On farm processed foods: opportunities for product management based on sensory preferences

Jacques Viaene[1] and Xavier Gellynck[1]

[1] University of Gent - Department of Agricultural Economics, Belgium

Jacques.Viaene@UGent.be, Xavier.Gellynck@UGent.be

Contribution appeared in Sylvander, B., Barjolle, D. and Arfini, F. (1999) (Eds.) "The Socio-Economics of Origin Labelled Products: Spatial, Institutional and Co-ordination Aspects", proceedings of the 67th EAAE Seminar, pp. 443 - 444

October 28-30, 1999

Le Mans, France

On farm processed foods : opportunities for product management based on sensory preferences

Jacques VIAENE and Xavier GELLYNCK

University of Gent - Department of Agricultural Economics, Belgium

INTRODUCTION & OBJECTIVE

CAP -> rural economy becomes more important
-> financial support for on farm processing

But : product development, innovation = additional task for the farmer

Objective : -> Sensory analysis = useful tool ?
-> marketing conclusions ?

RESEARCH METHODOLOGY

1. Descriptive sensory analysis -> trained panel
   * H1 : each product is different
   * H2 : farm products are different, but no typical sensory characteristics
   * H3 : variability can technically be explained

2. Consumer preferences -> 9 point hedonic scale

3. Preference mapping -> stepwise multiple regression

IMPLEMENTATION : SKIMMED YOGHURT

QDA : 11 panellists - 8 sessions - 8 products (19 descriptors) - ANOVA

Preference : 192 respondents -> 50% industrial - 50% farm ; Latin square

DESCRIPTIVE SENSORY ANALYSIS

H1 : accepted because for at least one descriptor significant difference

H2 : rejected because sensory characteristics of farm products are different, but common, typical sensory characteristics exist :

Descriptors	F-value	p	Product codes			
			low score			high score
APPEARANCE						
whiteness	6,49	0,00	Fl^a	F^a	I^b	A^b
TEXTURE ON SPOON						
firmness	6,17	0,00	F^a	Fl^b	A^b	I^b
cohesion	5,90	0,00	F^a	Fl^b	A^b	I^b
ODOUR						
odour intensity	9,24	0,00	F^a	Fl^{ab}	A^{bc}	I^c

1. Products within a line showing the same superscript are not significantly different in the Duncan test ($p<0,00$)

H3 : accepted because of differences in technique used (starter cultures, fermentation time and t°), in raw material (feed and breed)

Figure 1 : Consumer preferences

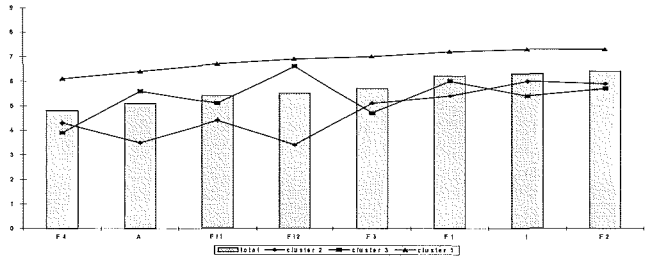
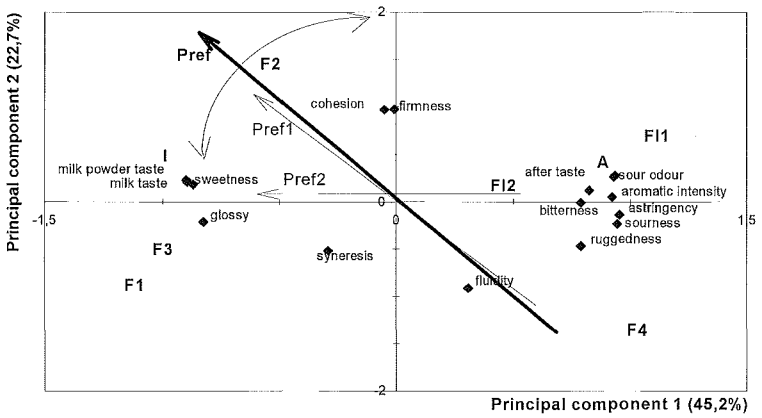


Figure 2 : Preference mapping

R^2 = 90% : -> firm + cohesive ; sweet + milk/powder taste



CONCLUSION

☞ cluster 3 = not linear, positive side PC1 = more sour
☞ CAP = opportunities on farm processing, but...
☞ Sensory is limited to the product, what about other elements of marketing-mix ?
☞ sensory = start not the end, because consumers like not what they eat, but like what they think they eat

BIBLIOGRAPHY

BARNES D.L., HARPER S.J., BODYFEL, F.W., MCDANIEL M.R. (1991). Correlation of descriptive and consumer panel flavor ratings for commercial prestirred strawberry and lemon yogurts. *Journal of Dairy Science*, 74, pp. 2089-2099.

HOSSENLOPP J. (1995). L'évaluation sensorielle appliquée aux produits laitiers. Centre Interprofessionel de Documentation et d'Information Laitières (CIDIL), Paris, 127 p.

MACFIE H.J., BRATCHELL N. (1989). Designs to balance the effect of order of presentation and first-order carry-over effects in Hall tests. *Journal of Sensory Studies*, 4, pp. 129-147.

ISSANCHOU, S. (1992). Sélection et entraînement d'un jury d'analyse sensorielle. Séminaire Européen Evaluation sensorielle, Bruxelles, 1992/11/17-18, 8 p.

VIAENE J., GELLYNCK X., LAPAGE E., BRACKE N. (1999). On-farm processing in Europe. Final report, University Gent, Department of Agricultural Economics, July, 150p.