

## **Rice by-products: phytochemicals and food product application**

### **ABSTRACT**

Rice is a vitally important staple food for almost half of the world's population. As the global population increases, the demands for rice are expected to remain high. Since the rice industry will remain sustainable for a long time, the production of rice by-products will remain high. Substantial evidence suggests that rice by-products such as rice husk, rice straw, broken rice, rice germ, rice bran, and brewers' rice may possess beneficial effects against oxidative stress and metabolic disorders. These beneficial effects have been linked to the phytochemicals present in rice by-products such as vitamin E, dietary fiber,  $\gamma$ -oryzanol,  $\gamma$ -aminobutyric acid (GABA), and phytosterols. Despite this evidence, the literature pertaining to rice by-products and its derived components has not well been compiled. To this end, "Rice By-products: Phytochemicals and Food Products Application" provides full coverage of issues pertaining to rice by-products, namely rice demands and rice by-products production, phytonutrients and antioxidant properties of rice by-products, potential health benefits, application in food products, and future prospects. By summarizing all the information in a lucid and comprehensive manner, authors provide a cohesive representation of the literature on the molecular mechanisms involved in the pharmacological effects of the bioactive components that present in rice by-products, as well as plausible means for the prevention of metabolic disorders for readers and allied stakeholders.

**Keyword:** Rice by-products; Antioxidant; Health benefits; Metabolic disorders; Phytochemicals