

Consumer perception of plant-based alternatives to traditional soft and semihard cheese products – insights from the Swiss market

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Background

- Switzerland is famous for its high quality cheese. In recent years, interest in plant-based alternatives to traditional dairy products has grown, mainly driven by health, environmental and ethical considerations.
- The study aimed to explore the sensory quality and consumer acceptance of these alternatives, reflecting a comprehensive approach to understanding the shift towards plant-based dairy alternatives.

Material and methods

- Products: 6 plant-based cheese alternatives available on the Swiss market (semihard: 2 slices & 2 blocks, 2 soft)
- Hedonic evaluation by naive consumers (n=219) Liking (9 point hedonic scale), CATA, JAR (5 point scale)
- Objective profiling by trained panelists (n=10) 10 cm unstructured line scale, 20 attributes.

- Except for one sliced product the evaluated plant based cheese alternatives were not liked -> hedonic scores 5 and lower. Higher mean values for appearance compared to assessment in the mouth, except for soft cheese alternatives (Figure 1)

- Data analysis on drivers (positiv&negativ) influencing overall liking showed similar results independent of type of data (JAR, CATA, objective profiling) (Figure 2)

Alternative	Positive impact	Negative impact
Slices	spicy/aroma, umami	firm, consistency, mealy
Blocks	spicy/aroma, firm	sticky, elastic, gummy, consistency
Soft	spicy, creamy, firm	musty, salty, mealy

- Composition (ingredients) of evaluated plant based cheese alternatives was very different from animal based cheese -> Plant-based samples: low protein & high carbohydrate content (data not shown)

- There is a huge potential for sensory improvement

Results

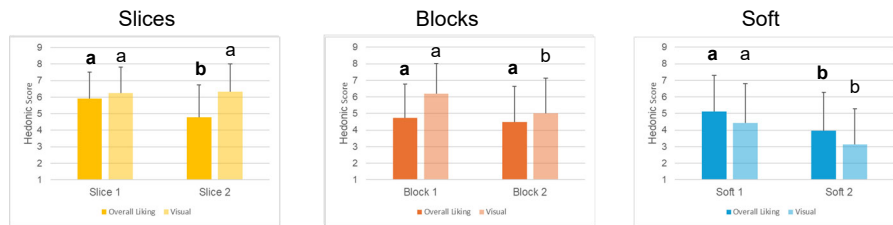


Figure 1: Overall liking and visual aspect (mean scores and standard deviation) of selected plant-based cheese alternatives, (n=219). Bars with different letters: significant difference, p=0.05; bold: Product comparison of overall liking; non bold: product comparison visual aspect



Figure 2: Impact on overall liking of selected plant based cheese alternatives based on different data sets. (Just about right (JAR); n=219; CATA, n=219; objective sensory profiling, n=10) ■ Positive impact ■ Negative impact

Collaboration partners of the IG Sensorik project

Agroscope; ETH Zürich; University of Applied Sciences, Berne; SAM Sensory and Consumer Research; SensoPlus; University of Applied Sciences, Wädenswil