Glycemic response to brown rice treated by different drying media

Chaiwat Rattanamechaiskul\textsuperscript{a,}* , Somchart Soponronnarit\textsuperscript{a} , Somkiat Prachayawarakorn\textsuperscript{b}

\textsuperscript{a} Division of Energy Technology, School of Energy, Environment and Materials, King Mongkut’s University of Technology Thonburi, 126 Pracha Uthit Road, Bang Mod, Thungkhr, Bangkok 10140, Thailand
\textsuperscript{b} Department of Chemical Engineering, Faculty of Engineering, King Mongkut’s University of Technology Thonburi, 126 Pracha Uthit Road, Bang Mod, Thungkhr, Bangkok 10140, Thailand

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During high-temperature treatment, starch is gelatinized and amylose can simultaneously form with lipids to be the amylose–lipid complexes. These complexes can resist to enzymatic attack and useful for decreasing risk of developing type 2 diabetes and cardiovascular disease. The effects of drying media, hot air (HA), humidified hot air (HHA) and superheated steam (SHS), and their operating conditions on drying characteristics and the glycemic index (GI) of three rice varieties i.e. Phitsanulok 2, Kao Dok Mali 105 and RD 31 was therefore investigated experimentally. Drying temperature and drying medium strongly influenced the drying rate, degree of starch gelatinization, amylose–lipid complex formation and the GI value. Rice variety also took an effect on the starch gelatinization and GI value. To obtain the GI value as low as possible, the SHS should be applied to dry rice with high gelatinization temperature while HA or HHA should be used for drying rice with low gelatinization temperature.

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* Corresponding author. Tel.: +66 2 470 8695x112; fax: +66 2 428 3534.
E-mail address: rat.chaiwat@gmail.com (C. Rattanamechaiskul).

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