

# A Summary of Research on Whether Consumers Will Pay More for Watermelons Grown on Preserved Farmland

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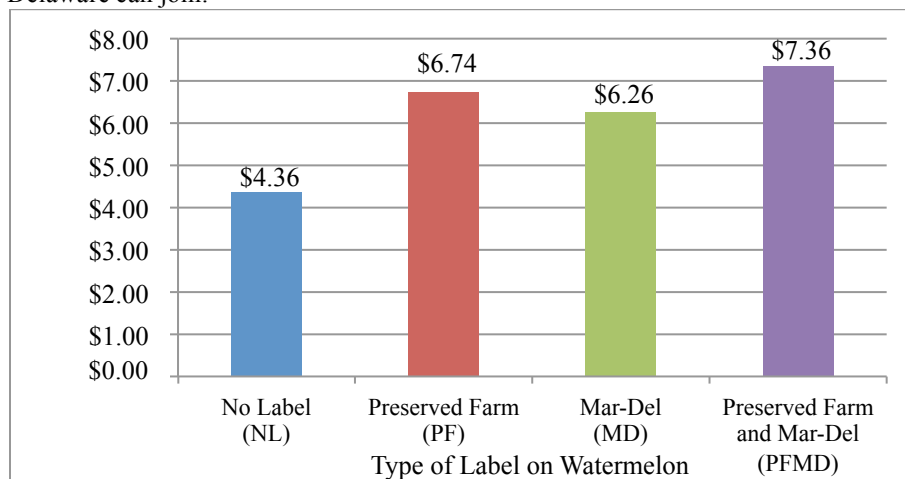
More than 24 million acres of agricultural land were lost to development between 1982 and 2010 in the U.S. (AFT 2016a). In response, state and local governments and private conservation organizations implemented farmland preservation programs, which have preserved approximately five million acres of farmland (AFT 2016a). Despite these large investments in the future of farming, many consumers remain unaware of farmland preservation programs and how they affect their ability to access fresh, locally grown food.

Researchers from the University of Delaware conducted an economic study to determine whether people would be willing to pay a premium for produce that had been labeled as grown on preserved farmland in Delaware. Delaware is an ideal location for this study, because it has both a large agricultural sector (41% of its land is in agriculture) and a leading farmland preservation program. By 2012, Delaware had 109,682 acres in permanent preservation (Delaware Dept. of Agriculture 2016a). Watermelons were selected as the food product to study because of their important role in Delaware agriculture. Watermelon sales are the highest among all fresh market vegetables in Delaware at \$10,856,000 in 2010, with the greatest number of fresh market farms dedicated to watermelons (Delaware Dept. of Agriculture 2016b). In addition, watermelon growers can be part of the Mar-Del Watermelon Association, which growers in Maryland and Delaware can join.



Photo by Peter Griffin (<http://www.publicdomainpictures.net/view-image.php?image=7833&picture=watermelons>)

To test whether consumers were willing to pay more for produce from a preserved farm, researchers conducted economic field experiments at eight locations throughout Delaware, Maryland, and Pennsylvania. In the experiments, consumers were presented with two different labels: (1) the Mar-Del Watermelon Association label; and (2) an original label indicating that the watermelon had been grown on a preserved Delaware farm. Participants then stated the maximum amount that they would be willing to pay for a watermelon that had been grown in Delaware if it had no label, the Mar-Del label, the preserved farm label, or both the Mar-Del and preserved farm label.



**Figure 1. Consumers' average willingness to pay for watermelons with various labels**

Source: Original data collection by authors.

## Principal Finding

Consumers are willing to pay **more** for watermelons that...

- were grown on preserved farmland
- were grown by a farmer who belongs to the Mar-Del Watermelon Association

## Research Design

Researchers recruited 328 participants for field experiments at eight locations from July – August 2016. Locations included farmer’s markets and parks in New Castle and Sussex Counties, DE, Cecil County, MD, and Chester County, PA. Researchers explained to participants that they could earn up to \$12 and potentially receive a watermelon. Participants were first provided with definitions of preserved farmland and the Mar-Del Watermelon Association, and then asked to state the maximum amount they would pay for watermelons with four different label types: no label, a preserved farm label, a Mar-Del Watermelon Association label, and both a preserved farm and Mar-Del Watermelon Association label. Researchers explained to participants that if they received a watermelon, their full earnings of \$12 would be reduced by the amount they said they would pay. Therefore, they were agreeing to **forfeit real money** for the chance to receive one randomly selected type of watermelon. Researchers explained that it was in participants’ best interest to state the most accurate, maximum amount that they would be willing to pay.



