Consumers' Willingness to Pay for Local CEA Vegetables: The Case of Tomato & Lettuce

Irin Nishi, Neil Mattson, Miguel I. Gómez,
Cornell University
Cornell CEA Entrepreneur Conference, November 1, 2017

Market for locally grown

- National market demand for “local food” has expanded from $1 billion to $7 billion in the last 9 years
- Consumer demand and sales for locally-sourced vegetables at Whole Foods have doubled since 2012
- *Locally grown* - top produce trend for 2015 – National Restaurant Association

New York State Greenhouse Vegetables

	2012	**2007**
Production Operations	435	201
Wholesale Value (millions)	27.4	17.7
Acres of greenhouses	114	69

Growth in greenhouse vegetables, 54% increase in value in 5 years

Ranks 2nd in U.S. for greenhouse vegetables

USDA NASS, Census of Agriculture

Consumers Willingness to Pay for Local CEA Vegetables: The Case of Tomato and Lettuce

- To measure differences in consumer willingness to pay for lettuce and tomatoes with:
  - Different origins (New York State vs. Out-of-State) and
  - Grown under different production systems (CEA vs. field-grown)
- To examine whether more detailed information about origin and production system affects consumer willingness to pay

Controlled Experiment

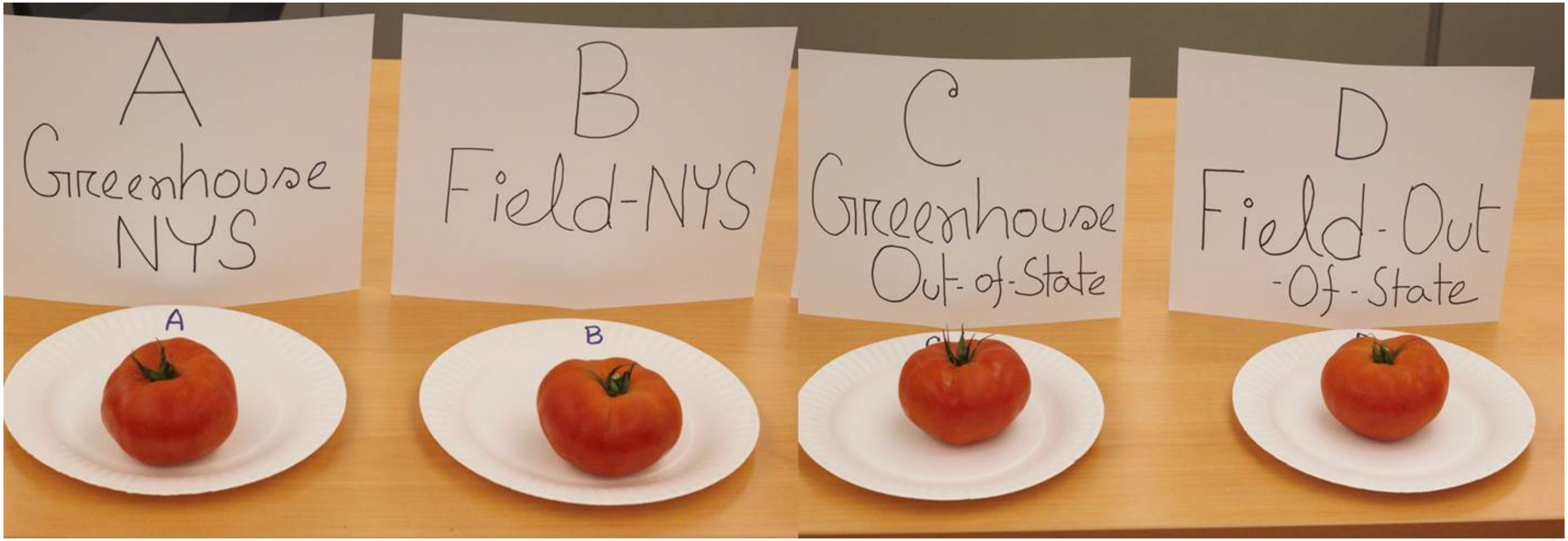
Experimental Procedures

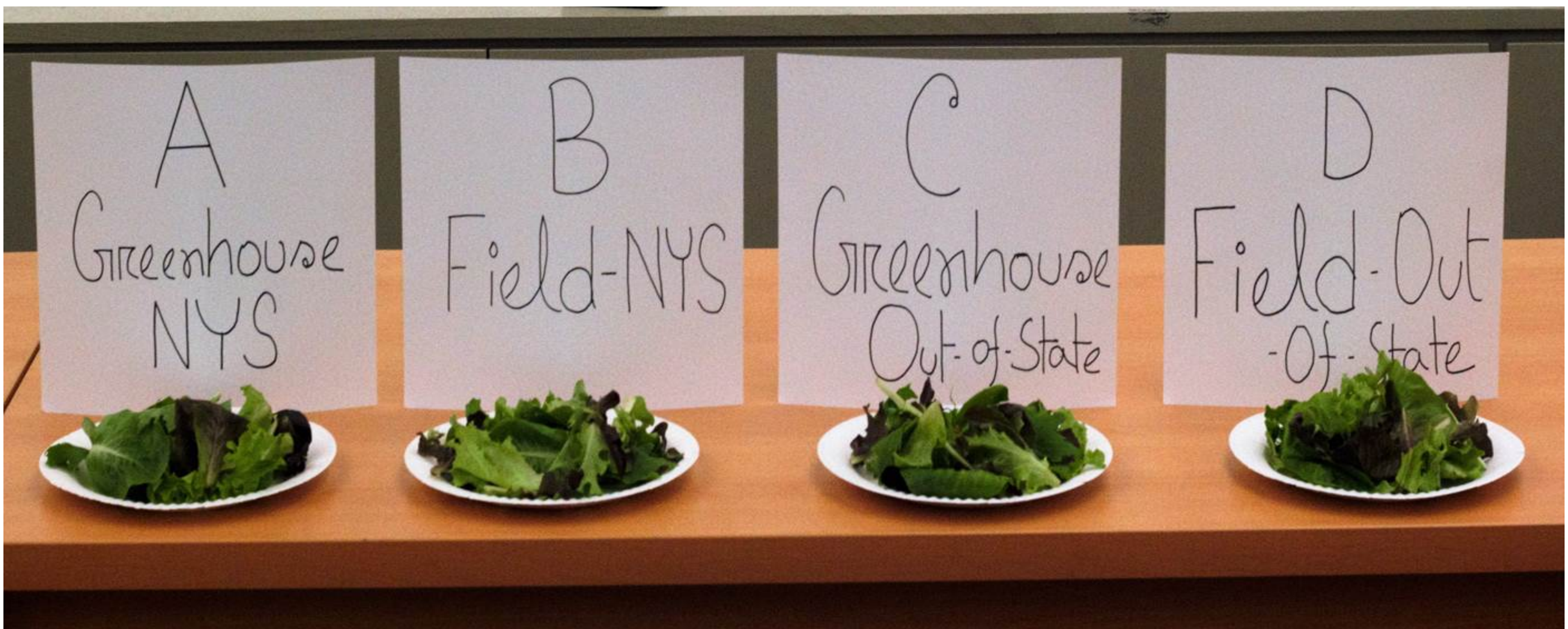
