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# ROLE OF SENSORY EVALUATION OF PEARS IN CONSUMER CHOICE

## EVIDENCE FROM A FIELD CHOICE EXPERIMENT IN ITALY

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### Introduction

When making a purchase decision most consumers evaluate a series of intrinsic (e.g. physical attributes of the product) and extrinsic purchase attributes that characterize food products. Both extrinsic and intrinsic attributes are usually highlighted through labels or brands and consumers are indirectly faced with trade-off between these attributes. Previous research studies have used different methodological approaches such as (i) hypothetical and (ii) non-hypothetical choice methods (Gallardo, 2011; Wayua et al. 2009) as well as (iii) a combination of sensory and economic experiments (Combris et al. 2009; Mueller et al. 2010) to investigate the influence of these food product characteristics on consumers’ preferences and willingness to pay (WTP). No previous studies have investigated the role of sensory evaluation on consumers’ WTP for a food product using a combination of sensory tests, such as visual and tasting, and a field choice experiment. To fill this void, we designed a field choice experiment aimed at analyzing how the consistency and the importance that consumers place on sensory characteristics affect consumers’ WTP for two different types of pears: Angelys and Kaiser.

### Objective

We assess consumer preferences and WTP for two varieties of pears by testing the role of sensory evaluation in consumer choice. The sensory and choice experiment data were collected in supermarkets in two locations in the North of Italy: Milan (large city) and Bologna (medium-size city). Data were analyzed using a random parameter logit (RPL) model for all treatments, resulting in a total of 4 estimated models. Then, using the coefficients that we will obtain from the RPL models, willingness to pay (WTP) measures were calculated across the four treatments.

### Method: choice experiment surveys

A full labeled design was generated with 3 price levels assigned to the two pear varieties, thus obtaining a total of 2\*3=6 possible choices. Using the choice sets obtained from the full factorial experimental design, four hypothetical surveys are carried out, each with about the same number of subjects (N).

### TREATMENTS

(All respondents in the four treatments are also asked to complete a short questionnaire about socio-demographic characteristics as well as questions on consumer acceptability of sensory attributes linked to the appearance of the pear profiles and taste)

Hypothetical (H) Survey (N=120)	Real visual survey (V) (N=122)	Real taste survey (T) (N=120)	Real visual and taste survey (T+V) (N=120)
Respondents are asked to select among three options: two pear varieties at different prices, and one “no buy/choice” option.	Respondents are allowed to make a visual inspection of the product before doing the hypothetical choice experiment.	Respondents are asked to taste the two products (but they are not allowed to visually inspect the product on the shelf) before the choice experiment questions.	respondents are allowed to make a visual inspection and taste the pear products before the choice experiment.

### Results

- The majority of respondents were female (71.8%), between 45-64 years old, well educated (41.7% with a diploma degree), and with an annual income between €15.000 to €29.999);
- Both pears affect consumer choices;
- Consumer preferences and WTPs differ across treatments.

Coefficients	H	V	T	V+T	WTP	H	V	T	V+T
Angelys					Angelys	2.24	2.40	2.77	2.82
Mean	4.31***	4.05***	2.76***	3.42***	kaiser	2.78	2.73	3.12	2.92
St. dev	1.87***	1.49***	1.92***	1.75***					
Kaiser									
Mean	5.35***	4.60***	3.11***	3.54***					
St. dev	1.80***	1.27***	1.81***	1.53***					
Price	-1.93	-1.69	-1.00	-1.21					
N	720	732	720	720					
LL	-622.786	-672.189	-655.199	-670.494					

Note: \*\*\*, \*\*, and \* indicate significance at 1%, 5%, and 10% levels.

### Conclusions

Our results suggest that the role of sensory aspects of fruits such as visual inspection and taste is an important issue to take into account in evaluating consumers’ preferences and WTP in the case of choice experiment studies. Empirically, our findings also suggest significant effects of visual and tasting sensory aspects on consumers’ WTP since WTP values changes across treatments.

### References

1.Combris, P. P. Bazoche, E. Giraud-Héraud, S. Issanchou. 2009. Food choices: What do we learn from combining sensory and economic experiments? *Food Quality and Preference*, 20(8): 550-557.

2. Gallardo, R.K. 2011. Choice Experiments’ Findings: A Tool for Fruit Agribusiness Managers’ Decision Making. *International Food and Agribusiness Management Review*, 14(3): 95-110.

3.Mueller, S. P. Osidacz, I.L. Francis, and L. Lockshin. 2010. Combining discrete choice and informed sensory testing in a two-stage process: Can it predict wine market share? *Food Quality and Preference*, 21 (7):741–754.

4.Wayua, F.O., M.G. Shibia, M. S. Mamo, D.V.Bailey and D. L. Coppock. 2009. Willingness to Pay for Improved Milk Sensory Characteristics and Assurances in Northern Kenya Using Experimental Auctions. Presented at IAMA 19th Annual World Symposium Budapest, Hungary June 20-21, 2009.