

## Research Hypothesis

Pawpaw (*Asimina triloba*) is a native fruit widely adapted to Missouri. Recent increased interest in pawpaw among Missouri farmers (potential profit center) and consumers (novel fruit with a unique flavor) led to **Establishing Missouri's Pawpaw Industry: Horticulture, Market Research, and Outreach**, a 3-year project led by a multidisciplinary team from the University of Missouri Center for Agroforestry and University of Missouri Extension. Research hypothesis focus: Would a better understanding of Missouri consumers' awareness of and preferences for pawpaw and pawpaw value added products (VAP), and consumers' willingness-to-pay for sustainably produced and processed pawpaw and VAP, help support future growth in Missouri's pawpaw industry?

## Introduction

- The pawpaw (*Asimina triloba*) is a small deciduous tree native to Missouri and much of eastern North America (Callaway, 2015). Pawpaw trees have large deep green leaves and grow five to ten meters high in shade or full sun (Layne, 1996).
- Pawpaw fruit is highly valued for consumption. The bright yellow or orange custard-like flesh has a unique, tropical flavor (Templeton et al., 2003). The fruit is nutritious, supplying protein, dietary fiber, minerals, and vitamin C (Kobayashi et al., 2008).
- Pawpaw is largely unknown to American consumers. Awareness and experience buying and consuming pawpaw is quite low (Moore, 2015).
- Recent studies have shown that the market for pawpaw is growing and that market prices, economic profitability, and consumer interest in the fruit are all increasing.



## Goals and Objectives

This study will provide a better understanding of Missouri consumers' purchasing preferences related to fresh and value-added pawpaw products. Goals include:

- To examine consumers' preferences and frequency of purchases of fresh and valued-added pawpaw products.
- To evaluate consumers' willingness to pay price premiums for pawpaw produced locally, organically, and without pesticides.

## Methods

### Questionnaire

- Familiarity with fresh pawpaw and value-added pawpaw products, past pawpaw purchases, and how frequently respondents consumed pawpaw products.
- Pawpaw purchasing preferences using discrete choice experiment method (Fig. 1).
- Demographic characteristics.

### Data Collection

- Surveyed individuals at 4 farmers markets (Springfield, Kansas City, Saint Louis, and Columbia, MO)(Fig. 2).
- Participants sampled fresh pawpaw and gluten-free pawpaw muffin, then participated in an in-person survey.

### Data Analysis

- Descriptive statistics were calculated to capture consumption frequency, consumer preference, and demographic characteristics.
- A mixed logit model was used to determine the statistical significance and the effects of the selected attributes on consumer preferences for pawpaw.