- Subjects were presented 4 categories of tomatoes and 4 categories of lettuce (CEA-NYS, field-NYS, CEA-out-of-state and field-out-of-state)

- Subjects indicated their maximum WTP for 8 ounces of each tomato and 8 ounces of each lettuce type

- They also completed a survey at the end of the experiment (demographic and behavior data)

Beefsteak Tomato and Baby Lettuce Mix


A
Greenhouse NYS
B
Field-NYS
C
Greenhouse Out-of-State
D
Field-Out -Of-State
A
B


A
Greenhouse NYS
B
Field-NYS
C
Greenhouse Out-of-State
D
Field-Out -Of-State

Experimental Procedures: Data

- Tomato: 428 observations from 107 subjects
- Lettuce: 444 observations from 111 subjects

- 6 experimental sessions in total:
  - Session 1, 2 & 3: subjects were informed about the production systems and origins of the tomatoes and lettuce
  - Session 4, 5 & 6: subjects received more information regarding the production systems and origins (availability, food miles and job opportunity) of tomatoes and lettuce

Sessions Without Information

Tomato types

Tomato A: Greenhouse-grown in New York State (NYS)

Tomato B: Field-grown in New York State (NYS)

Tomato C: Greenhouse-grown in Out-of-State

Tomato D: Field-grown in Out-of-State

Sessions With Information

Greenhouse-grown in New York State (NYS)

Greenhouses allow growers to control growing conditions to produce NYS-grown tomatoes available year round

