

Potato consumption in Argentina: Factors influencing preference for food safety attributes



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Introduction

The Buenos Aires South-Eastern province is one of the most important potato production areas in Argentina (around 32,000 ha). In domestic market, fresh potato is sold mainly in greengroceries and in bulk, that is, without identifying the variety, the geographical origin of the product or its nutritional content.

Bearing this in mind, questions arise regarding our research: Do consumers value the quality attributes of potatoes related to food safety and nutrition? What demographic and socioeconomic factors influence?

The aim of this work is to quantitatively analyze the association between consumer's characteristics and their preferences for potato food safety attributes.

Objective

Materials and Methods

Data source - Vickrey Second Price Experimental Auction (Vickrey, 1961)

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Potato varieties

- Spunta
- Frital INTA

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Production methods

- Conventional
- With lower agrochemical content

155

Participants

Students and employees of the Economics and Social Sciences School of the UNMdP

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Information source

- Oral –video–
- Written –brochure–

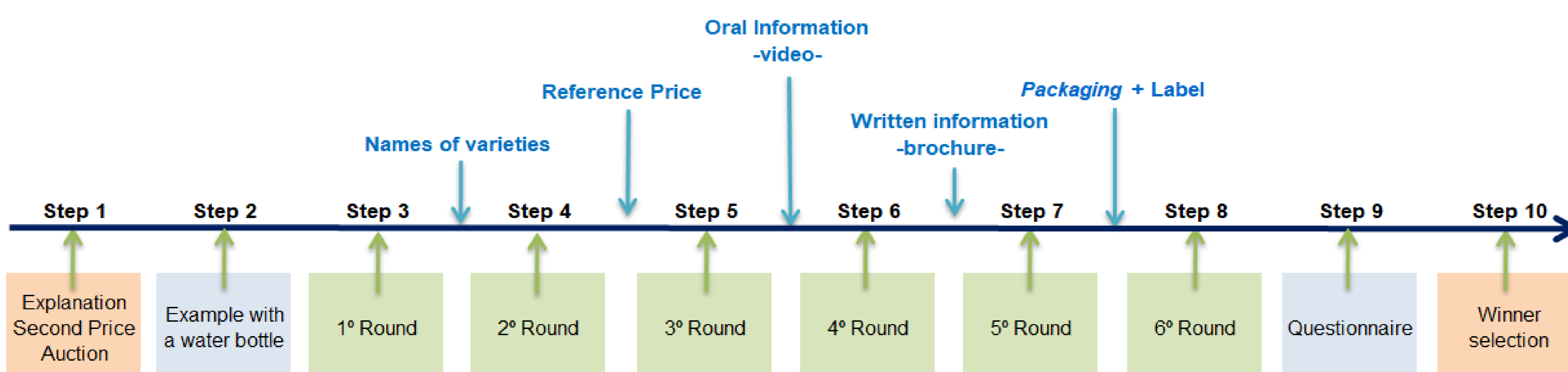


Figure 1: Steps of EA.

Source: Authors' s elaboration.

Data Analysis - Breslow-Day and Cochran and Mantel-Haenszel Tests

These tests were applied to three-way contingency tables, which allowed analyzing the association between variables, stratifying by the groups in which the participants carried out the Experimental Auction (EA) and completed the survey.

Results

Dependent variable: WTP –participant is willing to pay more for a potato produced with lower agrochemical content, categories: yes, another case–.

Explanatory variables: PLAC –participant prefers that a potato label contains a print that guarantees a lower content of agrochemicals, categories: yes, another case–; **FQC** –participant prefers that food quality control is performed by state agencies, categories: yes, another case–; **NUT** –participant prioritizes potato consumption for its nutritional properties, categories: yes, another case– and **BHD** –participant considers that eating potato is foremost in having a balanced and healthy diet, categories: higher importance, another case–.

Stratification variable: GROUP –refers to the participation group in the EA–.

The **Breslow-Day and Tarone Tests** indicate that there is no statistical evidence to reject homogeneous association between being willing to pay more for a potato produced with lower agrochemical content and the explanatory variables under analysis, for each of the groups.

Participants **who prioritize potato consumption for its nutritional properties are 3.99 times** more likely to pay an additional price than those who do not prioritize this reason, *ceteris paribus*. Participants **who consider that eating potatoes contributes to a healthy and balanced diet are 4.37 times** more likely to pay an additional price than those for whom such consideration is not so important, *ceteris paribus*.

Considering the participants who are willing to pay, it is possible to indicate that **54% are women**. Of this percentage, **34% are over 28 years of age and 45% are of middle socioeconomic level**.

Table 1: Statistical tests of conditional association and the corresponding measure of association –odds ratio (OR)–

Explanatory variables	Cochran Test	Mantel-Haenszel Test	OR _{M-H}
PLAC	7,77***	6,03**	3,39***
FQC	7,36***	4,56**	7,35**
NUT	4,25**	3,02*	3,99*
BHD	12,12***	10,05***	4,37***

Notes: df = 1; statistical significance level: *** < 1%, ** < 5%, * < 10% Source: Authors' s elaboration. Softwares: IBM®SPSS® and InfoStat Professional®

All the OR_{H-M} have a value well above 1, denoting a considerable association between the variables. They suggest that:

Participants **who prefer a potato label to contain a quality seal that guarantees a health and environmentally friendly origin are 3.39 times** more likely to pay an additional price than those who do not express such a preference, *ceteris paribus*. Participants **who prefer food quality to be controlled by government agencies are 7.35 times** more likely to pay an additional price than those who do not express such a preference, *ceteris paribus*.

References –selection–

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- Vickrey W. 1961. Counter speculation, auctions, and competitive sealed tenders. *Journal of Finance*, 16:8-37.