

**Title:**

Exploring perceptive drivers and barriers to the consumption of plant-based alternatives

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**Abstract:** (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

Nowadays, a major global challenge is to find healthy and sustainable alternative food sources to meet the growing demand for food. One of the strategies adopted to reduce the environmental impact of the food system is the development of plant-based foods used as substitutes for animal products (i.e. plant-based meat analogues and plant-based dairy alternatives). Although consumers are increasingly aware of the environmental impact of their food choices, barriers still exist to the transition towards these products. In this context, the aims of this study were to: a) obtain a sensory mapping of animal product alternatives on the Italian market b) identify the main perceptive drivers of acceptability and rejection of plant-based products.

A sample of adult consumers ( $n \geq 100$ ; age > 18 years) balanced according to gender and age was recruited. Consumers were asked to taste and rate their overall liking of commercial plant-based foods and to perform a Check-All-That-Apply (CATA) task to describe the samples. Consumers also completed questionnaires to investigate their food consumption behaviour.

Through this study, a sensory database of plant-based products was defined based on compositional, nutritional and sensory characteristics. This database showed that there is a large diversity within the same food category with reference to the raw ingredients used and the sensory characteristics. Furthermore, through Principal Coordinate Analysis, obtained by linking liking data with CATA descriptions, the drivers of liking and rejection towards these food products were identified. Further analyses are in progress to verify the effect of consumer eating behaviour on the acceptability of these products.

The present study provides useful information for food companies for identifying potential reformulation opportunities and product development. Indeed, the optimization of the sensory and nutritional properties of plant-based food is a key strategy to improve its liking and promote its consumption with consequent environmental and health benefits.