Tomatoes produced within NYS travel on average 150 miles to market

Generate NYS jobs year round (1 job per 40 tons harvested)

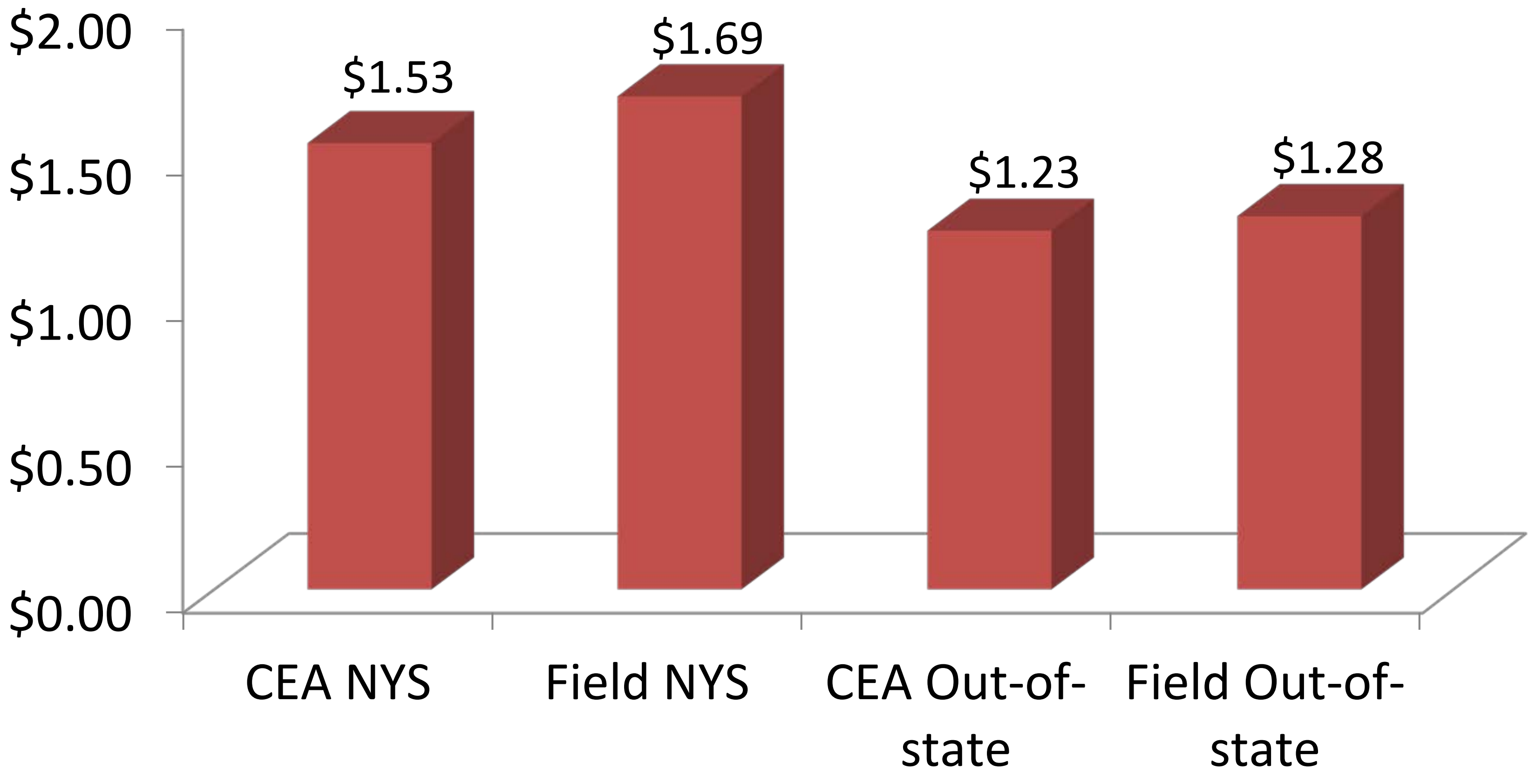
Field-grown in New York State (NYS)

Less control over growing conditions, so NYS-grown tomatoes available five months of the year

