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THE VALORIZATION OF CRANBERRY ACTIVE INGREDIENTS IN THE BAKERY INDUSTRY TO OBTAIN A HYPOGLYCEMIC PRODUCT

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Abstract: The purpose of this paper is to summarize the data in the literature on the possibility of capitalizing on the active potential of cranberries in the bakery industry to obtain innovative products with a hypocarboicidal character. The research aimed at developing an innovative food product, a pastry product with added value, capitalizing on the maximum potential of cranberries in obtaining composite flour with Spelt wheat and also obtaining a highly valued product with an increased nutritional value. Cranberries (*Vaccinium vitis-idaea* – L.) have a beneficial effect on regulating blood sugar levels, which can be helpful in controlling diabetes and maintaining a low-carbohydrate diet. Although cranberries are not direct hypoglycemic (they do not actively lower blood sugar levels like an antidiabetic drug), they contribute to a diet with a low glycemic index, due to their rich content in antioxidants, fiber, and other bioactive compounds.

Spelt wheat flour contains a variety of active ingredients that can provide health benefits, such as powerful antioxidants (polyphenols and flavonoids), dietary fiber, minerals, omega-3 fatty acids, and enzymes.

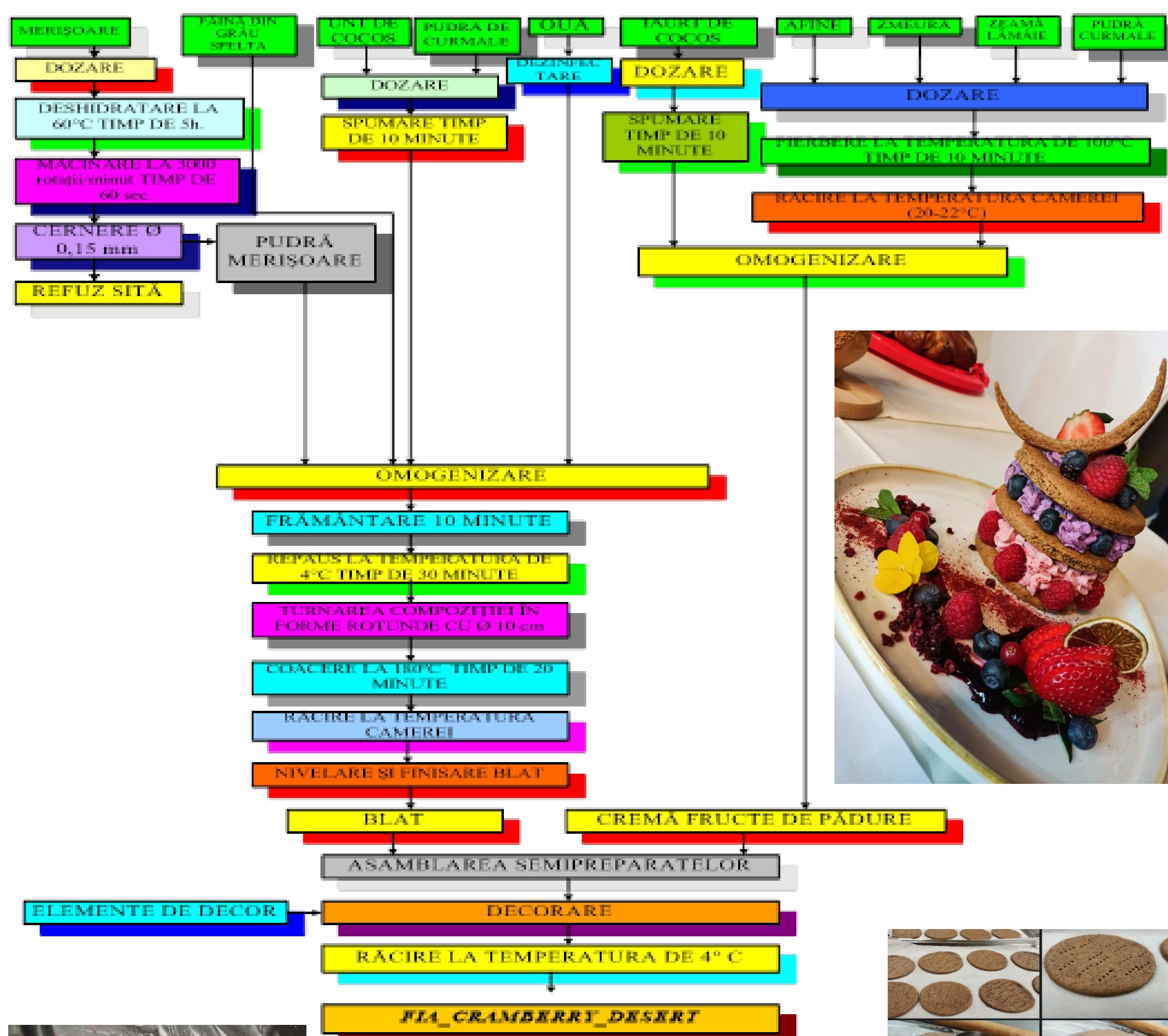
The product was analysed from nutritional and phytochemical point of view that proved the rich concentration of proteins and phytonutrients with antioxidant and anti-inflammatory properties. The supply of complex carbohydrates resulting from the consumption of this type of flour provides long-term energy and keeps blood sugar levels stable. Although it contains gluten, spelt wheat flour has a much lower content than regular wheat flour, making it a better option for people who are sensitive to gluten and helping to improve digestion.

Last but not least, due to the high content of macro and microelements, cranberries and spelt wheat flour are recommended for vulnerable consumer groups (the elderly and children) in order to supplement the intake of elements naturally through food consumption.

• Introduction

The research aims to integrate the active ingredients from cranberry into bakery and pastry products to obtain a product with hypoglycemic potential. Diabetes and other metabolic disorders are growing global problems, which generates a growing demand for food products that can help maintain healthy blood sugar levels. The cranberry, rich in antioxidants and bioactive compounds, has demonstrated properties to reduce blood sugar, thus being a promising candidate for the development of healthier bakery and pastry products.

• Material and method



• Results and discussions

The results indicated that the cranberry-enriched cake had a lower glycemic index compared to conventional cakes, reducing the postprandial glycemic response in consumers. Active cranberry compounds, such as flavonoids and polyphenols, had a positive impact on blood sugar regulation without compromising the taste and texture of the bakery product. The study suggests that cranberry not only improves the nutritional profile, but also brings health benefits, making the hypoglycemic cake a viable alternative for people at risk of diabetes.

Properties	Value nutritional / 100 g product
Core moisture (g)	41.74
Protein (g)	4,6
Lipid (g)	6,7
Fiber (g)	5,6
Carbohydrates (g)	24
Energy value, (kcal)	167
Salt content (g)	0.9

• Conclusions

The hypoglycemic cake obtained by adding active ingredients from cranberry has the potential to become a functional product in the market, providing health benefits and responding to the growing needs of low glycemic index food products. This exploitation of the cranberry in baking and pastry can contribute to the development of new solutions in nutrition, with a beneficial impact on public health.



Acknowledgement: cranberries, spelt wheat flour, low-carbohydrate diet, essential nutrients.