

## QUALITY INDICES OF VEGETABLE SPONGE-TYPE CONFECTIONERY PRODUCTS, OBTAINED FROM AQUAFABA

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The problem of healthy and balanced nutrition of the population is becoming more and more topical. Nowadays more and more non-traditional raw materials of plant origin are used to enrich the finished product with bioactive components, diversify the assortment, and make it accessible to the widest possible range of consumers. The manufacture of vegetable confectionery products comes to alleviate this problem by replacing foaming agents of animal origin with those of vegetable origin. The aim of this study was to develop the technology for manufacturing vegetable sponge cake based on chickpea boiling water, used as a foaming agent.

For this research, 3 domestic chickpea varieties Ovidel, Botnași Ichel were used, from which chickpea boiling water was obtained under laboratory conditions. It was determined the physico-chemical quality indicators of chickpea boiling water: dry matter content, protein and ash content, the ability to form foam, and its stability. In the vegetable sponge cake manufacturing technology, chicken eggs were replaced by chickpea boiling water, which was characterized by the highest content of dry matter and protein. The sensory quality (outer appearance, consistency of the core, color and appearance of the crust, smell and taste) and physico-chemical quality (moisture content, porosity of the core, alkalinity, friability, and water activity) of the vegetable sponge samples were analyzed. At the same time, a sample of sponge cake was prepared according to the classic recipe with chicken eggs, the control sample.

The research results showed that the boiling water obtained from all 3 chickpea varieties was characterized by increased protein content. It was found that there is a direct correlation between the number of revolutions of the agitator, the beating time and the ability to form foam and its stability. Sensory analysis shows that the vegetable sponge cake had a similar color and texture to the sponge cake prepared with eggs, well-developed volume, but less elastic, with a pleasant taste and a smell characteristic of the assortment. Analyzing physico-chemical indicators, the moisture content was higher because of a low dry matter content in the boiling water. This fact leads to the reduction of porosities in relation to the control sample. The friability values of the vegetable sponge cake were lower compared to the control sample due to the high humidity that led to the maintenance of freshness. Meantime was ascertained that the quality indicators for the vegetable sponge obtained on the aquafaba basis are in accordance with the normative documents in force.

In conclusion, it can be mentioned that there are possibilities of replacing the foaming agent of animal origin with the agent of vegetable origin for the manufacture of vegetable sponge cake. Thus, chickpea boiling water can be the basis for creating a new range of flour products for a new spectrum of consumers.

**Keywords:** flour confectionery product, chickpeas, chickpea boiling water (aquafaba), quality

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