Original Label Used in Experiment for a Watermelon that was Grown on Preserved Farmland in Delaware  
Design: Madison Spadafino; Property of University of Delaware

### PRESERVED FARMLAND

- A **voluntary** arrangement between farmers and the government
- **One-time payment** to farmers so that the **farmland is never developed** into houses and businesses
- The land still **belongs to the farmer**

Preserved farmland is a voluntary, legal agreement between a farmer and the government. In exchange for a one-time payment from the government, the contract restricts use of the land to agricultural production, ensuring that productive farmland remains available for farming forever. In this contract, the land still belongs to the farmer, but the easement prohibits any future non-agricultural development by landowners.

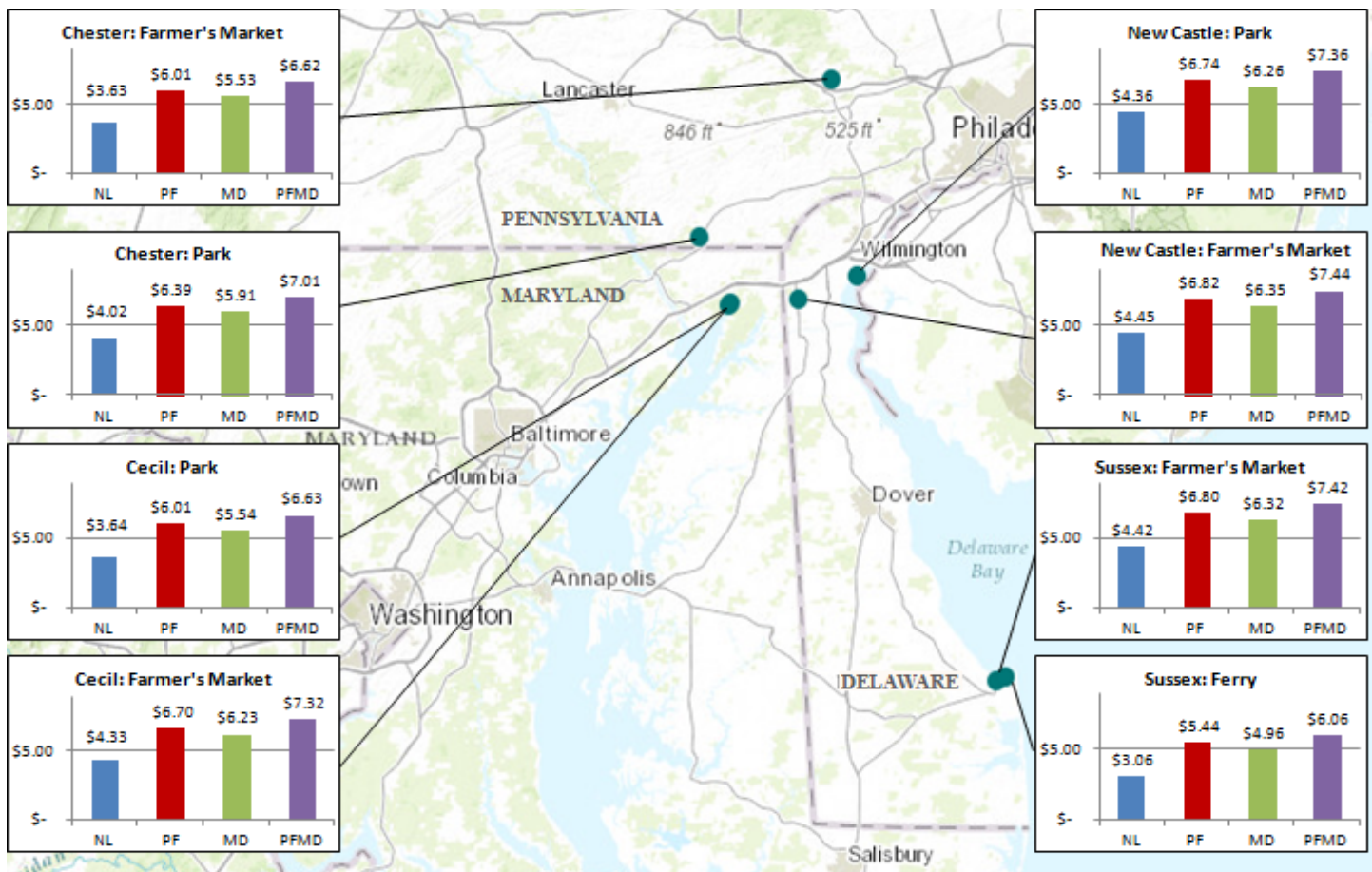
