



Comparing Winter Produce in Supermarkets & Farmers Markets

University of Washington Public Health Nutrition 531
March 2016

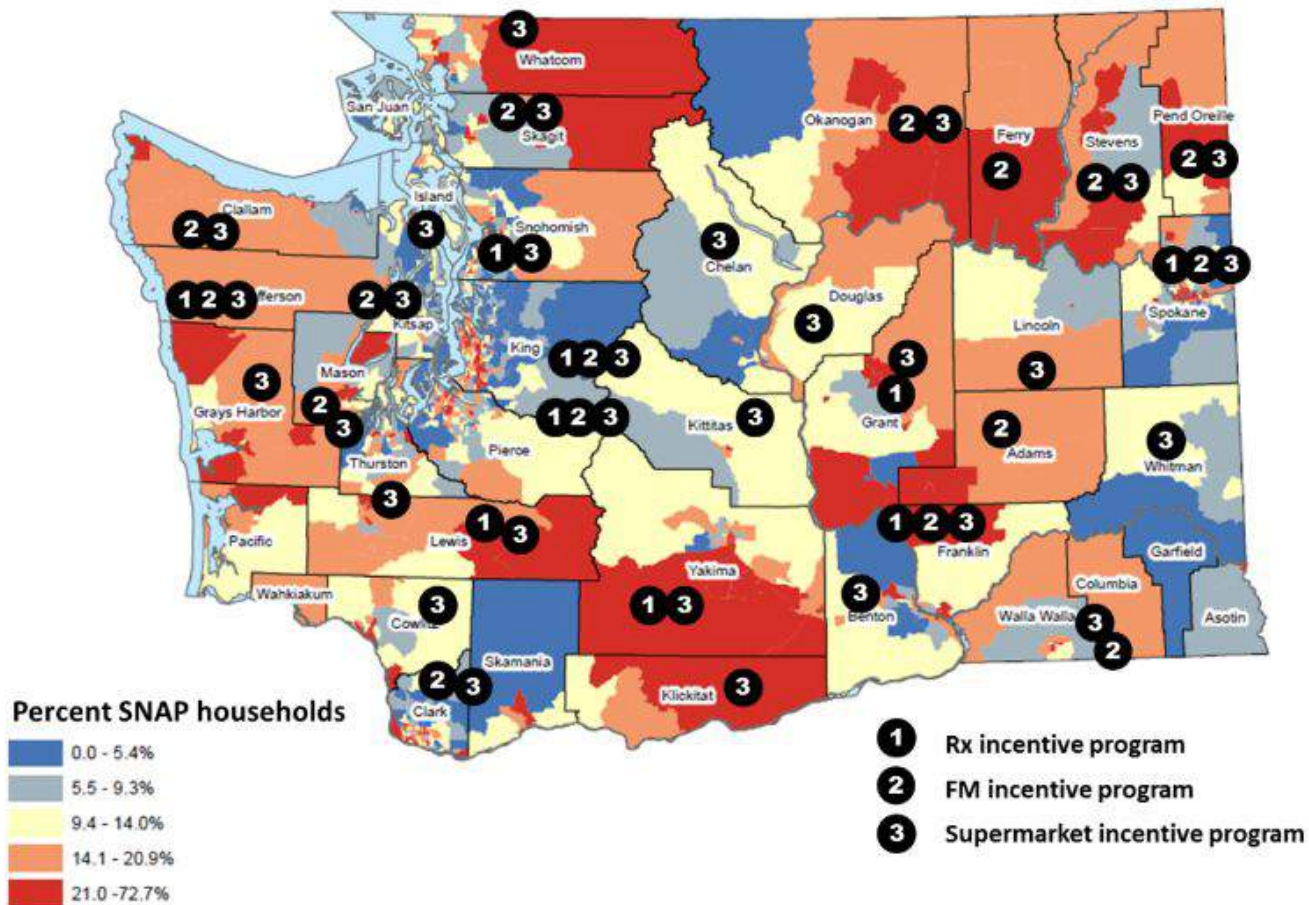


Introduction



FINI Incentive Programs in Washington State

(SNAP data source: American Community Survey, 2008-2012, data file)



Food Insecurity Nutrition Incentive (FINI) Grant

SNAP shoppers will be able to take advantage of incentives at:

Farmers Markets

Shoppers who use their SNAP benefits at Farmers Markets are matched with cash value market tokens they can then use to buy more fruits and vegetables.

By 2019, 80 farmers markets throughout Washington will offer SNAP incentive programs.

Safeway Supermarkets

Shoppers who use their SNAP benefits at Washington's Safeway stores will get a 30% discount on qualifying purchases of fresh, canned or frozen fruits and vegetables.

Health Systems

Community-based health providers and community health workers will distribute fruit and vegetable "prescriptions" to patients who participate in SNAP. Patients can redeem their \$10 produce Rx at any participating Safeway store or farmers market.

Project Goals



Complete a literature review summarizing the **factors that influence produce purchasing** patterns and venue choices among SNAP participants and **pricing** of F&V in SMs and FMs.



Assess and evaluate the **quality** and **cost** of comparable produce items (fresh, frozen and canned) available at SMs and FMs during winter months.



Describe the differences in **variety** and **source location** of winter produce in SMs and FMs.

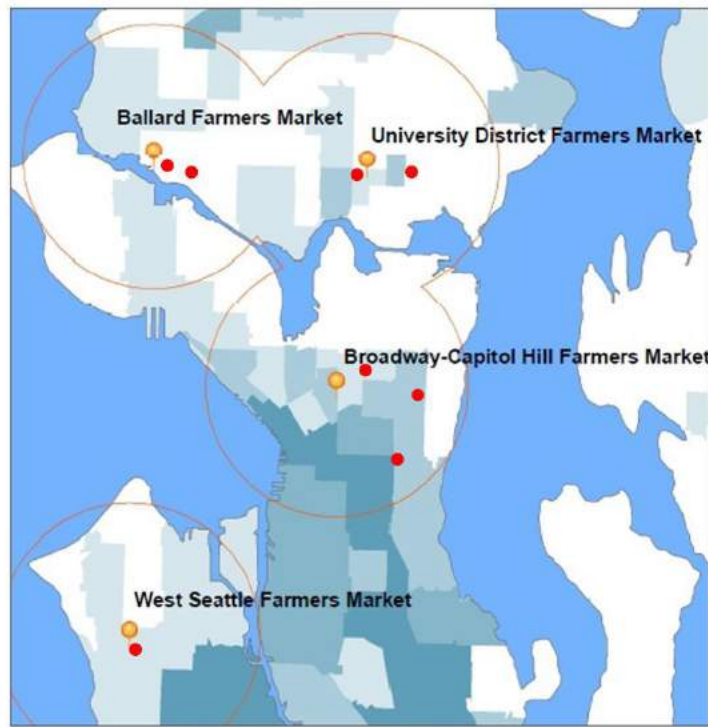


Describe the differences in **environmental factors** that may affect purchasing patterns at FMs and SMs, including: merchandizing strategies, retail hours, and accessibility.



