

Category	: International Rice Research Conference
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Keyword 1	: Healthy food systems
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Title of Entry	: Appropriate parboiling steaming time at atmospheric pressure and variety to produce rice with weak digestive properties
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Abstract : Consumers with diabetes mellitus have shown interest in products with low postprandial glucose. To produce rice for this group of consumers, the effect of parboiling steaming time (0, 5, 15, 25, 35, and 45 min) and variety (NERICA1, NERICA7, WITA4, and IR841) on resistant, damaged starch fractions and glycemic response in rats was investigated. Resistant and damaged starch fractions were influenced by variety and steaming time but this was not the case for glycemic index. Nonparboiled NERICA7 and NERICA7 steamed for 25 min recorded the highest (10.07%) and lowest (2.49%) resistant starch fraction, respectively. Resistant starch correlated negatively with protein and sodium and positively with lipids. Damaged starch was high for WITA4 steamed for 45 min (26.80%) and low for nonparboiled NERICA1 (6.59%). Damaged starch correlated positively with lipid content and negatively with ash and total starch content. NERICA7 steamed for 35 min recorded the lowest postprandial glucose level 30 min after feeding (0.16 g/L), while WITA4 steamed for 15, 25, and 35 min and nonparboiled NERICA7 recorded higher levels (0.76, 0.91, 0.84, and 0.76 g/L, respectively). NERICA7 steamed for 35 min recorded both low glycemic and weak digestive properties because the glycemic index was lowest 120 min and increased steadily up to 180 min after feeding. We conclude that the digestive properties of rice depend both on the intrinsic properties of the variety and the parboiling steaming time.

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