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Microbiological stability of glazed curd cheese with sea buckthorn pomace

Stabilitatea microbiologică a brânzei glazurate cu tescovină de cătină albă

Microbiological stability is a key determinant of safety and shelf life in high-moisture dairy desserts, where the nutrient-rich matrix may support microbial growth even under refrigeration. This study evaluated the effect of sea buckthorn (*Hippophae rhamnoides* L.) pomace on the microbiological stability of glazed curd cheese during refrigerated storage. Sea buckthorn pomace obtained after juice pressing was dried at 55–60 °C for 10–12 h, separated from seeds, milled, and incorporated into the product at 1.25, 2.5, 3.75, and 5.0%, alongside a control sample. All formulations were stored at 4±1 °C for 12 days. Microbiological assessment included total viable count, yeasts and molds, coliform bacteria, and foodborne pathogens. In all tested samples, the background microflora was represented by lactic acid bacteria, observed as short, Gram-positive, non-spore-forming rods, which is typical for this dairy matrix. Total viable counts remained low throughout storage, ranging from 6×10² to 8×10² CFU/g across all formulations. Yeast counts remained below the admissible limit of 100 CFU/g, varying between 70 and 90 CFU/g, while molds were not detected. Coliform bacteria were absent in all samples, and no pathogenic microorganisms were detected, confirming the microbiological safety of the product during refrigerated storage. The microbiological findings were consistent with the overall storage behavior of the fortified samples. Compared with the control, pomace-containing formulations showed lower moisture, reduced peroxide values, and stable water activity, indicating a product matrix less susceptible to quality deterioration during storage. Among the tested variants, the 2.50% formulation showed the most balanced stability profile. Overall, sea buckthorn pomace can be successfully used as an upcycled functional ingredient in glazed curd cheese without compromising microbiological safety, while supporting stable refrigerated storage and good product integrity.

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