Make evidence-based policy, system, and environmental **recommendations** to increase F&V purchasing patterns among SNAP participants that address common perceptions, behaviors, and environmental factors.

Participating Neighborhoods



Percent of SNAP households

0% - 5%

5.1% - 10%

10.1% - 15%

15.1% - 20%

20.1% - 78.8%

Orange dot: Farmers Markets Surveyed

Red dot: Supermarkets Surveyed

0 0.5 1 2 Miles



Timeline

Week 1

Week 10



**Project
Initiation**

**Literature
Review
and
Tool
Development**

**Assessments
and
Interviews
Conducted and
Analyzed**

**Final
Report**

**Project
Completion**



Literature Review



Price and Costs

**Convenience and
Availability**

Quality and Value

Store Atmosphere

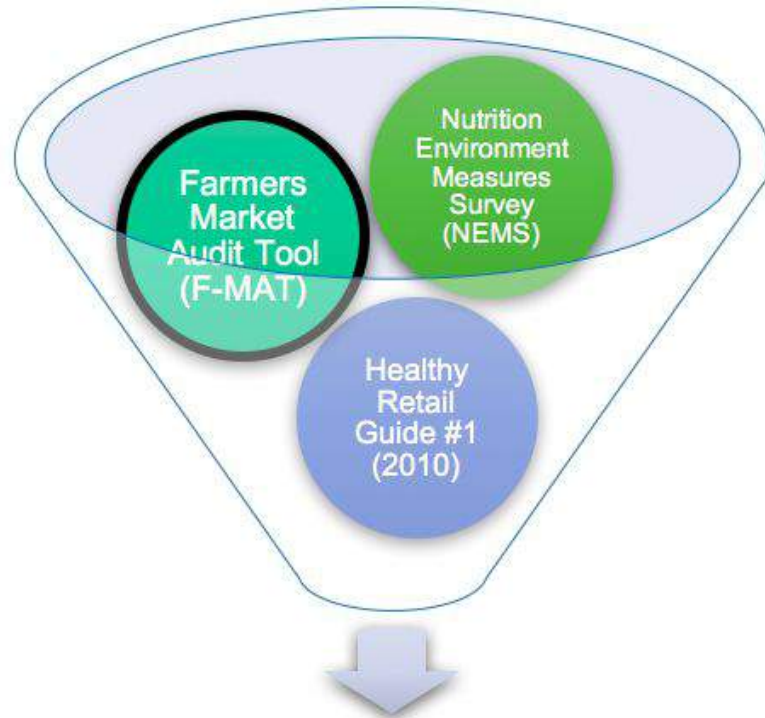
Household Factors



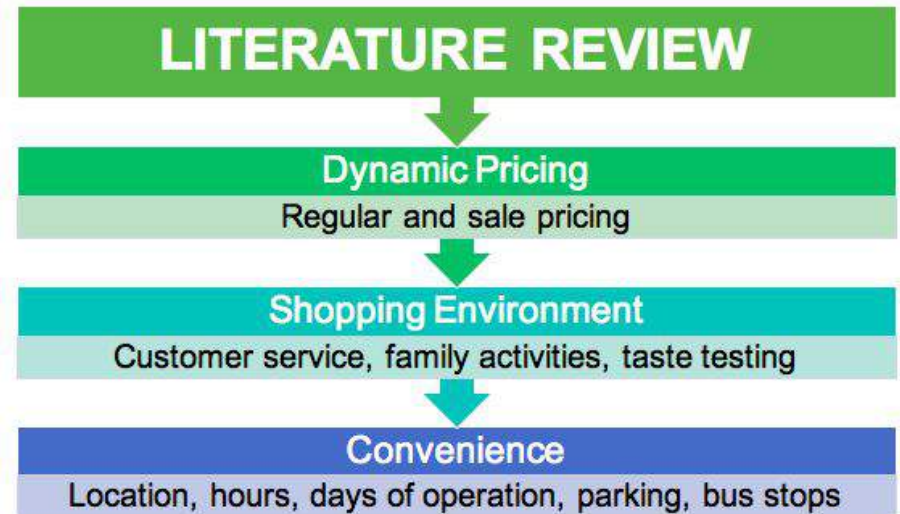
Methods



Tool Development - Review of Existing Tools



Data Collection Tool



Tool Development - Winter Produce Selection

According to the Produce for Better Health Foundation, **the most popular and frequently purchased produce items** that are produced in January in Washington are:



- **apples**
- **pears**
- **potatoes**
- **onions**
- **carrots**
- **mushrooms**
- **squash**
- **kale**
- **collard greens**

Tool Development - Preliminary Surveying



Purpose: To confirm **produce availability** and the **specific varieties** most common to Seattle produce vendors and supermarkets.



Findings: At least one variety of the nine produce items identified for this survey were available in each location, and as many as 23 varieties of a single fruit were observed.



Next steps: We further narrowed the scope of data collection to the

- **most commonly purchased**
- **least expensive**
- **most expensive**

options for each fruit and vegetable.

Tool Development - Testing and Training



Development: developed the first version of the tool **based on the literature review**



Feedback: presented the tool prior to developing the final version in order to **gather feedback on improvements and clarify areas of confusion**



Testing: did a **pilot test** with the developed tool at farmers markets one week prior disseminating the tool



Training: developed a comprehensive set of instructions and **provided in-person training** for the supermarket research team

How “Appearance” was defined

APPEARANCE SCALE BASED ON CONSUMER EXPECTATIONS AND PREFERENCES

“Perfect” = peak condition, good color, fresh, firm, unblemished, and clean.

“Good” = good condition, relatively fresh looking, minor defects (e.g. several bruises, some dirt, several dark spots on the fruit skin), overall acceptable but not perfect quality.

“Poor” = bruised, old looking, mushy, dry, overripe, dark sunken spots in irregular patches or cracked or broken surfaces, signs of shriveling, mold or excessive softening.

