THE USE OF BEETROOT AND SPINACH FOOD POWDERS TO OBTAIN BREAD WITH MULTICOLORED CORE

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The use of food powders in the preparation of the dough has several advantages, such as changing the color of the core and other sensory properties, increasing the biological value by enriching the product with dietary fiber, mineral substances, vitamins, and other bioactive substances. At the same time, replacing a quantity of wheat flour with food powder reduces the amount of gluten in the dough, which can cause a decrease in the porosity and volume of the product. In this paper, the effect of the addition of beetroot and spinach powders in the dough preparation process on the sensory and physico-chemical properties of the bread core was studied. Thus, six samples of bread were obtained with the addition of each powder in the proportion of 2,5, 5,0, and 7,5% relative to the flour mass. Also, in this paper, the effect of the addition of ascorbic acid in the preparation of dough with beetroot powder was studied to prevent the change in the color of the bread core during baking. Following the physico-chemical analysis of the bread samples with both spinach powder and beetroot powder, an insignificant decrease in the porosity and volume of the bread was found with the increase in the dose of added powder. In the sensory analysis, the bread samples with the addition of beetroot powder were appreciated with a higher score compared to the bread samples with the addition of spinach powder. Tasters noted the presence of crunch and the intense smell of spinach in the samples with 5,0 and 7,5% spinach powder.

At the same time, a visible intensification of the color of the core was observed with the increase in the dose of both spinach powder and beetroot powder. It was found that the use of ascorbic acid in the preparation of the dough with the addition of beetroot powder contributes to the preservation of the red color of the bread core. Subsequently, bread with a multicolored core was obtained by rounding the pieces of dough, flattening, arranging in the desired sequence of colors, rolling, placing in baking molds, cutting on the surface, leavening, and baking. The obtained bread was characterized by its beautiful exterior and section appearance, balanced taste and smell (with the faint flavor of beetroot and spinach), high volume and well-develope porosity.