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# Application of selected agricultural resources in lowering glycemic index of selected food products

**Abstract:**

High intake of refined carbohydrates with low consumption of dietary fibres (DFs), particularly from vegetation has increased the risk of CVD, diabetes and other illnesses. The prevalence of chronic diseases is increasingly sky-rocketing with the number of diabetic individuals expected to rise from 180 million in 2010 to 368 million in 2030. This is the main cause of morbidity and mortality all over the world because it can lead to problems in health and affect the quality of life. The purpose of this study is to investigate the effects of incorporation of selected agricultural resources in lowering glycemic index (GI) values in foods. The GI was determined according to WHO/FAO 1998's protocols. A low GI diet is beneficial to reduce the risks and complications of different health conditions such as diabetes. Mechanistically, the DF enhances glycemic response by raising the rate of absorption of glucose in the small intestine, thereby lowering the GI value. Our research reveals that incorporation of agricultural resources from over-ripe banana, oyster mushroom and cornlettes in a few baked products such as cookies, pasta, cakes, muffins and flatbread are improving nutritional composition and DF content while lowering the GI values. Besides, the scanning electron microscopic (SEM) observation reveals that the damaged cornlettes starch reduces starch hydrolysis, thus slowly raises blood glucose. Being physically active and eating a sufficient amount of DF (fruits and vegetables) are vital in reducing the risks of having diabetes, maintaining the health status and sustaining quality of life and societal well-being.

## Biography

**Wan Rosli** is a professor of Nutrition Program at the School of Health Sciences, Universiti Sains Malaysia (USM), Health Campus, Kota Bharu, Kelantan, Malaysia. His research theme emphasizes more on the utilization of natural agricultural by-products into popularly consumed processed foods. Various low GI foods have been developed. He has been appointed as Junior Faculty Member from SEAMEO-TROPMED RCCN, Indonesia in the Training of Leadership for Nutritionists in Jakarta Indonesia. He was selected among Top 10 Innovators for SYMBIOSIS project funded by MTDC Malaysia to commercialization Nutri-Mush® Cookies. He has published more than 120 articles in various indexed journals.