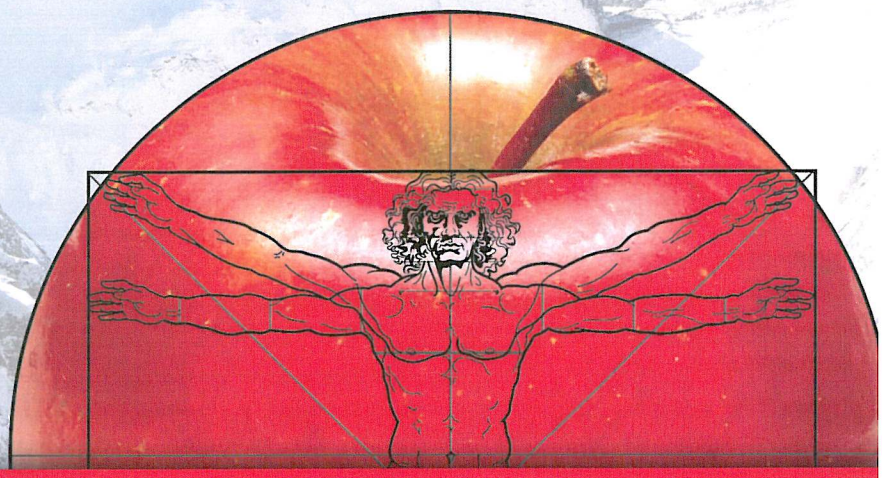
A Sense of Inspiration

5th European Conference on Sensory and Consumer Research



Bern, Switzerland,
9-12 September 2012

Conference Abstracts

Organised by

ELSEVIER

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department
of Economic Affairs FDEA
Agroscope

zh aw
Life Sciences and Facility Management
Institute of Food and Beverage Innovation

www.eurosense.elsevier.com

[a] Samples sharing the same letter are significantly different ($p \leq 0.05$) with Wilcoxon signed-rank test.

Keywords: Consumer preference, Brewers spent grain, Snack food, Consumer behaviour

---

[P8.15]

Stimulus collative properties in food products and their importance for consumer liking: A case study with novel beers

D. Giacalone*, W.L.P. Bredie, M.B. Frøst
University of Copenhagen, Denmark

Introduction: There is a dilemma between liking for familiar stimuli and a wish to experiment with new ones. Berlyne's theory on aesthetic preference[1], predicts that to maximize sensory appreciation, a (food) product should aim at optimizing the balance between familiarity and novelty.
Methods: Eight beers were tested by a consumer panel (N=135), for which relevant consumer characteristics – namely product knowledge, food neophobia and variety seeking tendency – were known. Consumers evaluated liking and three collative properties: novelty, familiarity and complexity.
Results: A multiple linear regression model was carried out to analyze effects of the three collative properties on liking (Adj. $R^2 = .4$, $F_{(3, 1076)} = 239.66$, $p < .001$). All properties significantly positively predicted liking, with complexity ($b = .47$, $t_{(1076)} = 14.67$, $p < .001$) and familiarity ($b = .39$, $t_{(1076)} = 15.06$, $p < .001$) being the strongest regressors, followed by novelty ($b = .27$, $t_{(1076)} = 8.23$, $p < .001$). Non-linear relationships were assessed by computing smoothing points using locally weighted polynomial regression[2]. Berlyne's predicted trajectory (inverse U-shaped) described most accurately the relationship between novelty and liking (Figure 1a), whereas the relationships between liking and the two other collative properties is linear and monotonic (Figure 1b+c).
ANOVA was performed using consumer traits as main effects. High variety seeking consumers gave significantly higher overall liking ($p = .008$). Consumers with higher product knowledge rated the beers significantly more familiar ($p = .02$), less novel ($p = .03$) and less complex ($p < .001$). No significant effects of degree of neophobia were observed.
Conclusion: Taken overall, our results confirm that liking is indeed a result from a combination of novelty, familiarity and complexity. Furthermore, we expand prior work on collative properties in a food context, by showing that several different consumer variables need to be taken into consideration for predicting consumer liking.
References:
[1] Berlyne, D. E. (1970). Novelty, complexity and hedonic value. *Perception and Psychophisics, 8*, 279-286.
[2] Cleveland, W. S. (1979). Robust Locally Weighted Regression and Smoothing Scatterplots. *Journal of the American Statistical Association, 74*, 829-836.

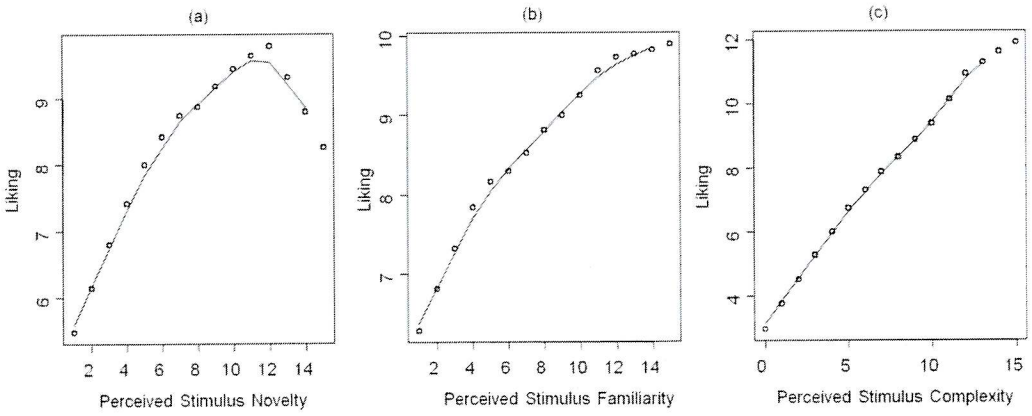


Fig. 1 – Robust smoothed values of novelty (a), familiarity (b) and complexity (c) against liking.