“PERFECT”



“GOOD”



“POOR”



LITERATURE REVIEW

SNAP participants identified barriers to shopping at farmers market based on appearance:

- “Food is dirty”
- “Spoilage”

Methods - Data Analysis



- Data entered into a standardized Microsoft Excel Workbook
 - Separate spreadsheets for Farmers Markets and Supermarkets



- Data filtered and used to analyze:
 - Descriptive characteristics of the Farmers Markets and Supermarkets
 - Variety of produce sold
 - Pricing of produce (regular prices per pound)
 - Farmers Market vs. Supermarkets
 - Neighborhoods
 - Fresh/Canned/Frozen
 - Source/origin of produce
 - Appearance of produce



Methods - Informant Interviews



Qualitative phone interviews

- 13 open-ended questions
- 4 interviews with retail produce managers of stores within 2 miles of local farmers markets



Purpose: To assess retail produce managers' perception of F&V:

- Cost
- Availability
- Purchasing patterns among low-income customers



Methods

- Interview training
- IRB approval
- Store manager approval
- 2 researchers per interview
- Interviews recorded, de-identified and analyzed to identify common themes, patterns and trends

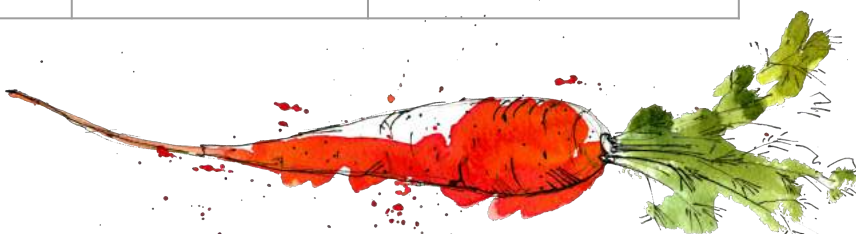


Results



Results - Descriptive Characteristics

Farmers Markets	Operating Times	Parking	Accessibility		Promotional Activities
			Bus	Walkability	
Ballard Broadway West Seattle U-District	Sun. (10AM - 3PM) Sun. (11AM - 3PM) Sun. (10AM - 2PM) Sat. (9AM - 2PM)	X X ✓ (with handicap) ✓ (with handicap)	8 10+ 10+ 10+	95 98 96 98	Live music Customer Service EBT signage
Supermarkets	Operating Times	Parking	Accessibility		Promotional Activities
			Bus	Walkability	
8 total; within 2 miles of FM	Open 365 days/year, 19 hours/day (average)	Available at all stores, with handicap	5+	65-98	Customer service (n=7)



Results - Merchandising Strategies



Farmers Markets:

- 95% produce labelled
- Promotional Signs:
 - ◆ “No GMOs”
 - ◆ “Organic”
 - ◆ “No Chemicals”
- Samples offered for 10% of produce

Supermarkets:

- 99% produce labelled
- Promotional Signs:
 - ◆ “Fresh”
 - ◆ “Local”
 - ◆ “Organic”
- 81% of the eligible canned and frozen produce was shelved at eye level

Results - Informant Interviews

Store Values

- 🍆 Buying local (n=3)
- 🍆 Organic, depending on consumer demand and pricing

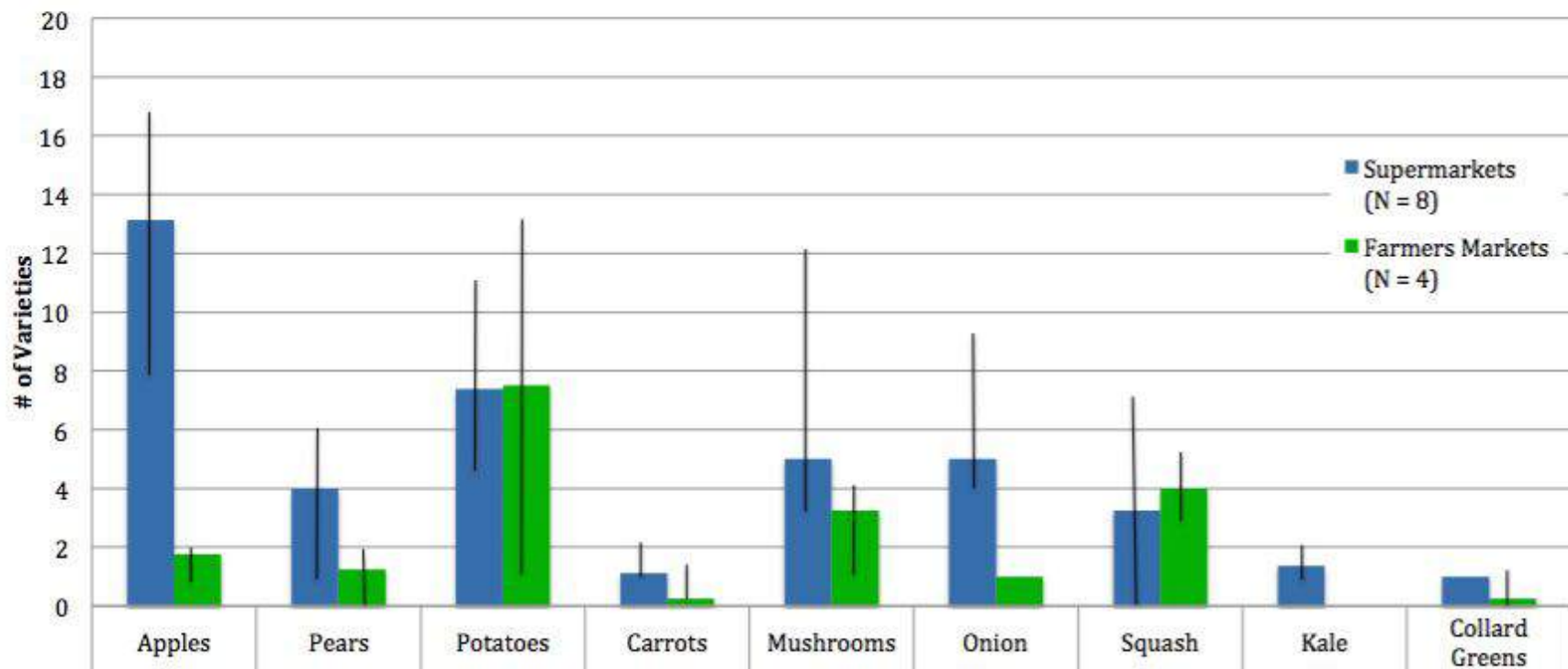
Customer Values

- 🍆 Price
- 🍆 Seasonality
- 🍆 Quality
- 🍆 Sourcing
- 🍆 Dependent on income and marketing

