



Health-promoting ingredients in design of gluten-free cookies

Maria Sielicka-Różyńska

Poznań University of Economics and Business

Abstract

Gluten-free confectionary products seems to attract attention of increasing number of consumers, not only those affected by celiac disease and gluten-related disorders, but also a wide range of innovative product seekers. Unfortunately high consumption of gluten-free products may lead to low micronutrient intake, poor vitamin status and low antioxidant status in comparison to gluten-containing counterparts. The challenge is to improve the nutritional and health properties of gluten-free products simultaneously ensuring sensory attractiveness. The aim of the study was to obtain an optimized gluten-free cookie formulation with addition of bioactive ingredients. In the first phase, the total phenolic content (TPC) and antioxidant activity of selected health-promoting ingredients (lemon grass and matcha) was assessed. TPC was determined by the Folin-Ciocalteu spectrophotometric method, while to evaluate the antioxidant potential the reducing power assay (FRAP) was performed. Then, the process of designing gluten-free cookie with no added sugar took place. Different gluten-free flours and sugar replacers were tested to receive adequate sensory attributes of cookies. In the last stage, experimental cookies were subjected to consumer testing. The consumer acceptance test with use of 7-point hedonic scale and willingness to purchase designed cookies was determined. The results of the study suggest that lemon grass extract could be consider as a health-promoting ingredient especially in gluten-free bakery products.

Keywords: antioxidant activity; consumer acceptance; gluten-free diet; lemon grass; matcha