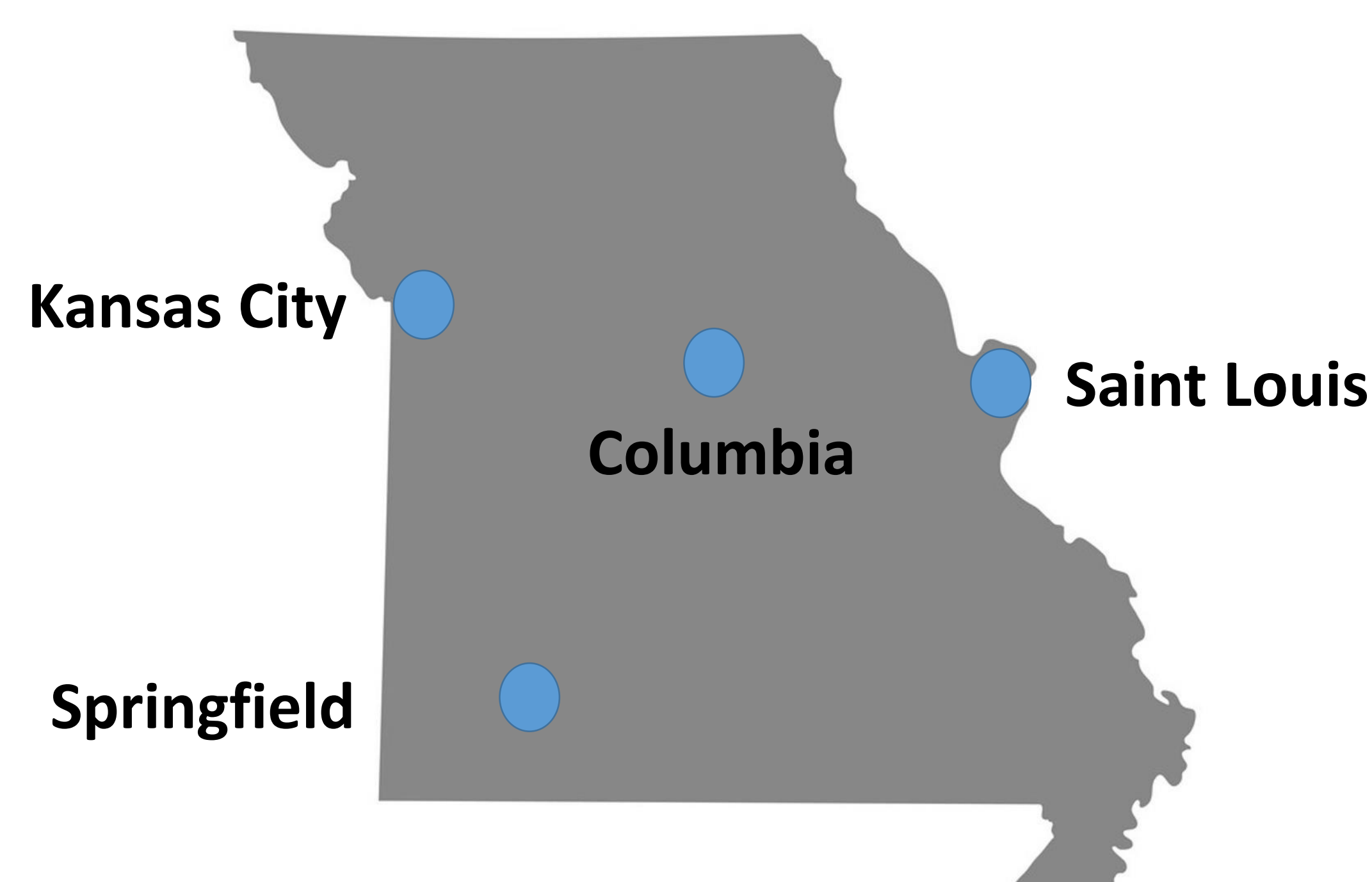
**Fig. 1. An example of a discrete choice experiment question.**

Question: Please select the ONE product (A, B or Neither) that you would be most likely to purchase.

	Pawpaws A	Pawpaws B
Price per pound	\$3.5	\$5.5
Production process	Organic	Pesticide Free
Origin label	Unknown	Locally Produced

- Pawpaws A  
 Pawpaws B  
 Neither

**Fig. 2. Geographic distribution of the farmers markets surveyed in the study.**



## Results and Discussion

- A total of 367 survey responses were collected.
- 58% had heard about pawpaw before taking the survey, 31% had eaten pawpaw before, and 13% had eaten pawpaw value added food products before.
- 49% indicated that pawpaw has a banana flavor, 59% indicated a mango flavor, 30% indicated a papaya flavor, and 7% indicated a pineapple flavor.
- 81% liked eating fresh pawpaw (compared to 87% like eating mango).
- 65% liked eating pawpaw muffins (compared to 87% like eating blueberry muffins).
- 87% indicated they will purchase fresh pawpaw in the future, and 75% indicated they will purchase pawpaw muffins in the future.
- Consumers were willing to pay per-pound premiums of \$1.34 for organic, \$1.07 for pesticide-free, and \$1.92 for locally produced pawpaw relative to conventional fruit and fruit for which the region of origin was not identified.



## Conclusions

- There is a significant untapped market for fresh and value-added pawpaw products.
- This study provides strong evidence of the value of labeling pawpaw products as organic, pesticide-free, and/or locally produced since those products have strong appeal for consumers.
- Further study is needed to understand where and how the public gains awareness of fresh and value-added pawpaw products.

### References

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