

DEVELOPMENT OF THE RECIPE FOR A BLENDED APPLE-CINNAMON ICED TEA

V.I. Bielievtsov¹, D.V. Matiukhov²

¹ Graduate Student, Department of Technology of Fats and Fermentation Products, NTU "KhPI", Kharkiv, Ukraine

² Associate Professor, PhD in Engineering, Department of Technology of Fats and Fermentation Products, NTU "KhPI", Kharkiv, Ukraine

wadim.eskhar@gmail.com

In the modern world, consumers are increasingly focused on beverages that combine pleasant taste, natural ingredients, and health benefits. One such beverage is iced tea – a refreshing, non-alcoholic drink that has become popular due to its natural composition and wide variety of flavor options.

The purpose of this study is to substantiate the feasibility of producing a cold blended tea (a mixture of black, green, lemongrass herbal, and hibiscus teas) with the addition of honey, cinnamon, and dried apples.

Apples enrich the beverage with natural sugars, pectins, organic acids, vitamins, and quercetin – a flavonoid with antioxidant and anti-inflammatory properties that reduce cardiovascular risk. They add mild sweetness and fruity notes [1]. Cinnamon enhances aroma with warm, spicy flavors and improves insulin sensitivity, while its essential oils provide stability [2]. Honey offers antioxidants, antibacterial and anti-inflammatory effects, and helps regulate cholesterol and blood glucose, making it a functional ingredient rather than just a sweetener [3]. Green tea contains catechins (especially EGCG) that lower blood pressure, improve lipid metabolism, and support weight control. Hibiscus tea adds color and tartness, helping reduce blood pressure and “bad” cholesterol. Lemongrass provides antibacterial and soothing essential oils, complementing apple and cinnamon by balancing the sweetness of honey. Black tea’s moderate caffeine content mildly stimulates alertness and reduces stress. Together, these ingredients create a flavorful, functional beverage rich in antioxidants, polyphenols, essential oils, and organic acids that aid digestion, reduce oxidative stress, and support overall health. Thus, the combination of apple, cinnamon, honey, and various types of tea forms a beverage that is not only well-balanced in flavor but also functionally beneficial. It contains natural antioxidants, polyphenols, essential oils, and organic acids that promote better digestion, reduce oxidative stress, and support overall body tone.

References:

1. Barnett M. P. G. A Polyphenol-Enriched Variety of Apple Alters Circulating Immune Cell Gene Expression and Faecal Microbiota Composition in Healthy Adults: A Randomized Controlled Trial / M. P. G. Barnett, W. Young, K. Armstrong, et al. // *Nutrients*. – 2021. – Vol. 13, № 4. – Article 1092.

2. Chang S. Beneficial effects of cinnamon and its extracts in the management of cardiovascular diseases and diabetes / S. Shang, H. Lin, X. Fang, et al. // *Food & Function*. – 2021. – Vol. 12, № 24. – P. 12194–12220.

3. Ahmed A. Effect of honey on cardiometabolic risk factors: a systematic review and meta-analysis / A. Ahmed, M. Khan, F. Saeed, S. Alzahrani, A. Alghamdi, M. Hossain // *Nutrition Reviews*. – 2023. – Vol. 81, № 7. – P. 758–774.