Other Findings

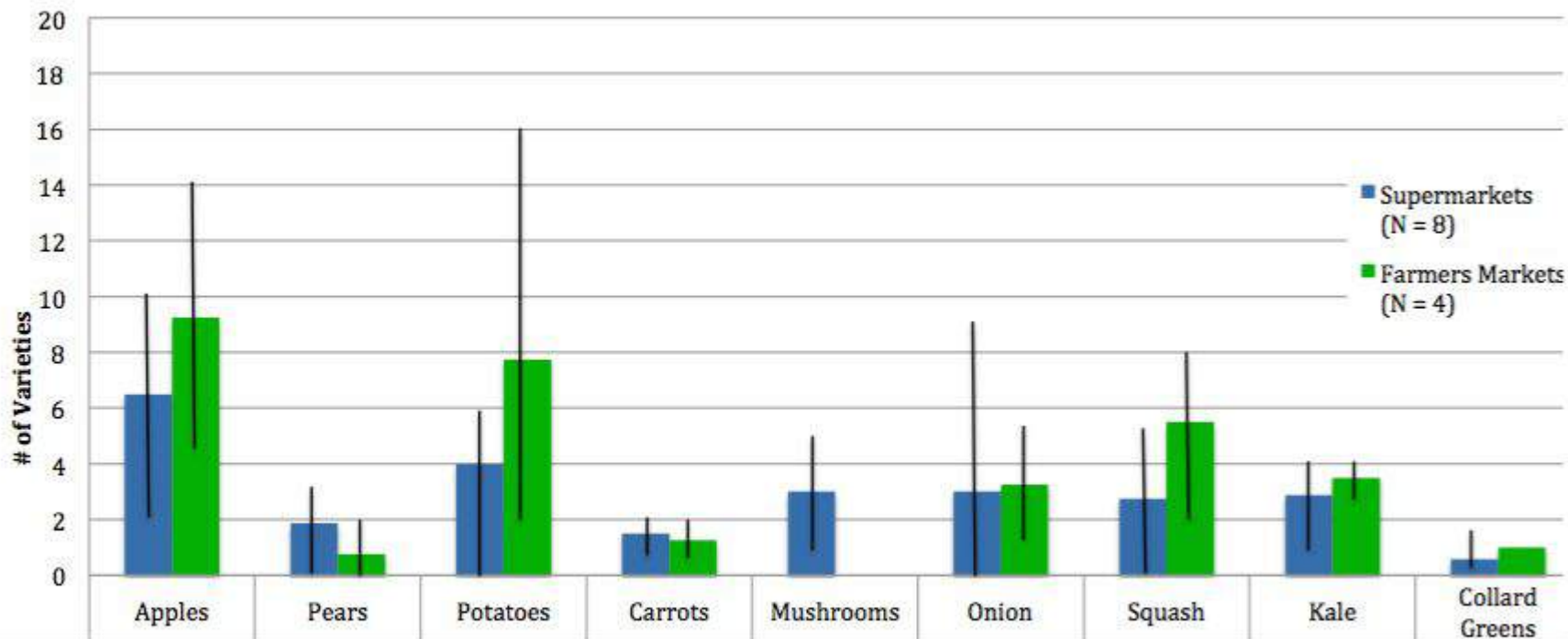
- 🍆 No competition with Farmers Markets
 - Supermarkets are a “One stop shop”
 - Farmers Markets are more of a speciality market with limited hours
 - 🍆 Efforts to make F&V more appealing
 - Display
 - Seasonality
 - Stocked shelves
 - 🍆 Little focus on value
-

Fresh Conventional Winter Produce Varieties in King County Supermarkets vs. Farmers Markets



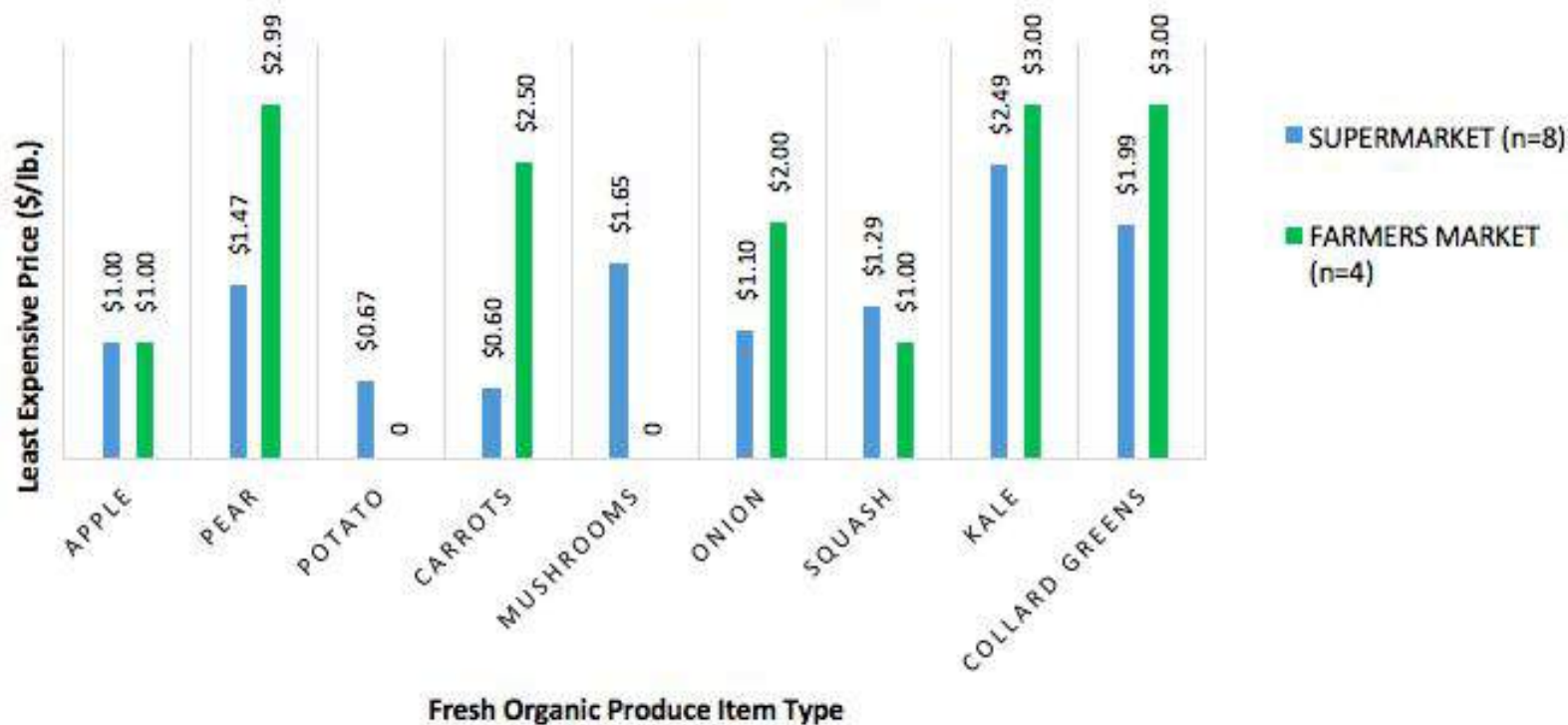
Supermarkets (N = 8)	13	4	7	1	5	5	3	1	1
Farmers Markets (N = 4)	2	1	8	0	3	1	4	0	0

