EFFECT OF GRAPE SKIN INCORPORATION INTO ICE CREAM FORMULATION

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Grapes harvested worldwide are used in winemaking, and with the development of this industry, the volume of accompanied by-products increases, such as grape pomace, seeds, etc. These products are rich in polyphenols, tannins, and others and are of interest for their subsequent exploitation because. The paper explores the possibility of using grape skin powder as an addition to the production of ice cream.

Ice cream formulas with the addition of grape skin powder (0; 2.5; 5.0; 7.5 and 10.0% to total weight) have been developed.

Research has shown that the addition of grape skin powder reduces the rate of oxidative processes in ice cream samples, and significantly contributes to increasing the total polyphenol content (63.93 - 139.29 mg GAE/mL extract) and antioxidant activity (33. 63% for sample 10.0 % PS). Also, the fortification of the ice cream with powder from the grape skin significantly influences the color of the elaborate ice cream, the color difference varying in the limits ΔE=37.37 - 54.94.

The addition of grape skin powder has been shown to slow down the oxidative processes in ice cream masks. The acidity index of the 10% puberty grape ice cream sample was 10 times lower than in the non-added sample. The same trend was recorded for the change in peroxide value during ice cream samples ($\Delta PV_{control}$=0.52 meq O_2/kg, $\Delta PV_{10\%}$ =0.04 meq O_2/kg).

It has been established that the incorporation of grape skin powder into the ice cream formulations up to 5% has a microbiostatic effect, and as its concentration increases, an antagonistic effect is manifested and an active proliferation of *Aspergillus* and *Cladosporium* molds and bacteria being observed.

According to the accumulated score (23.43 out of 25) as a result of the sensory analysis, the most successful sample is the ice cream with 5% grape skin powder. However, the other samples did not accumulate a score lower than 20, thus leaving room for further research on the technology of ice cream preparation and the method of incorporation of grape skin powder.

Keywords: *ice cream, grape skin, color, microbiostatic effect, polyphenols, antioxidant activity.*

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