



Sensory characterisation of 'Focaccia di Novi' a typical Italian flat bread

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Introduction

Flat bread is a bakery product available throughout the country with different texture, chemical and sensory characteristics for each region. An important and very well known flat bread in Italy is certainly that produced in the Novi Ligure (AL) area. Its production technology is characterised by a double rising, a rolled dough and a 'denting' to obtain the small alveolus that hold the extra virgin olive oil brushed on the flat bread surface once the bread is baked.

The aim of this study was the sensory characterisation of 'Focaccia di Novi' flat bread and the definition of difference with others flat breads produced in Piedmont.

Methods

Ten samples of 'Focaccia di Novi' flat breads and four flat bread samples from local markets were examined with Quantitative Descriptive Analysis. The testing panel was made up of 20 trained assessors. Sensory analysis was performed in the Department's sensory room with 8 booths designed according to ISO 8589 (1988). The descriptors were made up by the assessors in an initial training session using a few flat bread samples. The intensity of these descriptors were rated using a line scale of 0 to 10; a score of zero indicated that a descriptor was not perceived and a score of ten indicated a higher intensity. The samples were presented in a balanced and randomised order to avoid any order effects. Statistical analysis was performed using Statistica for Windows ver. 5.5.

Results

Figure 1 shows the results of the application of the Cluster Analysis (Ward's method) to the 14 flat bread samples. Squared of Euclidean distance was taken as a measure of proximity between two samples. The resulting clusters separate the two groups perfectly. These groups were further divided into other sub-groups and this shows a certain variability within the two groups of products.

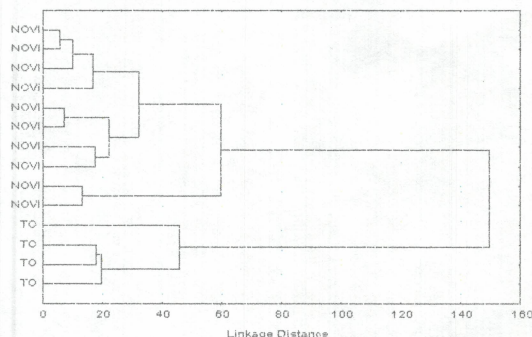


Figure 1 - Dendrogram for the 14 flat bread samples (NOVI: 'Focaccia di Novi' flat breads - TO: Others flat breads)

Table 1 shows the mean and standard deviations of the sensory variables analysed for the two groups. The results of the application of the Analysis of Variance with Duncan test are also included in the table. The 'Focaccia di Novi' flat bread has a much more intense odour than other flat bread and unlike the latter, which has a predominant baked smell, there is a very intense odour of olive oil. Moreover, the others flat bread samples are more compact and elastic than the 'Focaccia di Novi' flat bread which is a lot saltier, dryer, and has a much higher aroma intensity. As already found for odour, also for the aroma it is the olive oil aroma that prevails in the 'Focaccia di Novi' flat bread while in other samples the main aroma is that of cooked.

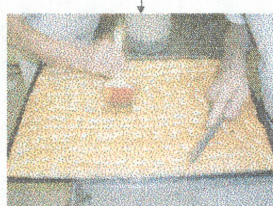
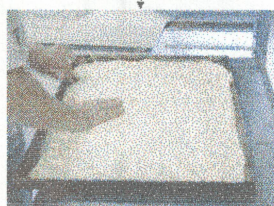
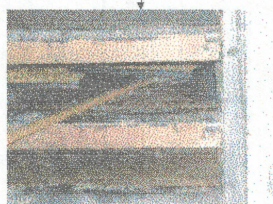
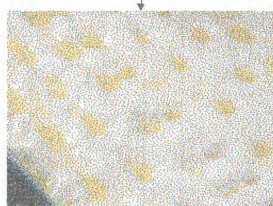
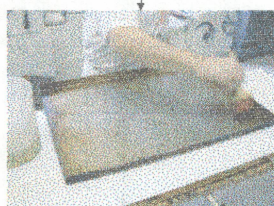
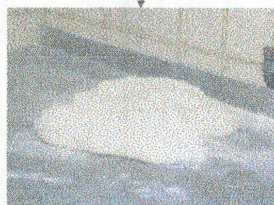
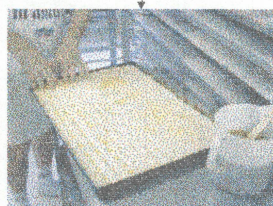
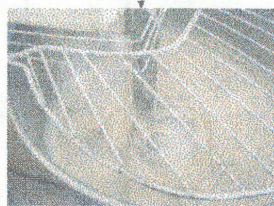
Table 1 - Mean ($\bar{X}$) and standard deviations (σ) of sensory parameters for the two flat breads groups

	'Focaccia di Novi'		Others flat breads	
	$\bar{X}$	σ	$\bar{X}$	σ
Odour intensity	5.2	0.59	4.62	1.11
Cooked odour	4.15	1.49	4.5	1.47
Oil odour	3.75 _b	1.03	2.12 _a	1.03
Firmness	4.05	0.93	4.25	2.05
Elasticity	3.1	1.35	4.5	1.68
Gumminess	3.90 _b	0.91	1.62 _a	0.48
Salty	3.8	1.25	3.12	0.85
Dryness of dough	5.40 _b	0.46	3.12 _a	0.25
Aroma intensity	5.20 _b	0.92	2.00 _a	0.82
Oil aroma	2.75 _a	0.72	3.00 _b	0.82

** Means within rows without a common superscript are significantly different ($P < 0.05$)

Conclusion

The 'Focaccia di Novi' flat bread is therefore a characteristic product very sensory different from common flat bread available in Piedmont local markets. Its oil richness, its dryness and flatness and its distinct alveolus are the main distinguishing elements on which to base the future Brand Denomination.



Basic steps in 'Focaccia di Novi' manufacture