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FORMULATION AND PHYSICOCHEMICAL PROFILING OF NOVEL VEGAN APPETIZER FORTIFIED WITH *INONOTUS OBLIQUUS* (CHAGA) POWDER

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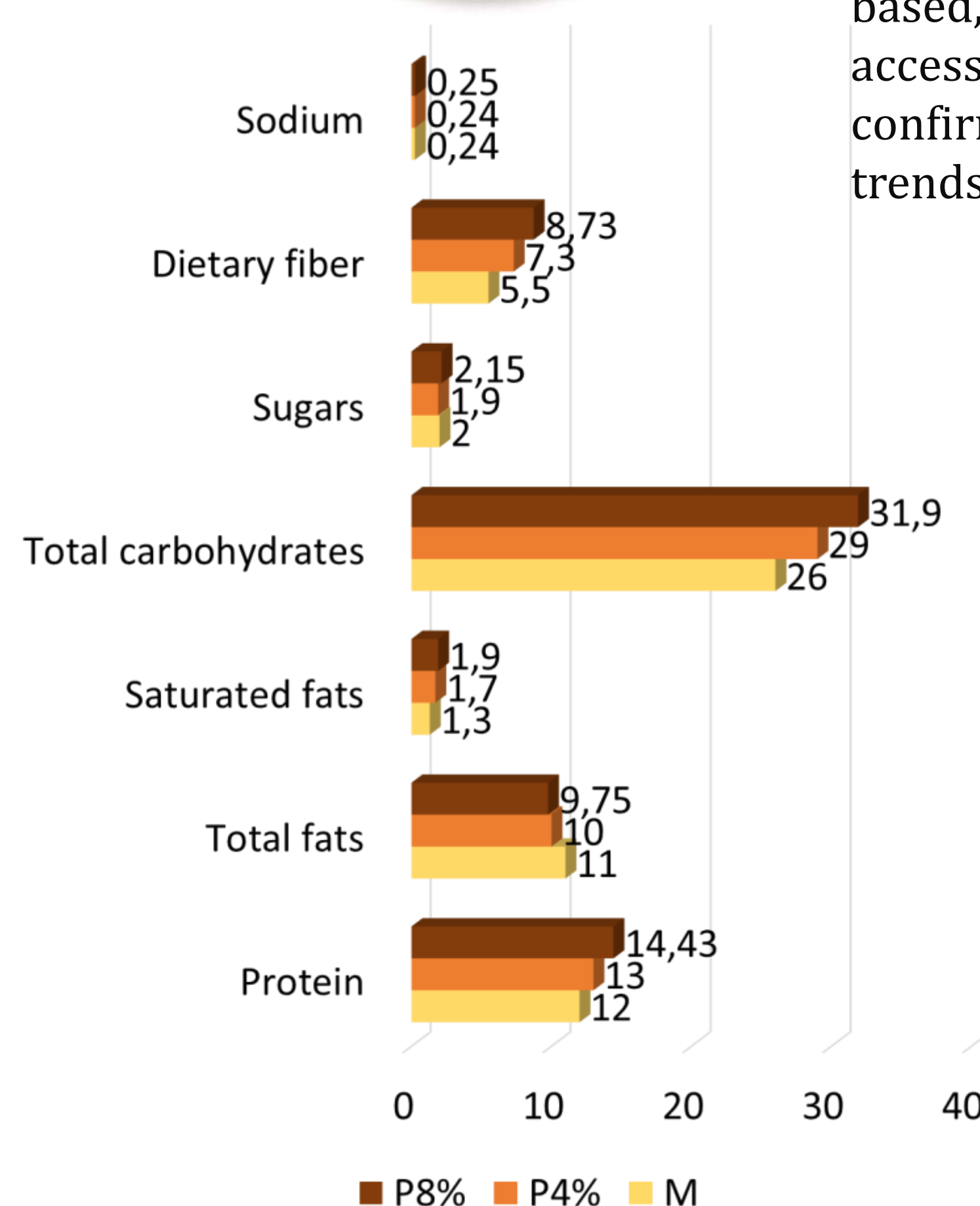
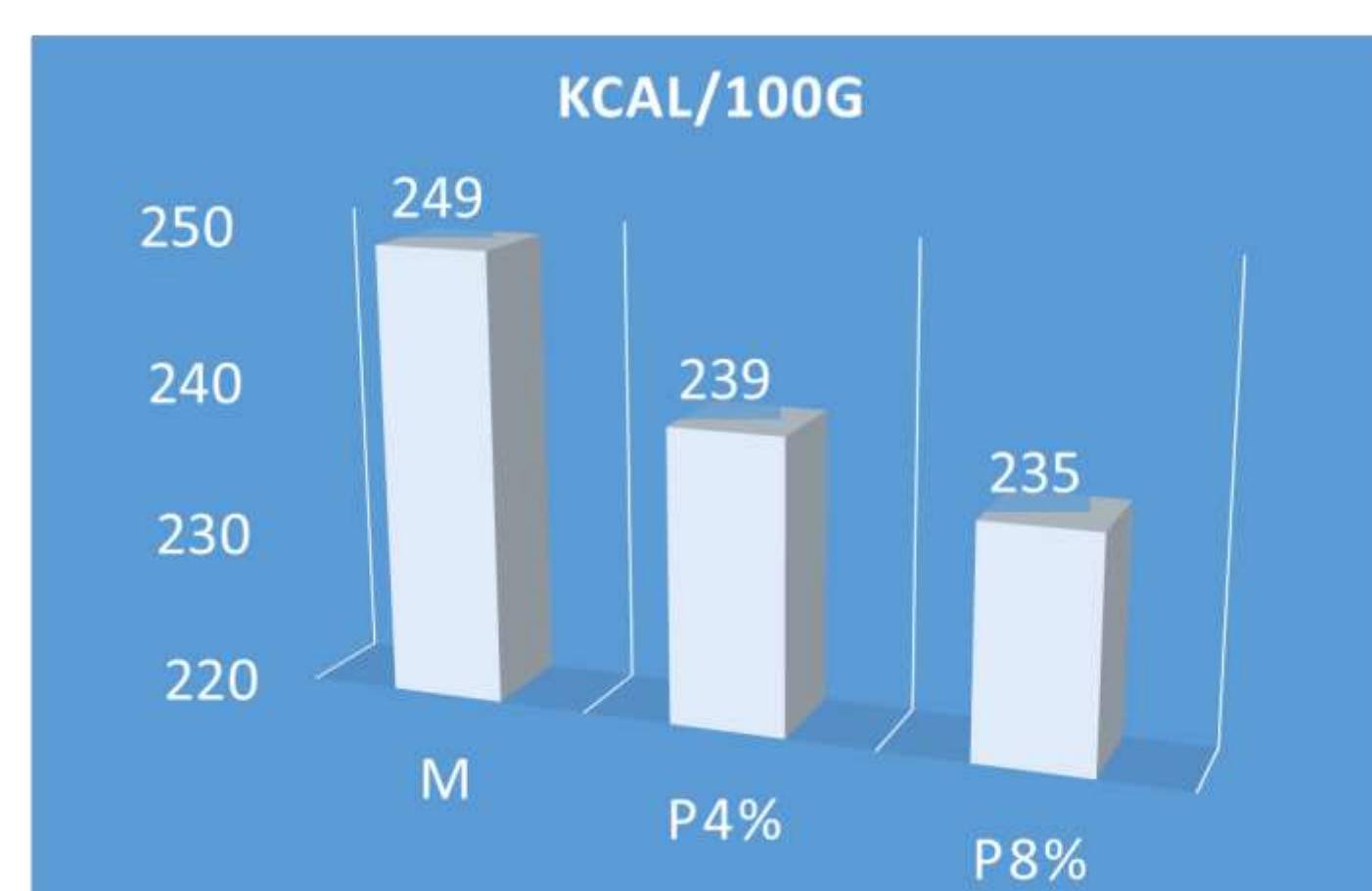
Abstract:

The present study aimed to utilize Chaga (*Inonotus obliquus*) powder in the creation of an innovative, functional appetizer. The functional mushroom Chaga is recognized for its antioxidant and immunomodulatory properties. A spreadable appetizer formulation consisting of button mushrooms (*Agaricus bisporus*), lentils, and walnuts was developed and enriched with functional Chaga powder at two distinct incorporation levels: 4% (P4%) and 8% (P8%). A control sample (M), devoid of Chaga addition, was simultaneously prepared for comparative analysis. The obtained products were analyzed for their total polyphenol content (TPC), DPPH free radical scavenging activity (RSA), proximate composition, and sensory attributes. The products with added Chaga powder demonstrated significant superiority in terms of both TPC and RSA. This is essential, as these indicators are closely linked to the protective action and functional properties of foods. The best result was recorded for the P8% product. In terms of proximate composition, the P8% product registered the highest values for protein, total carbohydrates, and dietary fiber content; however, the P4% variety also demonstrated superior concentrations compared to the control (M). Concurrently, it was determined that the energy value of the products was inversely proportional to the incorporated Chaga powder percentage, with the control (M) providing the maximum caloric contribution. The sensory evaluation conducted on the P8% product demonstrated outstanding organoleptic attributes, with scores for all analyzed characteristics ranging from 4.80 to 4.95.

• Results and discussions

Sample	Total polyphenols (mg GAE/g)
P4%	48.62±0.38th
P8%	51.16±0.42
M	34.21±0.31

Sample	Dilution	RSA (%)
P4%	1:10	88.28±0.32
	1:100	63.45±0.26
P8%	1:10	93.48±0.52
	1:100	71.25±0.38
CVM	1:10	41.28±0.20
	1:100	23.16±0.11



• Conclusions

Chaga Appetizer stands out for its innovative character due to the unique way of capitalizing Chaga powder (*Inonotus obliquus*) in a vegan spread. Its integration into a food product with functional properties, with wide gastronomic applicability, represents a new and original approach. The preparation proposes a carefully chosen combination of natural ingredients, with complementary nutritional and functional benefits, such as lentils, nuts, mushrooms and aromatic spices. Thus, the product not only offers a pleasant taste and an attractive texture, but also brings a real contribution of bioactive compounds, antioxidants, quality vegetable proteins, fiber, essential fatty acids that can help maintain health, including by supporting the digestive and immune systems. In addition, the fact that it is a 100% plant-based, natural alternative, without chemical additives, accessible and easy to integrate into various types of diets, confirms its innovative value in the context of current food trends

