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Effects of sensory characteristics and health information on acceptability of apples

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Recent studies incorporating product tasting in a conjoint framework have shown that sensory aspects have a primary influence on product liking whereas extrinsic factors may have a secondary role (1). Nevertheless there are, to the authors' knowledge, no conjoint studies based on measuring the effects of different levels of sensory characteristics in fruit and vegetable.

Aim of this work is to study whether the varying of different levels of intrinsic sensory attributes (crunchiness and sweetness) and of the information about fibres and antioxidants content (extrinsic) given just before tasting can influence the acceptability of apples. A fractional factorial design was applied to evaluate the influence of intrinsic factors and extrinsic factors on the liking of 8 products.

Four apple cultivars with 2 levels of crunchiness and sweetness were selected on the basis of the quantitative descriptive analysis of 21 varieties under study in a larger project supported by the Autonomous Province of Trento, Italy (AP 2010/2011).

Then, 221 consumers were asked to evaluate the global liking of the 4 cultivars which were presented twice and were accompanied with different information about their contents in fibres and antioxidants. A preliminary blind test was also performed in order to measure their acceptability without any information. Additional data regarding consumer opinions, knowledge about healthy aspects, fruit consumptions and demographic data were also recorded.

Significant effects were found for sensory factors while the extrinsic factors did not affect the consumers' preference. In particular, global liking is positively influenced by high levels of crunchiness and sweetness. This confirms the importance of sensory characteristics in consumer acceptability, whereas it suggests that information about the amount of healthy components are of far less relevance at least for population average. This may not be the case for products that are not widely considered as healthy as apple.

(1) Johansen, S. B., Næs, T., Øyaas, J., & Hersleth, M. (2010). Acceptance of calorie reduced yoghurt: Effects of sensory characteristics and product information. *Food Quality and Preference*, 21, 13–21.

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