Fresh Organic Winter Produce Varieties in King County Supermarkets vs. Farmers Markets

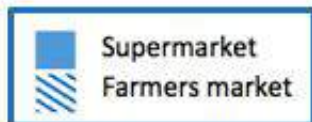


Supermarkets (N = 8)	7	2	4	2	3	3	3	3	1
Farmers Markets (N = 4)	9	1	8	1	0	3	6	4	1

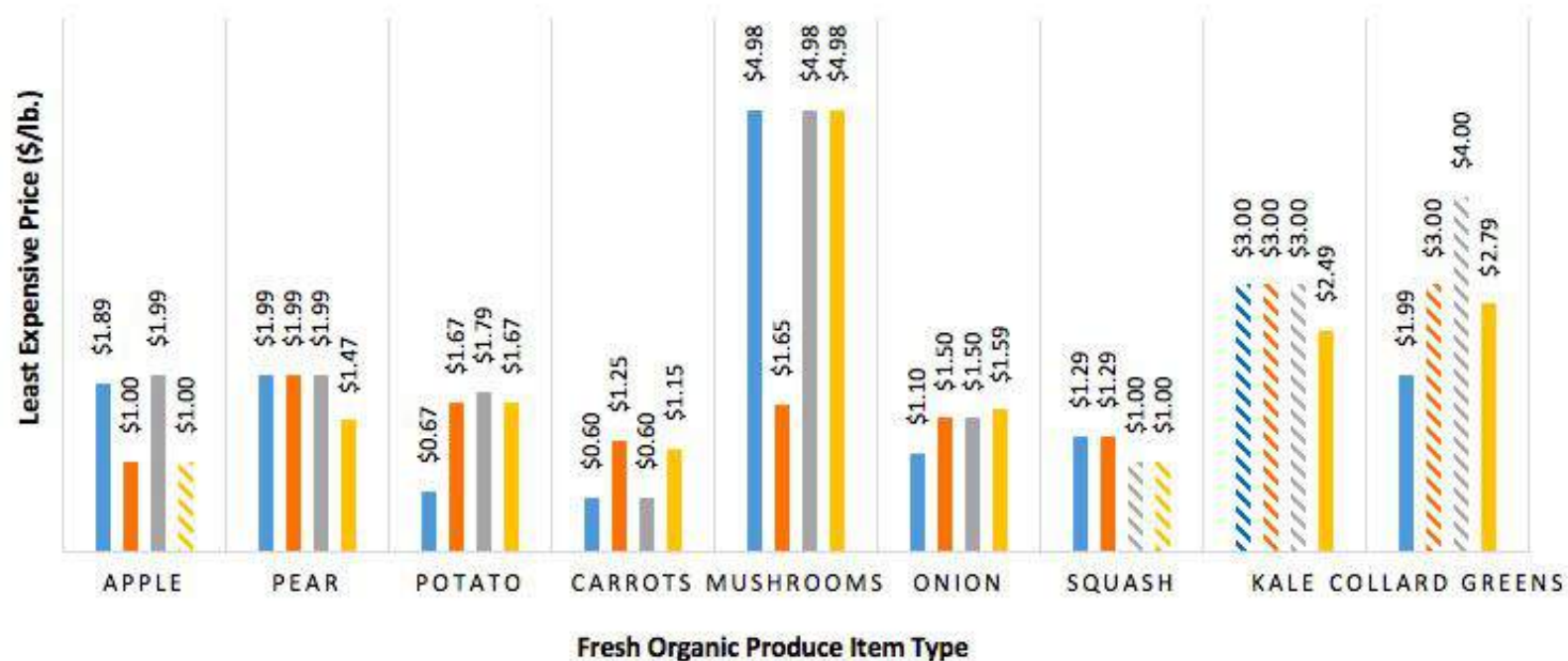
Fresh Organic Winter Produce Prices in King County Supermarkets vs. Farmers Markets



