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**Experimental Measures of the Effect of Food Fraud Education on Demand for Local Honey**

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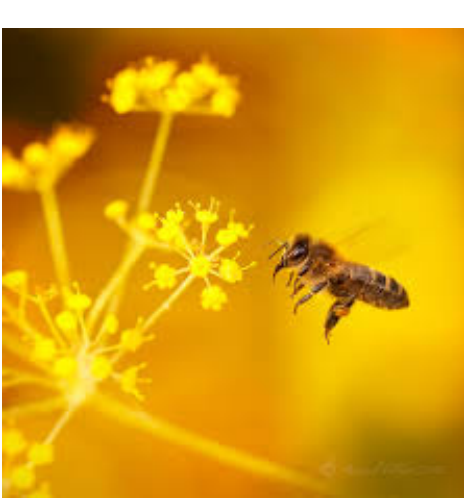
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# Experimental Measures of the Effect of Food Fraud Education on Demand for Local Honey



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## Introduction

### Food Fraud:

- Food fraud is the deliberate and intentional substitution, addition, tampering, or misrepresentation of food, food ingredients, or food packaging
- The complex food supply chain, which includes mixing of ingredients, may foster fraudulent activities that are difficult to detect
- Food fraud cost between \$10-\$15million a year and affects 10% of food products
- International laws have been developed along with efforts by private industry and nongovernmental organizations to halt food fraud

### Fraudulent Activities in the Honey Market:

- Because of strong economic incentives, higher value foods are common targets of food fraud
- Honey was the second most common ingredient of reported food fraud
- High demand and low domestic supply of honey creates nearly 70% reliance on imports
- Chinese honey potentially contains illegal and unsafe antibiotics and high levels of herbicides and pesticides.
- The U.S. has banned or placed tariffs on imports of Chinese honey
- Chinese honey is being transshipped and relabeled to mask the true origin of the honey
- The practice is so prolific that one-third of honey available for sale in the U.S. is illegally imported from China and may contain illegal antibiotics and heavy metals

### Relating to Consumer Support for Local Honey:

- Consumers are willing to pay higher prices for local foods when compared to non-local foods
- If the existence and knowledge of international food fraud affects consumer valuation of local goods, this may provide local producers with marketing opportunities to stimulate demand for their products
- Guarantees of honey produced free of food fraud may increase consumers’ willingness to pay a premium for local honey
- Previous research suggests consumers are willing to pay a mean of \$4.96 for a pound of local honey

## Research Objectives

- Estimate the proportion of Wyoming consumers willing to pay a premium for Wyoming honey
- Determine if information about the possible health effects from international food fraud affects consumer preference for Wyoming honey
- Define other factors that influence consumers’ willingness to pay a premium for Wyoming honey

## Methods

### Laboratory Experimental Method:

- 148 participants from WY were recruited for a laboratory experiment
- Participants were endowed with a jar of honey from an unknown origin
- Given origin information, participants choose to either pay \$2.48 for an 8 ounce jar of local honey or keep their endowed jar for no cost
- Answered short consumption and demographic survey

### Treatments

- Treatment 1: No information given to participants on food fraud in the international honey market
- Treatment 2: Information given to participants on food fraud in the international honey market

### Logit Results and Marginal Effects for Factors Influencing Willingness to Pay a \$2.48 Premium for an Eight Once Jar of Wyoming Honey

Variable	Coefficient	Marginal Effect
Honey Laundering Information	0.745*	0.184
(Treatment 1=0, Treatment 2=1)	(0.437)	
Age	0.038**	0.010
	(0.016)	
Gender	0.374	0.093
(Male=0, Female =1)	(0.418)	
Rank Health	0.241**	0.060
(Likert 1-6)	(0.123)	
Rank Price	-0.183*	-0.046
(Likert 1-6)	(0.111)	
Rank Nectar Source	-0.176	-0.044
(Likert 1-6)	(0.127)	
Most WTP for Health	-0.907*	-0.222
(Yes=1, No=0)	(0.481)	
Not WTP	-1.681*	-0.363
(Yes=1, No=0)	(0.967)	
Medicinal Purposes	0.866**	0.211
(Yes=1, No=0)	(0.442)	
Concerned with Ethically Produced Food	-0.112	-0.029
(Likert 1-7)	(0.140)	
Weight	0.255	0.064
(Underweight=1, Normal=2, Overweight=3)	(0.451)	
Constant	-1.554	
	(1.539)	
Log-likelihood	-75.950	
Pseudo r2	0.150	
n	129	

## Implications

- Close to 50% of consumers are willing to pay \$2.48 for local honey
- Providing consumers with food fraud information increased their probability to pay a premium by 18%
- Older consumers are more likely to pay the premium
- Consumers that care about the health of their food and use honey for medicinal purposes are more likely to pay the premium
- Consumers who care most about the price of their food, state that they are most willing to pay for health, and not willing to pay for attribute of honey are less likely to pay the premium



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