

# **Banana peels as a bioactive ingredient and its potential application in the food industry**

## **ABSTRACT**

The use of agricultural by-products as a source of functional ingredients, particularly those from crop plants, has received great interest. Banana (*Musa* spp.) is a common food crop worldwide, but its peel, similar to other agricultural by-products, is often discarded. Banana peel has the potential to be transformed into functional foods because it is historically consumed as food and medicine in some regions of the world. Current analysis recaps the nutritional characteristics, bioactive elements and potential health-promoting properties of banana peel and its utilisation in the food industry. The discoveries, particularly on the broad array of bioactive chemical constituents in peel and their related biological activities, seem to rationalise the proposed use of banana peel in several food industries. Banana peel is appreciated for its bioactive components, particularly the phenolic compounds. The major phenolic compounds found in the banana peel are grouped as flavonols, hydroxycinnamic acids, flavan-3-ols, and catecholamines. The incorporation of banana peel into food products enhanced the nutritional content, particularly the dietary fibre and phenolic content. It has been demonstrated that banana peel reduces lipid oxidation, particularly in meat-based products. Despite the nutrients offered by banana peels, this paper discusses the potential anti-nutrient content that must be addressed. From this review, banana peel shows great potential to be developed into beneficial functional foods and nutraceuticals. However, proper regulation and legalisation of bioactive enrichment of food products from the banana peel are required to ensure its safety for human consumption.