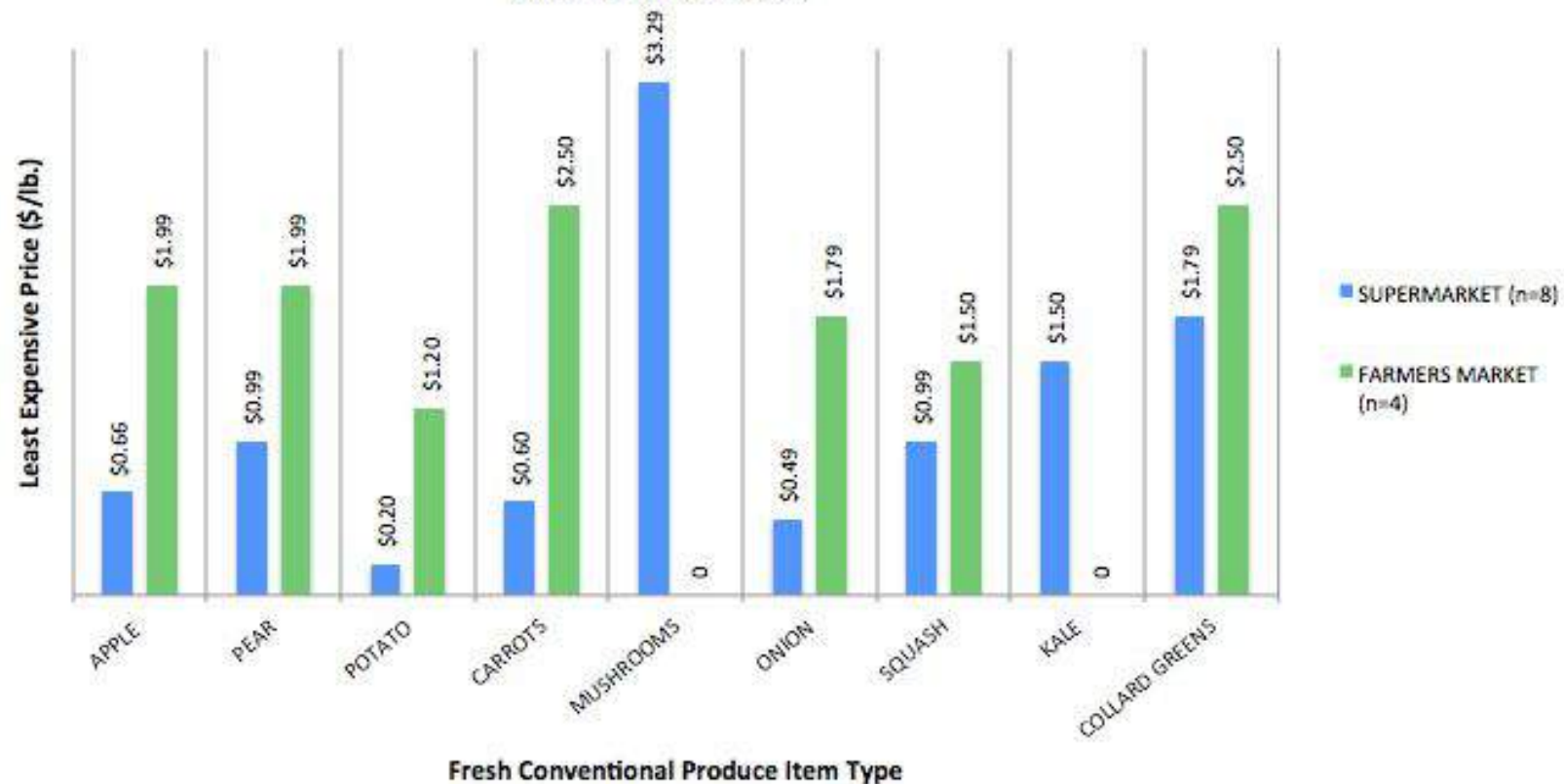
Fresh Organic Winter Produce Prices By King County Neighborhood



BALLARD
 BROADWAY
 WEST SEATTLE
 UNIVERSITY DISTRICT



Fresh Conventional Winter Produce Prices in King County Supermarkets vs. Farmers Markets

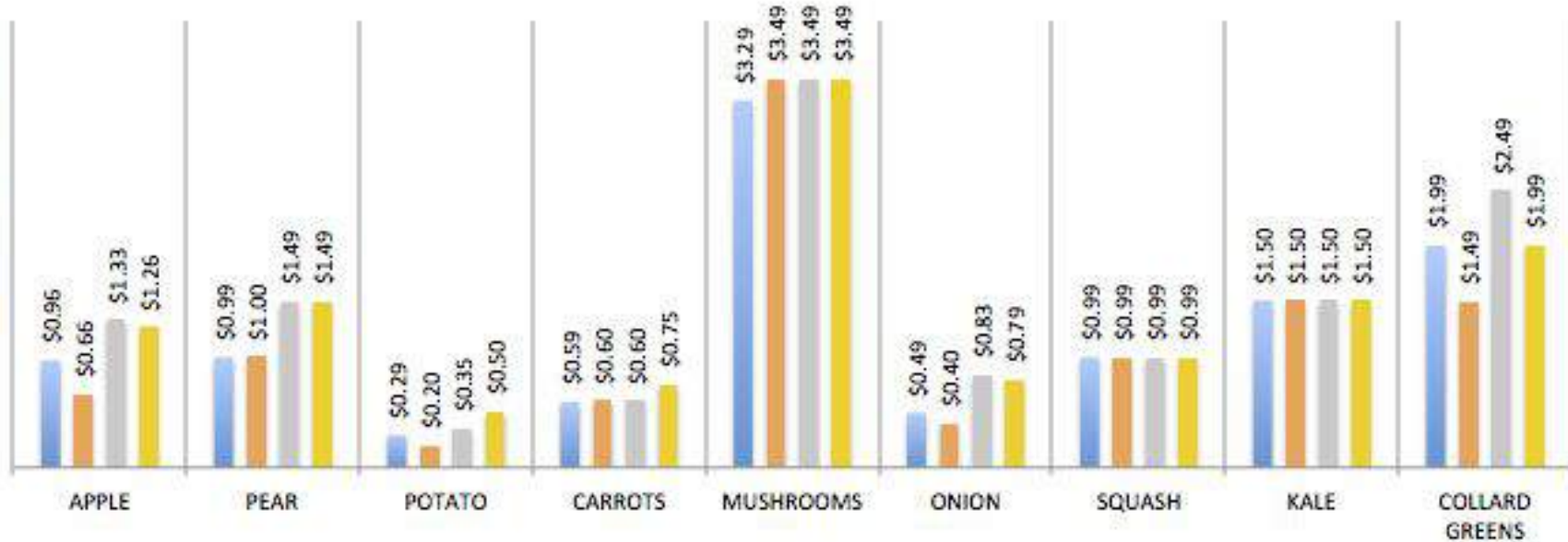


Fresh Conventional Winter Produce Prices By King County Neighborhood



■ BALLARD
 ■ BROADWAY
 ■ WEST SEATTLE
 ■ UNIVERSITY DISTRICT

Least Expensive Price (\$/lb.)