### MAR-DEL WATERMELON ASSOCIATION

- An association farmers can join if they grow watermelons in **Maryland or Delaware**

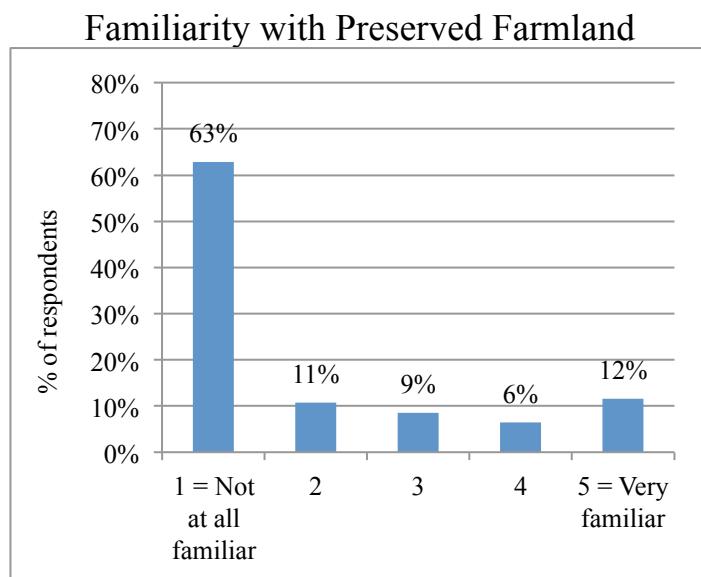
Table 1. Farmland Preservation by State in the Northeast/ Mid-Atlantic

State	Acres Protected	Land in Farms (acres)	% of Farmland that is Protected
New Jersey	219,379	715,057	30.7%
Delaware	118,344	508,652	23.3%
Maryland	384,987	2,030,745	19.0%
Massachusetts	71,268	523,517	13.6%
Vermont	153,034	1,251,713	12.2%
Rhode Island	7,061	69,589	10.1%
Connecticut	40,518	436,539	9.3%
Pennsylvania	516,415	7,704,444	6.7%
New Hampshire	17,259	474,065	3.6%
New York	59,510	7,183,576	0.8%
Maine	9,716	1,454,104	0.7%
Virginia	17,314	8,302,444	0.2%

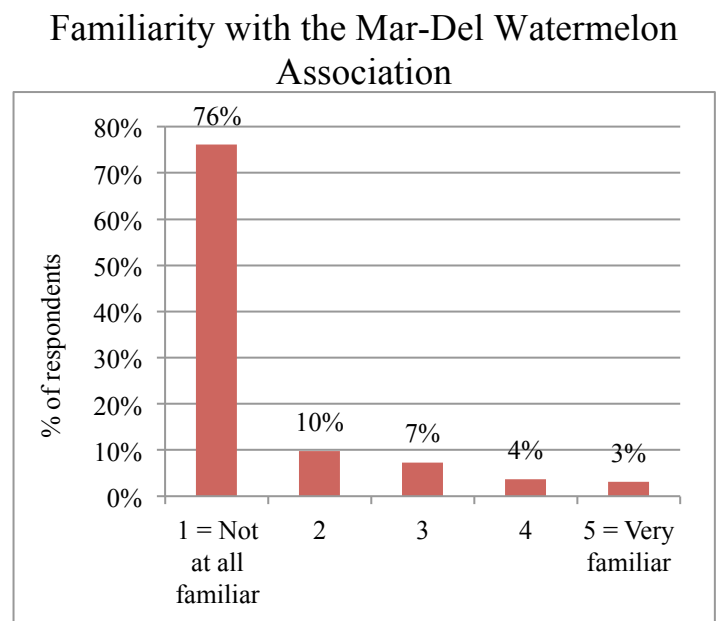
Source: AFT 2016b for “Acres Protected,” and this source also reports data for acres of “Land in Farms” from 2012 Census of Agriculture by the United States Department of Agriculture’s National Agricultural Statistics Service.



