

Plasma Technology on The Functional Properties of Black Glutinous Rice and Its Application in Food Functional and Cosmetics

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Abstract

Rice innovation by cold plasma technology could develop and research to add value for healthier food and cosmetics products from ingredients black glutinous rice with high quality of antioxidant. Application of low temperature plasma technology for improving the quality of black glutinous rice cooking found that oxygen-generated plasma improved the quality cooking of black rice showed softer texture and more glutinous. In addition, the analysis of hydrophilic property by measuring the water contact angle on the rice seed surface suggested that plasma-treated rice better absorb water. The results could reveal the gelatinization the causing faster cooking process. Moreover, the application of bioactive compound of low temperature plasma treated black glutinous rice as an active ingredient in facial cosmetic products, found that increased antioxidant capacity and anti-tyrosinase activity than the untreated sample

Keywords: Cold plasma, Black rice, Cooking properties, Bioactive compound

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Education History

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Selected Publications

1. Panngom, K., Penjumras, P., Panjan, W., Sornsakdanuphap, J., Suanpoot, P., Yoosuk, S., and Wattananapakasem, I. (2024). Improving the cooking quality of black glutinous rice by using the low-pressure cold plasma technology. *Journal of Food Science and Technology*. <https://doi.org/10.1007/s13197-024-06060-7>
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