

EXPLORING SUGAR REPLACEMENTS IN ICE CREAM: A FOOD INDUSTRY RESEARCH PERSPECTIVE

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The food industry is continuously seeking innovative strategies to cater to the growing demand for healthier alternatives while maintaining the sensory experience consumers crave. In this context, the quest for sugar replacements in ice cream presents both a challenge and an opportunity. This abstract delves into the research perspectives within the food industry regarding sugar replacements in ice cream formulations. Firstly, the detrimental health effects associated with excessive sugar consumption have prompted a paradigm shift towards healthier options. Consequently, researchers are exploring various sugar substitutes, including natural sweeteners like stevia, monk fruit extract, and erythritol, as well as artificial sweeteners like aspartame and sucralose. Each of these alternatives offers distinct advantages and challenges in terms of taste, texture, and stability in ice cream formulations. Secondly, sensory perception plays a crucial role in consumer acceptance of sugar-reduced or sugar-free ice cream products. Thus, understanding the intricate balance between sweetness, mouthfeel, and flavor profile is essential for successful product development. Advances in sensory analysis techniques, coupled with consumer insights, guide researchers in formulating ice cream products that meet both health and taste expectations. Moreover, technological innovations, such as encapsulation techniques and flavor enhancers, contribute to overcoming the limitations associated with sugar replacements, thereby improving the overall quality of sugar-reduced ice creams. Researchers are exploring sugar replacements in ice cream to meet consumer demands for healthier options while maintaining taste and quality, utilizing a multifaceted approach. The work presents these possibilities for replacing sugar in the ice cream manufacturing recipes.