**Figure 2. Consumers' average willingness to pay for watermelons with various labels at each experiment location**  
Source: Map image from United States Census Bureau 2016, augmented by original data collection by authors

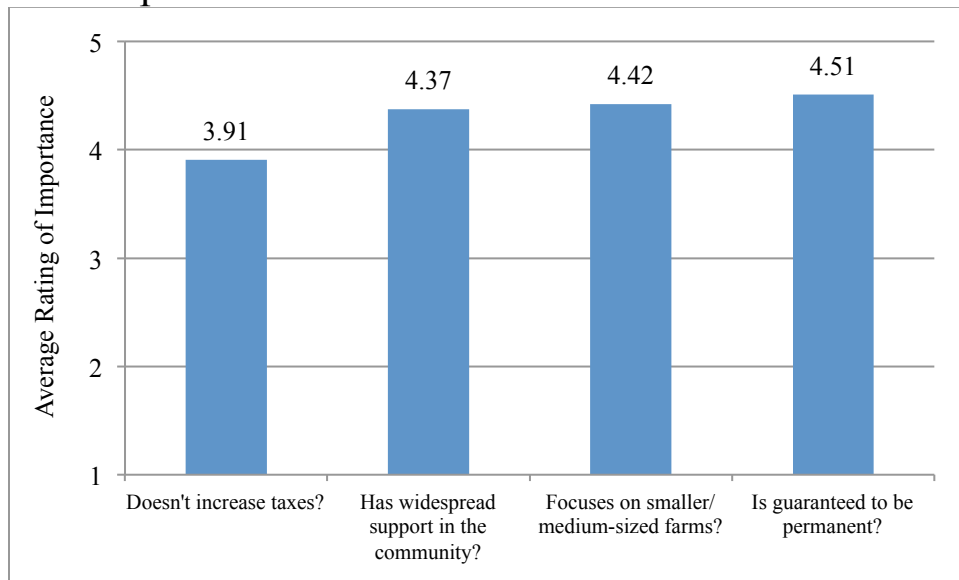


**Figure 3. Participant responses to the question "Before today, how familiar were you with preserved farmland?"**  
Source: Original data collection by authors.



**Figure 4. Participant responses to the question "Before today, how familiar were you with the Mar-Del Watermelon Association?"**  
Source: Original data collection by authors.

## How Important to You is it that Farmland Preservation...



**Figure 5. Participant Opinions about Farmland Preservation**

1 = Not at all important 3 = Moderately important 5=Very important

Source: Original data collection by authors.

## Conclusions

Results show that mid-Atlantic watermelon consumers are willing to pay more if their watermelons are labeled as coming from a preserved farm and from the local marketing association—and if carrying both labels. More labeling could encourage higher farm profits for the same watermelons. A preserved farm label could encourage some farmers to join preservation programs.

### Policy Implications for States with Farmland Preservation Programs

- Develop marketing campaigns to educate consumers
- **Consumers benefit** from greater purchasing options that allow them to support local agriculture
- Educate farmers about preserved farmland
- Adopt a label for all preserved farms so consumers develop brand awareness
- **Farmers benefit** through increased profit from preserving their farms and adopting the label

### Policy Implications for States without Farmland Preservation Programs

- States' Departments of Agriculture should consider adopting farmland preservation programs
- Both **consumers and farmers can benefit** from the adoption of a farmland preservation program

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