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ORGANOLEPTIC AND PHYSICOCHEMICAL CHARACTERIZATION OF SPINACH MUFFINS

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Abstract: Spinach muffins are a source of rich nutrients, which are rarely accounted for in recent studies. The present paper explores the technological stages behind the production process of these muffins, as well as more advanced analyses in regards to their quality. A thorough bibliographic review of the subject was realized, starting with an overview of muffins and their nutritional values. It was presented the nutritional properties and health benefits of spinach and milk, before examining how muffin consumption with these ingredients may benefit the organism.

Also, the organoleptic and physicochemical characterization of a variety of spinach muffins was carried out. This involves a comprehensive sensory evaluation and a centralization of results from a group of tasters. The physicochemical characterization consists of determining the moisture content, the amount of dietary fiber, the protein and also, the sugar content.

• Introduction

Muffins are a popular snack both for breakfast and between meals. These are easy-to-make pastries that come in a variety of flavors and sizes. Many people are concerned about the nutritional value of muffins, as they can be high in calories and sugar.

Spinach muffins are an unconventional and useful snack for common consumption due to the nutrients offered and the rich taste.

• Material and method

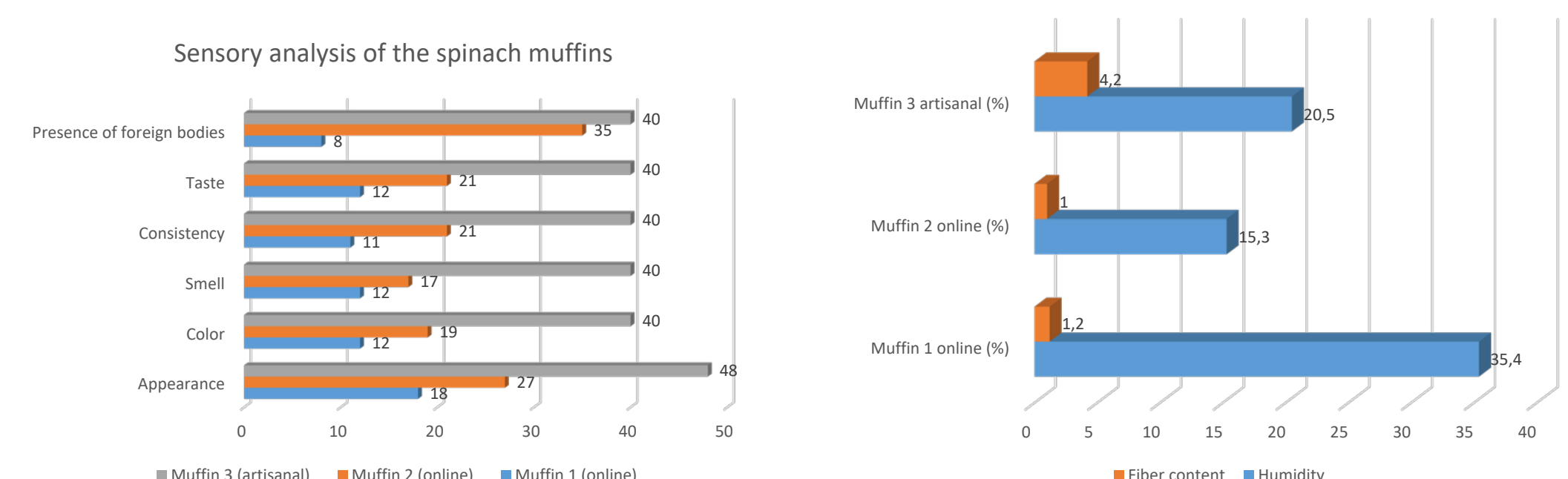
3 assortments of spinach muffins (2 purchased online, and one obtained in an individual household) were subjected to examination. For the sensory evaluation, a Likert scale (from 1 to 5) was used, using a panel of 10 tasters, who completed the sensory sheets following the organoleptic examination of the samples. During these tests, the following attributes were evaluated: appearance, color, smell, taste and the presence of foreign bodies.

The physicochemical analysis of the muffins consisted of: determining the moisture content (by drying approximately 3–5 g of sample in a stove at 105°C, until constant weight was achieved) and determining the amount of dietary fiber (depending on the type of fiber that is to be assessed; in general, the method involves the use of solutions that break down the components of the food, leaving the fibers behind).

• Results and discussions

The results obtained from the sensory analysis of the 3 types of spinach muffins indicate that the artisanal muffin was the most appreciated in terms of all the analyzed attributes, obtaining a maximum score for each of the examined characteristics.

The physicochemical analyzes undertaken showed that the artisanal muffin has a balanced physicochemical profile, with an adequate fiber content, but also a humidity that falls within the standards for muffins. This suggests that the product is not only tasty, but also nutritious.



• Conclusions

The results obtained from the evaluation of three types of muffins, of which one is artisanal and two are marketed online, demonstrate the indisputable superiority of the artisanal spinach muffin. The maximum score received by the artisan muffin in all categories reveals its impeccable quality, while the other two muffins showed some deficiencies.

The sensory and physicochemical characteristics of the artisanal spinach muffin highlight its superiority, which not only delights the taste buds, but also provides balanced nutrition, unlike online muffins, which suffer by excesses or nutritional deficiencies and present possible quality problems.

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