
 \*\* = shown to be significant using a 2-proportion Z-test comparing 19-20 vs 20-21 School Years as well as 17-18 vs 20-21 School Years (P-value < .05)

## CONCLUSIONS & DISCUSSION

Overall, there were several trends that came out of these results:

- The **number of farms** participating in OR's F2S program increased during school years taking place during the pandemic, compared to pre-pandemic school years
  - This was unexpected, since it was hypothesized that farm participation would decrease during the COVID-19 Pandemic, due to producers going out of business
- The **average number of transactions** per farm decreased during school years taking place during the pandemic.
- The percentage of farms with a **Social Media Presence** (specifically regarding Instagram use) increased significantly during the COVID-19 pandemic.
  - This does not correlate with results regarding other virtual engagement methods such as a personal website or a Facebook account, which stayed relatively consistent over each of the four school years being analyzed.
- The Percentage of Farms involved in **Direct-to-Consumer Marketing Strategies** also increased significantly during the COVID-19 Pandemic (specifically during the 20-21 school year)

However, only the data relating to Social Media Presence (IG) and Direct-to-Consumer Marketing proved to be statistically significant. This is likely due to the high amount of variation relating to these factors that was present in the dataset.

The significant increases in Social Media Presence on Instagram and Direct-to-Consumer Marketing Strategies suggests an increase in community connections between farms and the individual consumer as a result of the COVID-19 pandemic. However, further research will need to be conducted to confirm this relationship.

## WORKS CITED:

1. Vallianatos, M., Gottlieb, R., & Haase, M. A. (2004). Farm-to-School: Strategies for Urban Health, Combating Sprawl, and Establishing a Community Food Systems Approach. *Journal of Planning Education and Research*, 23(4), 414–423. <https://doi.org/10.1177/0739456X04264765>

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