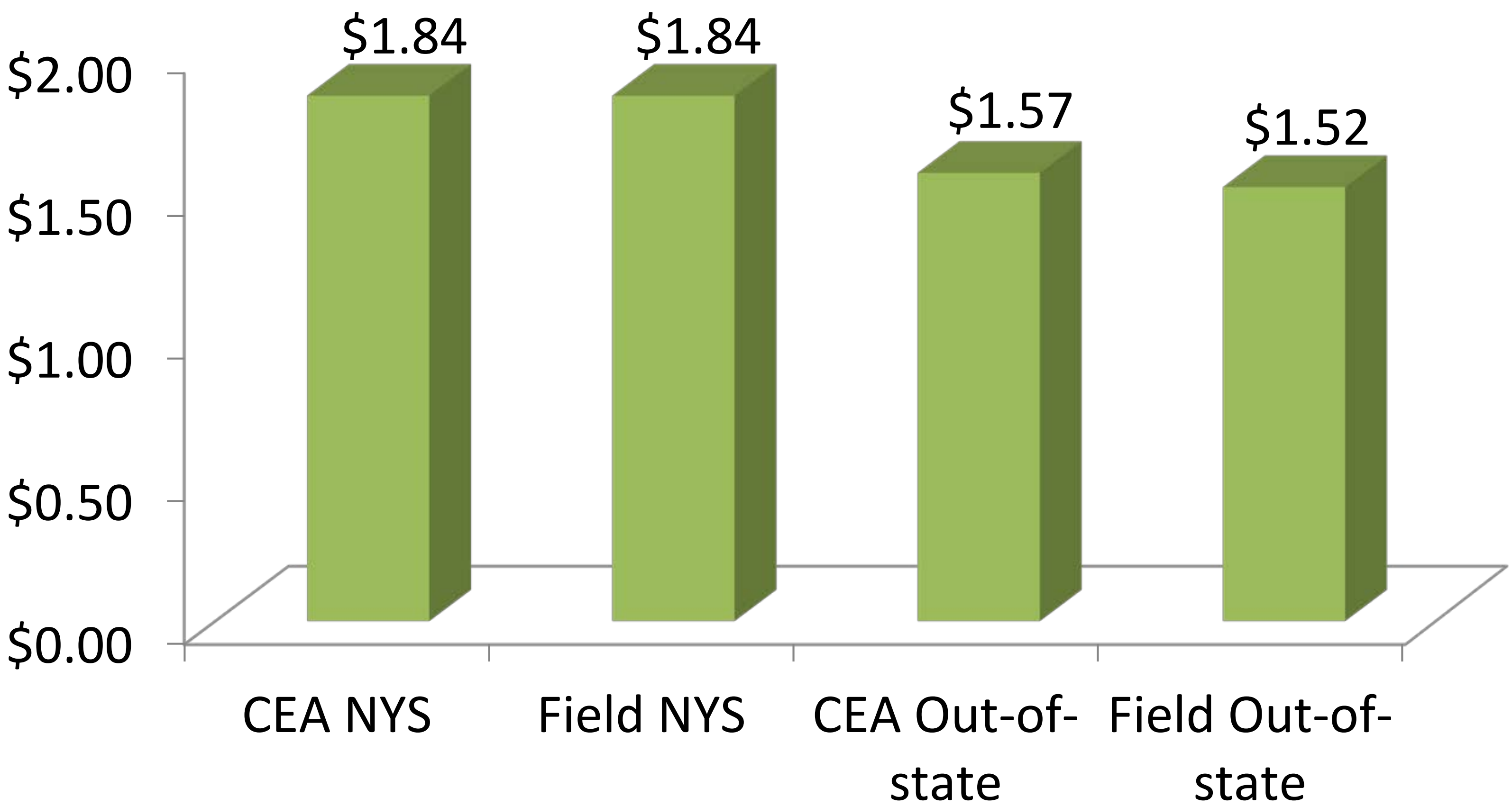
Tomatoes produced within NYS travel on average 150 miles to market

Generate NYS jobs five months of the year (about 1 job per 40 tons harvested)

Average WTP: Beefsteak Tomato



Average WTP: Baby Lettuce Mix



Results: Price Premiums

	Tomato	Lettuce
NYS vs. Out-of-state	$0.36	$0.27
CEA vs. Field	No difference	No difference
Info vs. No-info	No difference	No difference

Conclusions

- Consumers are willing to pay 30% price premiums for New York State grown tomatoes and 18% price premium for New York State grown lettuce
- Consumers are indifferent about the production systems for both tomato and lettuce
- Providing detailed information about the production system/origin does not affect consumer WTP for both tomato and lettuce
- Locally grown vegetables have the potential to become a commercial success in the NYS

Thank you!

Questions, Comments?

mig7@cornell.edu