Fresh Conventional Produce Item Type

Conventional Winter Produce in King County Supermarkets and Farmers Markets by Least Expensive Option in Price per Pound

	Farmers Market (fresh)	Supermarket (fresh)	Canned	Frozen
Apples	\$2.12	\$1.21	\$1.15	\$5.50
Pears	\$2.24	\$1.47	\$1.89	
Potatoes	\$1.66	\$0.35		\$1.22
Carrots	\$2.50	\$0.72		\$1.45
Mushrooms	\$50.00	\$3.90		
Onions	\$1.79	\$0.77		\$1.94
Squash	\$1.50	\$1.10	\$2.09	\$1.65
Kale		\$2.64		\$3.06
Collard Greens	\$2.50	\$2.14		\$1.73

*A grey box indicates no option was available

** Red numbering denotes the least expensive option

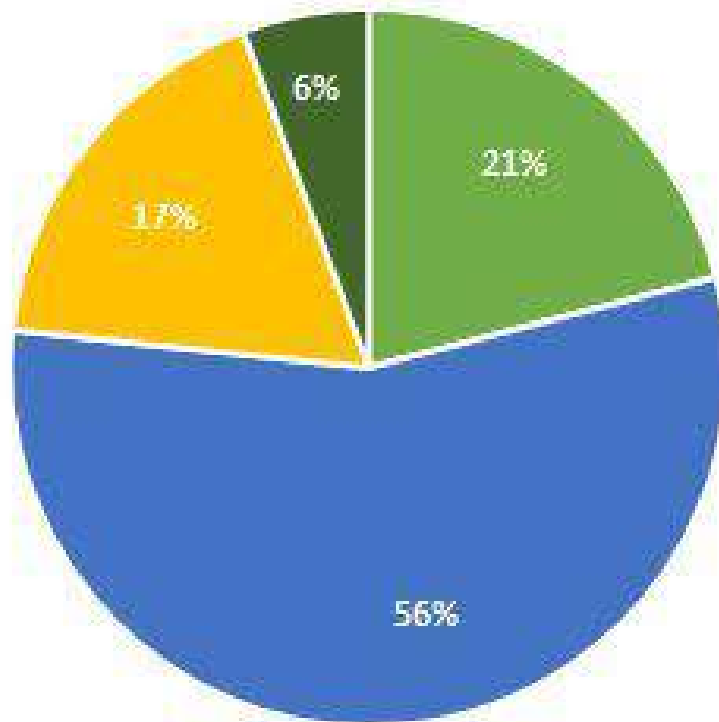
Organic Winter Produce in King County Supermarkets and Farmers Markets by Least Expensive Option in Price per Pound

	Farmer's Market (fresh)	Grocery Store (fresh)	Canned	Frozen
Apples	\$1.75	\$2.38	\$2.41	
Pears	\$3.00	\$2.12	\$2.12	
Potatoes	\$1.38	\$1.69		\$4.78
Carrots	\$2.90	\$1.24		
Mushrooms		\$5.27		
Onions	\$2.25	\$1.55		
Squash	\$1.19	\$1.45	\$2.87	\$4.78
Kale	\$3.00	\$4.39		\$3.95
Collard Greens	\$3.25	\$2.69		\$6.73

*A grey box indicates no option was available

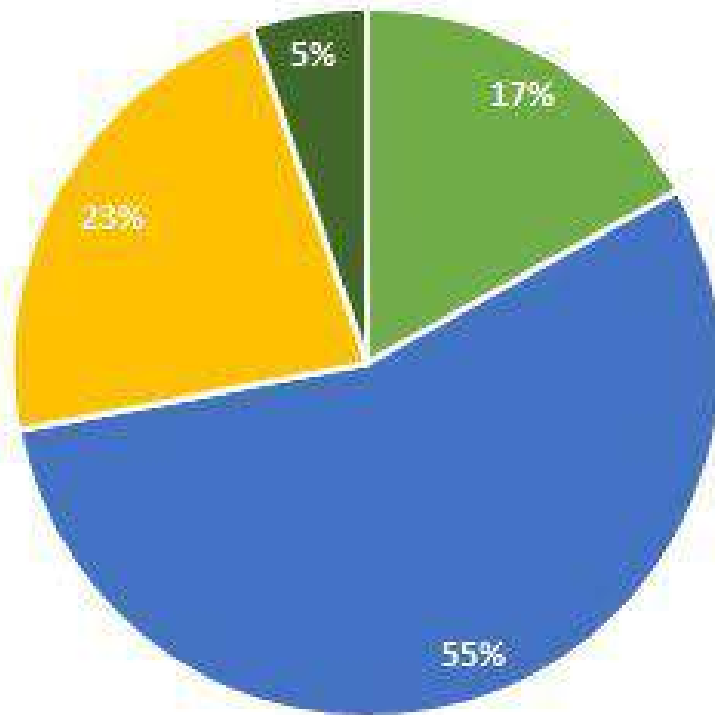
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Fresh Conventional Winter Produce in King County Supermarkets by Place of Origin



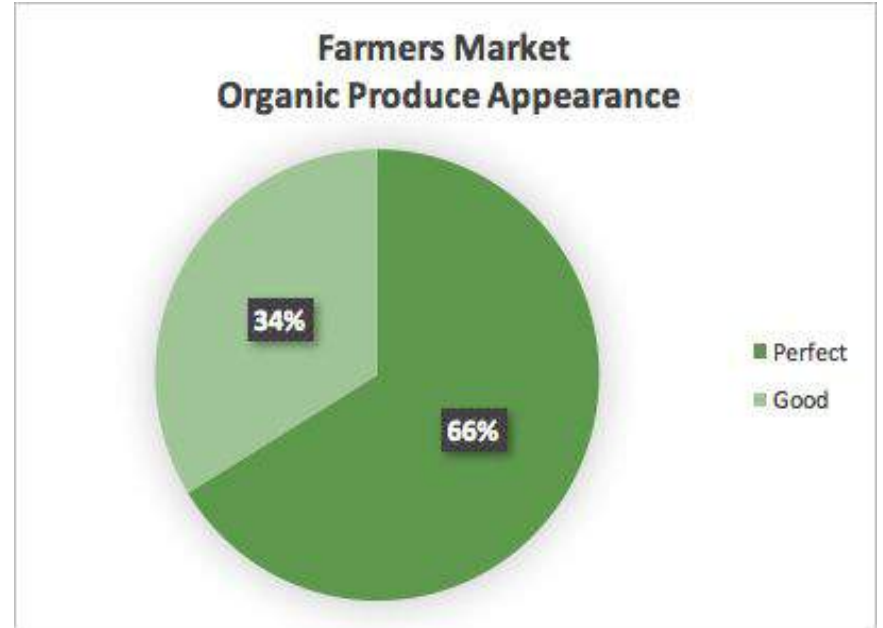
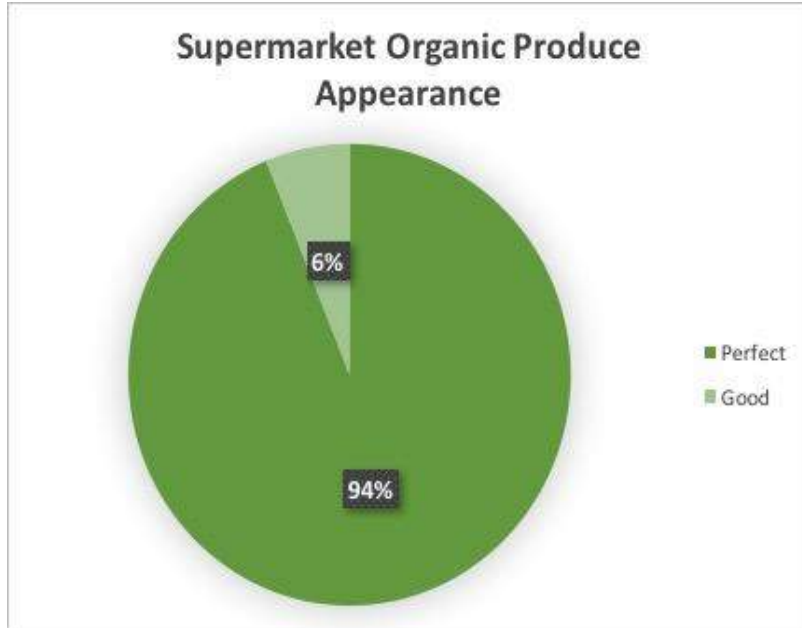
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Fresh Organic Winter Produce in King County Supermarkets by Place of Origin



