

Sensory characteristics of plain yogurt before and beyond the best before date

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Introduction

The “Best Before Date” (BBD) indicates the date until the food should retain its specific properties and furthermore it refers to the quality of a product, not to the safety. After the expiration of the BBD some properties e.g. sensory characteristics may have changed, but the product can still be edible.

The aim of the present work was to investigate the sensory changes of refrigerated (5°C) plain yogurt with 1% and 3.6% fat content, over 42 days of storage, by a trained panel and by a consumer panel.

Methods

Sensory analysis:

Quantitative Descriptive Analysis (QDA):

A trained panel assessed the intensity of 26 sensory attributes using Quantitative Descriptive Analysis (QDA) on four specific appointments:

before the BBD	after 25 days of storage
on the BBD	after 35 days of storage
3 days beyond the BBD	after 38 days of storage
7 days beyond the BBD	after 42 days of storage

Acceptance test:

To evaluate the degree of liking of both kinds of yogurt 7 days after the BBD, 117 consumers rated the product’s acceptance with and without information about the expiration of the BBD, on a 9-point hedonic scale.

Results

Quantitative Descriptive Analysis (QDA):

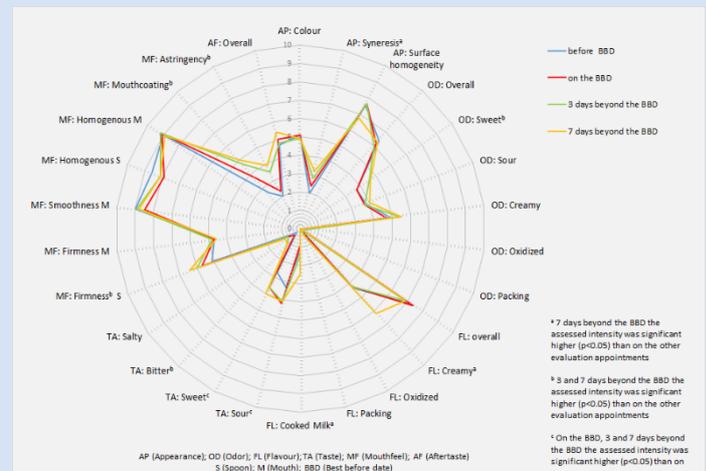
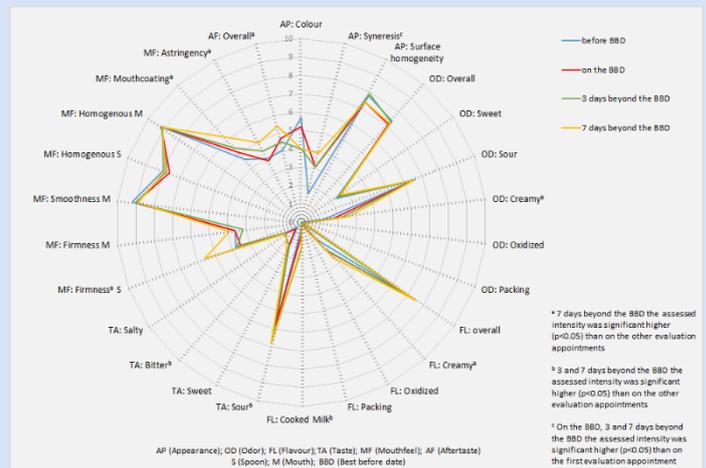
In relation to storage time the results of the QDA showed for both yogurts, with a fat content of 1% and 3.6%, significant changes ($p < 0.05$) in the intensity of the following attributes: color, syneresis, sweet and creamy odor, creamy and cooked milk flavor, sour, sweet and bitter taste, firmness, mouth coating, astringent and overall aftertaste.

Acceptance test:

The acceptance test indicates that the information about product’s expiration influenced the consumer’s acceptance negatively (6.26 vs. 6.05 points for 1% fat yogurt; 6.87 vs. 6.28 points for 3.6% yogurt) but the yogurt was still enjoyed after the “best before date.” Additionally, the low fat yogurt (1%) was rated significant lower ($p < 0.01$) than the product with 3.6% fat (6.26 vs. 6.87 points).

Conclusion

Despite of the changes in the sensory characteristics of plain yoghurt over the storage period, until 7 days after the BBD, both yogurts, with 1% and 3.6% fat content, were still good to eat. Furthermore the results showed that the fat content and the knowledge about the product’s expiration influenced significantly ($p < 0.01$) the consumer’s acceptability.



¹ consumers received the information about the BBD expiration of the product

**1% fat yogurt < 3.6% fat yogurt ($p < 0.01$)

**3.6% fat yogurt < 3.6% fat yogurt + BBD information¹ ($p < 0.01$)

Figure 3: Results of the acceptance test