Keywords: Product experience, Arousal theory, Novelty, Consumer psychographics

---

[P8.16]

Taste of a new product: Sheep and goats sausages

S. Rodrigues*, A. Teixeira
Escola Superior Agrária do Instituto Politécnico de Bragança, Portugal

This study is part of a Project that aims to study a strategy which gives value-added to sheep and goat meat of animals which have very low price and out of quality label products as "Cabrito Serrano" and "Borrego Transmontano". Bragançana ewes and Serrana goats' carcasses were used in the production of a fresh sausage. Transformation was

made in a traditional industry, according to 2 main recipes, including or not bonnet pepper. Thus, 4 treatments were considered: ewes with pepper, ewes without pepper, goats with pepper and goats without pepper.
Physical, chemical and microbiological analyses were conducted and results published. But it is important to know about this new product sensory characteristics and its acceptability by consumers. So, the objective of this work was to evaluate the sausages sensory characteristics and relate it with consumers' preferences.
Effects of species and pepper were studied and analyzed for odor intensity, strange odor presence, flavor intensity, strange flavor presence, hardness, juiciness, fibers presence, spiciness, sweetness and overall acceptability by a 9 elements semi-trained taste panel, in 4 sessions. And taste, texture and overall acceptability preferences were evaluated by an 82 elements consumers' panel. A generalized Procrustes analysis and preference mapping were performed to test taste panel and consumers panel evaluations, respectively.
Both species and pepper effects were detected by experts. Goat's sausages were considered by panelists as harder, with more fibers, and less succulent than ewes' sausages. Pepper sausages presented higher odor intensity, less flavor intensity, less strange odor and flavor presence, and were sweeter and less spicy than sausages without pepper.
Consumers showed no preference considering different types of sausage, since none of preferences maps presented significant models for the established classes. This can be important for the sausages commercialization, as all kind of sausages studied in this work can be salable.

Keywords: sheep, goat, sausages, sensory evaluation

[P8.17]

Developing a descriptive sensory lexicon for food products made with brewers spent grain

E.C. Crofton*[1], A. Ktenioudaki[2], A. Markey[1], E. Gallagher[2], A.G.M. Scannell[1]
[1]University College Dublin, Ireland, [2]Teagasc Food Research Centre, Ireland

The potential for utilising nutritious brewers spent grain (BSG) to formulate new healthy food products is attracting global interest. However, while recent research has shown that brewers spent grain can be successfully incorporated into food, relatively little is known about the descriptive sensory characteristics of these products.
The aims of this study was to develop a descriptive vocabulary to describe the sensory properties of breads and crispy slices snacks produced with 10% & 15% BSG, to facilitate the development of detailed product specification on selected products. Bread rolls were baked for 20 minutes at 220ºC from flour blends containing 10 % & 15% BSG (wheat flour replacement). The crispy slices were formulated by preparing the bread rolls and then slicing and drying the 5-mm slices at 150ºC for 30 minutes. A panel of 12 assessors (9 female; 3 male) were selected on the basis of sensory acuity and their ability to communicate sensory descriptions for baked products. Panellists underwent 6 hours training using relevant spectrum descriptive analysis techniques before initial terminology development. Frequent attributes used to describe the flavour and texture characteristic of the breads and snacks are outlined in Table 1. Assessors described all products as having bitter, sweet, sour and salty tastes. Products containing 15% BSG were generally described as having a stronger bitter aftertaste with astringent feeling factors. Currently, this study is working with the panel to develop a complete lexicon to include all sensory characteristics present. This lexicon could be used as a starting point to describe breads and snack products containing brewers spent grain.

Table 1. Initial list of descriptors used to describe breads and crispy slices formulated with BSG

Bread		Crispy slice snack	
Flavour	**Texture**	**Flavour**	**Texture**
Grainy	Spongy	Grainy	Crunchy
Wheat	Doughy	Bran	Crispy
Yeast	Pasty	Malt	Gritty
Malt	Chewy	Dusty	Rough
Earthy		Toasted	Hard
Cardboard		Cardboard	Dry
Bran			Toothpack

Keywords: Brewers spent grain, Descriptive analysis, Lexicon development

---

[P8.18]

Applying temporal dominance of sensations to understand off-notes in oral nutritional supplements

E. Steenhuis, J.B. Lawlor*
Danone Research, The Netherlands

Temporal Dominance of Sensations (TDS) is a relatively recent sensory tool that may enhance our understanding of the dominance and release temporality of taste attributes during consumption (see Labbe et al., 2009). TDS has been