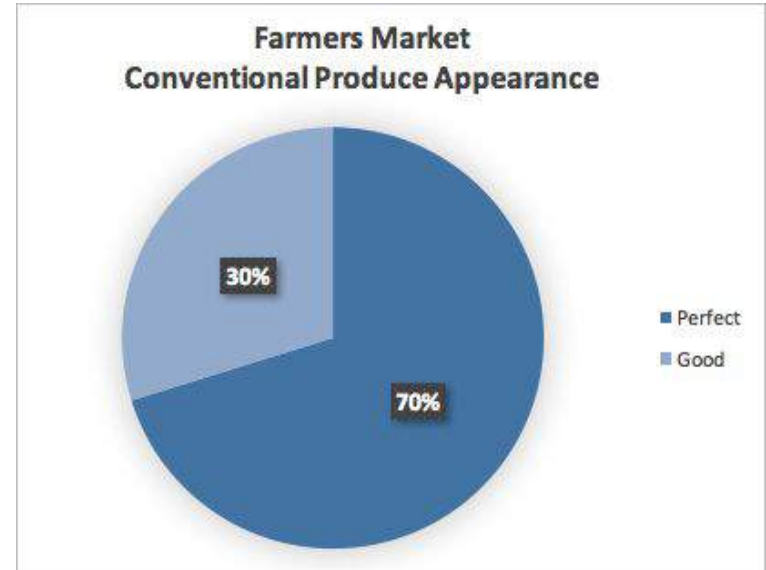
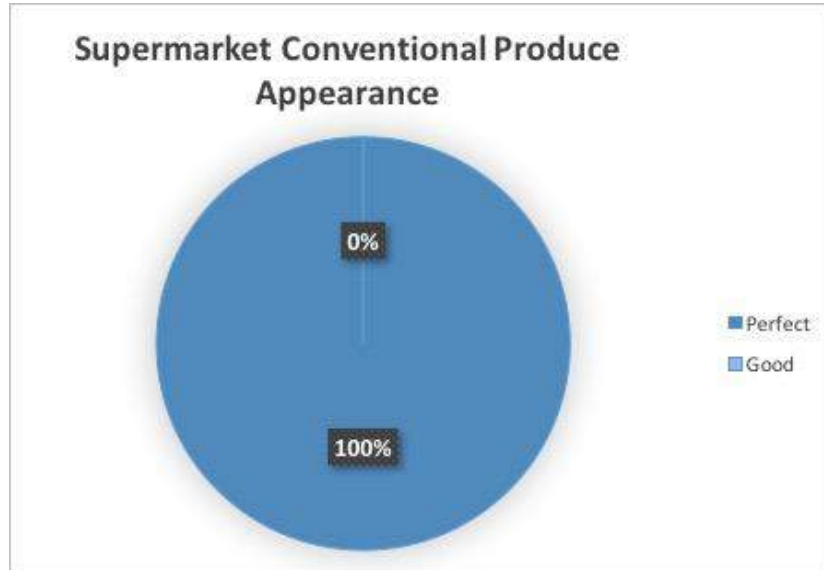
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Results - FM vs. SM Appearance (Organic)



KEY TAKEAWAY: HIGHER PROPORTION OF "PERFECT" ORGANIC PRODUCE AT SMs VS. FMs

Results - FM vs. SM Appearance (Conventional)



KEY TAKEAWAY: HIGHER PROPORTION OF "PERFECT" CONVENTIONAL PRODUCE AT SMs VS. FMs

Discussion & Conclusion



Recommendations

-  Consider **expanding FINI incentives** to include more supermarket, superstores, discount grocery stores especially low-cost retailers.
-  Promote **purchase of frozen F&V** given that these foods are convenient, have a longer shelf-life and limited additives.
-  Provide in-store **labeling** and **signage** around incentive-eligible items.
-  Consider expanding **educational opportunities** that promote increased F&V purchases and cooking.
-  Increase visibility of **EBT-acceptance signs** and SNAP-friendly **marketing strategies** at FM for greater recognition among participants.

Limitations



Study design

- 10-week timeframe
- Provider was only assessed once



Some inconsistencies in **price standardization**

- Bunch vs. price/pound
- Bulk-pricing was not measured separately
- “Organic” produce only included certified organic produce; **price differential for organically-grown was not taken into consideration**

Limitations, cont.



“Quality” was based on **physical appearance of produce**

- Did not collect data on produce **storage duration, shipping conditions, taste, scent, or nutrient content**
- Appearance score **may be subjective**



Human variability in data collection

- Data collection was **split between a team of 10 students**



Availability/Convenience

- Only supermarkets **within a 2-mile radius were assessed**
- Only 4 **farmers markets open year-round**

Further Research Needed



Conduct the study **in different seasons** (Spring, Summer, and Fall)



Further analysis of fresh vs. frozen pricing to **consider bulk, sale, and vendor-based loyalty pricing, and cost of edible portion**



Future research **beyond cost measures**, including convenience and social perceptions



Questions?

