Digestibility and expected glycemic index of high amylose rice varieties with similar amylose content and gelatinization temperature

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Abstract

Six high amylose rice varieties with nearly similar amylose content (30%) and gelatinization temperature (77 °C), but differing in size (length/width) were cooked under the same cooking conditions and their physicochemical properties, digestibility and expected glycemic index were investigated and compared. Resistant starch content ranged from 0.48 to 1.6. Expected in Vitro glycemic index was nearly 116 for all tested varieties. The results showed that the size (length/width) and resistant starch content have apparently no impact on the glycemic index of tested six rice varieties. It appears that the dominant factors that determine the glycemic index of tested rice varieties were amylose content and the gelatinization temperature. Except for pasting temperature, other pasting properties obtained by RVA (Rapid Visco-Analyzer) test significantly varied among the tested six rice varieties. Pasting temperature corresponds to the gelatinization temperature. Thus, pasting properties, except for pasting temperature are not good predictors for the glycemic index of high amylose rice.

Keywords: *glycemic index, amylase content, gelatinization*