

The role of nutritional and sustainability information on consumer's acceptance of gluten-free formulations fortified with pulses

Authors & affiliations:

Rabitti N.S.¹, Appiani M.¹, Proserpio C.¹, Pagliarini, E¹, Laureati M.¹

¹*Sensory & Consumer Science Lab (SCS_Lab), Department of Food, Environmental and Nutritional Sciences (DeFENS), University of Milan, 20133 Milan*

Abstract:

Pulses represent an ingredient for enriching food formulations with beneficial consequences both on human health and sustainability of the agri-food system, since their production requires the exploitation of few natural resources. The aims of this study were to: a) evaluate consumer acceptance and expectations of whole corn-based gluten-free formulations fortified with pulses flour; b) investigate the effect of sustainability and health information on overall liking. A sample of 127 consumers evaluated five food formulations: a whole corn-based gluten-free control sample and four experimental samples fortified with 20% of raw or pre-gelatinized red lentils or chickpea flours, respectively. Consumers were asked to evaluate overall liking under blind (only tasting), expected (only information) and real condition (information + tasting) and to complete a questionnaire about their food behaviour and sustainability commitment.

ANOVA results showed that all samples were well accepted in blind condition (M: 57.6–62.7) with no significant differences between samples fortified with pulses and control sample. The information provided during the expected condition led to a general significant increase ($p < 0.001$) in the hedonic ratings compared with the blind ones. An incomplete assimilation effect resulted for pre-gelatinized samples, while it was complete for the raw chickpea sample.

In conclusion, new food formulations well accepted by consumers could be developed with pulses flours. Furthermore, information regarding food sustainability and health effects about the use of pulses as new food ingredient may positively influence consumers' expectations and subsequent liking. Therefore, promoting the benefits of these products can be a powerful strategy to encourage their consumption and encourage consumer choice. Further analyses are in progress to verify the effect of information in consumers' segments differing for commitment to sustainability, food neophobia and health and taste attitudes.

Keywords:

legumes, food sustainability, liking, expectation, plant-based proteins