

Community Opportunity in New Jersey:

The Role of Food Choice, Farm Viability, and Local Economy in a Sustainable Food Future

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PROJECT OVERVIEW

Increased healthy food access can improve urban community health outcomes, and farm viability for sustained fruit and vegetable production is a key component. A nutritious food future depends upon regional food and agricultural systems to meet community needs, but seasonality can limit affordable healthy options in many places, especially urban areas. Pairing New Jersey farmers who have abundant perishable produce with local community kitchens that have the capacity to produce self-stable value-added products (VAP) may provide a solution toward increasing the availability and affordability of healthy foods while also furthering local economic development and potentially reducing food waste. The goal of this project was to identify, pilot, and evaluate the process of transforming fresh produce into specific VAP desired by local consumers through partnerships between local farmers, community kitchens, and farmers markets toward economic, health, and social benefits for multiple stakeholders.

OBJECTIVES

- Assess farmer interest and ability to supply local produce for value-added production.
- Identify urban consumer food preferences and purchasing intentions to guide value-added production and sales.
- Evaluate consumer sensory perceptions and purchasing intentions for specific piloted value-added products.

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METHODS

A mixed-methods approach engaged both food producers and consumers. Qualitative data (focus groups, interviews) recordings were transcribed verbatim, coded, and analyzed by trained researchers. Descriptive statistics evaluated survey and sensory analyses data.

Farmer participants were recruited at the New Jersey Agricultural Convention in Atlantic City, New Jersey in February 2019 (focus groups, surveys) or via follow-up through June 2019 (interviews).

Focus Group

A focus group with New Jersey farmers conducted by two trained moderators in February 2019 assessed preferred business models for VAP production.

Survey

A quantitative survey (n=42) assessed farmers' available fruits and vegetables as well as business models of interest.

Interviews

A trained moderator conducted in-person, in-depth interviews with farmers (n=6) to further explore data collected via the focus group and surveys.



Figure 1. Participating farmer preparing tomatoes to be sampled by the research team.

Convenience samples of urban New Brunswick residents were recruited for focus groups at the New Brunswick Community Food Alliance Annual Food Forum and via Elijah's Promise Soup Kitchen, and for sensory analyses at the New Brunswick Community Farmers Market.

Focus Groups

Community focus groups (n=4) were conducted with urban residents (73% female, 6-10 per group) in English and Spanish by two trained moderators and one translator March – May 2019 to assess consumer interest in VAP types and themes likely to influence purchasing behavior.



Figure 2. VAP Tomato Sauce.

Sensory Analyses

Based on farm produce availability and consumer interest, VAP (tomato sauce, apple sauce, and pickled vegetables) were piloted August – September 2019 with community participants completing sensory analyses for each using a 7-point hedonic scale. In a blinded comparative analysis, participants (n=49 in total) indicated their preference for purchasing VAP or store brand tomato and/or apple sauce.

RESULTS

Qualitative and quantitative data collected from farmers indicated an overall willingness to collaborate with community kitchens to produce VAP via multiple business models. Farmers had a diversity of produce available, and qualitative data suggested products of interest to consumers aligned with farmers' produce availability. Qualitative data indicating consumers' interest in purchasing VAP was validated using sensory analyses at local urban farmers markets frequented by the target audience, with preferences for VAP over store brand equivalents varying by product type.

FARMERS

Farmers were willing to pilot a "product share" model.

Survey (n=42) results showed farmers are willing to pilot a variety of business models to produce VAP, with 69.1% willing to pilot a unique "product share" model where farmers provide fresh produce to community kitchens who make VAP to be sold by both the kitchen and the farmers who provided produce, earning income for both.

Farmers reported having a variety of produce types in abundance.

Survey (n=42) results indicated that farmers are growing a wide variety of fresh produce, with tomatoes and cucumbers among the most frequently available. Follow-up interviews (n=6) confirmed that surplus tomatoes, along with tree fruits, are likely available for use producing VAP.

Figure 3. Product Share Model production flow

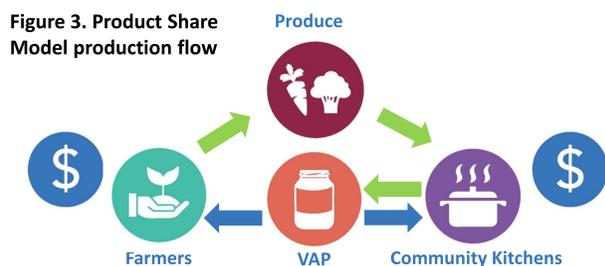


Table 1. Survey (n=42) results indicated farmers' available produce.

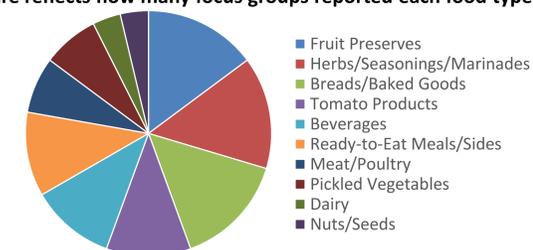
Agricultural crops grown/produced on New Jersey farms	# of Farmers	% of Farmers
Chives, garlic, leeks, or onions	19	45.2
Greens of any kind (leafy, stalk, etc.)	23	54.8
Tomatoes, peppers, or eggplant	34	81.0
Squash, pumpkin, cucumber, or melon	33	78.6
Carrots, beets, potatoes, peas or beans	28	66.7
Apples, other tree-fruits, or berries	18	42.9

URBAN CONSUMERS

Tomato, fruit, and pickled VAP were of interest to consumers.

Focus group (n=4) participants expressed interest in purchasing fruit preserves, tomato products and pickled vegetables. Qualitative data indicated themes influencing consumer VAP choice included quality, health, and seasonality.

Figure 4. Focus group participants identified fruit preserves and tomato products among their top value-added product choices. Figure reflects how many focus groups reported each food type.



Consumers preferred VAP apple sauce, but not tomato sauce.

Though consumers reported on a 7-point Likert scale (1=dislike very much to 7=like very much) liking the taste of tomato sauce (n=24; 5.13±1.73SD), apple sauce (n=25; 6.02±1.14SD), zucchini pickles (n=15; 5.80±1.32SD), and hot pepper relish (n=8; 5.63±1.30SD), product comparison results indicated participants were more likely to purchase store brand tomato sauce* (70.8%) over the VAP version. However, participants were more likely to purchase VAP apple sauce (54.2%) than the store brand**.

* Ragu's Traditional tomato Sauce
** Mott's apple sauce



Figure 5. Nutrition student conducting sensory analyses at the community farmers market.

CONCLUSIONS

- Opportunity exists for mutually-beneficial VAP manufacturing partnerships between community organizations and local farmers.
- Such partnerships could maximize the usefulness of surplus produce, reducing waste and concurrently increasing healthy food access in urban areas.
- Availability of surplus produce from local farms may match consumer product demand, successfully linking produce supply with market opportunity for VAP.
- Customer taste preferences and purchasing intentions will influence the potential for market success of VAP, thus piloting and testing VAP recipes with target consumers is key.
- Involving local would-be customers in the development and marketing of new VAP can help to identify unmet food needs and ensure community buy-in for successful collaborations.