

## By-products of rice processing: an overview of health benefits and applications

### ABSTRACT

Our study was centred on the increasing literature associated with rice by-products and main components, especially those intended to combat cancer, improve plasma lipid levels or control the blood glucose levels. Rice byproducts, such as rice straw, rice husks, rice bran, rice germ and broken rice, are extensively abundant agricultural wastes from the rice industry, and the percentage of their production depends on the milling rate and type of rice. Among all rice by-products, rice bran has been extensively studied. It contains phytochemicals such as  $\gamma$ -oryzanol, vitamin E, mainly tocotrienols and dietary fibre. This paper reviews the existing literature on the potential role of rice by-products, focusing not only on the role of rice bran but also on the roles of other rice by-products, such as rice germ and rice husk, in the management of the diseases, investigating their various potential uses in the food industry and all possible properties that may contribute to these effects.

**Keyword:** Rice straw; Husk; Rice bran; Rice germ; Anti-cancer