African Journal of Food Science and Technology (ISSN: 2141-5455) Vol. 14(11) pp. 01-02, November, 2023
DOI: http:/dx.doi.org/10.14303//ajfst.2023.052
Available online @https://www.interesjournals.org/food-science-technology.html

Opinion

Enhancing health benefits through flavour: The role of taste compounds in functional foods

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INTRODUCTION

In the pursuit of a healthier lifestyle, the concept of functional foods has gained significant traction. These foods not only provide basic nutrition but also offer additional health benefits, often achieved by incorporating specific nutrients, bioactive compounds, or functional ingredients. However, the success of functional foods isn't solely reliant on their nutritional content; taste plays a pivotal role in their acceptance and consumption. The incorporation of taste compounds is a critical strategy in making functional foods appealing while enhancing their health benefits (1).

Functional foods and health enhancement

Functional foods are designed to promote well-being beyond basic nutrition. They typically contain components that provide physiological benefits beyond mere sustenance. These foods often harness the potential of bioactive compounds—such as antioxidants, polyphenols, probiotics, and omega-3 fatty acids—to confer health advantages, from improved digestion to reduced risk of chronic diseases (2).

The significance of taste in food acceptance

Despite their potential health benefits, functional foods often face challenges related to taste and palatability. Consumers tend to reject foods that lack desirable flavours or textures, regardless of their health-promoting properties. Thus, the incorporation of taste compounds becomes essential to ensure consumer acceptance and compliance with dietary regimes (3).

Leveraging taste compounds for health enhancement

Functional foods can be enhanced by incorporating taste compounds that not only impart flavour but also contribute to their health benefits. For instance, natural sweeteners like stevia or monk fruit extract add sweetness without the calories of refined sugar, making them suitable for diabetic-friendly functional foods (4).

Bitter compounds found in certain vegetables like kale or broccoli, when skillfully balanced, contribute to a more diverse taste profile in functional foods while delivering potent antioxidants and anti-inflammatory properties. Likewise, the umami taste, often found in ingredients like mushrooms or tomatoes, not only enhances flavour but also offers potential benefits like improved metabolism and appetite regulation (5, 6).

Challenges in formulating functional foods with enhanced taste

Crafting functional foods that strike the delicate balance between health benefits and taste can be a challenge. The incorporation of certain bioactive compounds may introduce bitterness or unwanted flavours, potentially deterring consumers. Overcoming these taste-related challenges requires innovation in formulation techniques and the strategic use of taste-modifying agents (7).

Consumer perception and acceptance

Consumers' perception of functional foods heavily relies on taste. Products that successfully marry health benefits with pleasing tastes tend to garner better acceptance. Hence, investing in research and development to create functional foods that offer both health advantages and an appealing taste profile becomes imperative in encouraging their adoption (8).

Future innovations and trends

As the demand for functional foods continues to rise,

Received: 20-Oct-2023, Manuscript No. AJFST-23-121591; **Editor assigned:** 23-Oct-2023, Pre QC No. AJFST-121591 (PQ); **Reviewed:** 06-Nov-2023, QC No. AJFST-23-121591; **Revised:** 08-Nov-2023, Manuscript No. AJFST-23-121591 (R); **Published:** 15-Nov-2023

Citation: Prado (2023). Enhancing health benefits through flavour: The role of taste compounds in functional foods. AJFST: 052.

ongoing research focuses on optimizing taste compounds to maximize health benefits without compromising flavour. Innovations in taste-modifying agents, flavour encapsulation techniques, and ingredient combinations aim to revolutionize the sensory experience of functional foods (9, 10).

CONCLUSION

In the dynamic landscape of nutrition and health, functional foods stand as a promising avenue for promoting well-being. However, their success hinges not only on their nutritional content but also on their taste and sensory appeal. By incorporating taste compounds strategically, functional foods can elevate their health benefits while enticing consumers with enjoyable flavours and textures.

The future of functional foods lies in the fusion of science and culinary innovation, where taste compounds are used not only to please palates but also to harness the full potential of health-enhancing bioactive compounds. Striking a harmonious balance between taste and health benefits will pave the way for a new era of nutritionally fortified, flavourful, and widely accepted functional foods, contributing to a healthier society at large.

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