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[\[PDF \(608K\)\]](#) [\[References\]](#)**Energy Conservation in Cooking of Milled Raw and Parboiled Rice**[Poritosh ROY](#)<sup>1)</sup>, [Naoto SHIMIZU](#)<sup>2)</sup> and [Toshinori KIMURA](#)<sup>2)</sup>1) *Institute of Agricultural and Forest Engineering*2) *Graduate School of Life and Environmental Sciences, University of Tsukuba*

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The cooking process was studied under soaking and no-soaking conditions with an automatic electric rice cooker to determine if the cooking energy can be conserved. The rice was cooked after 0, 30 and 60 min of soaking in different amounts of water (water-rice ratio: 1.5, 2.0 and 2.5) and the moisture content and hardness of cooked rice were measured. The hydration characteristic of rice was also measured at different soaking intervals (0, 30 and 60 min). The hydration increased with an increase in soaking time and was higher for parboiled rice than for the raw rice. The moisture content and the hardness of cooked rice were found to be 66 to 69% and 8 to 10 N (for a single kernel), respectively, which consumes 1.02 to 1.2 MJ/kg of energy under different soaking time before cooking and with a water-rice ratio of 2.5. The parboiled rice required a longer cooking time and consumed a greater amount of energy compared to the raw rice. The energy consumption was reduced with an increase in soaking time for all types of rice. This study reveals that for 66% MC of cooked rice, 60 min of presoaking helps to conserve about 6 to 11% and 4% of cooking energy in the case of parboiled and raw rice, respectively, which would be helpful in reducing environmental pollution.

**Keywords:** [cooking](#), [properties of cooked rice](#), [energy conservation](#)[\[PDF \(608K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)

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