

Title Effects of Soaking and Drying on Parboiled Rice Quality
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Abstract

Effects of soaking and drying on quality of parboiled rice were studied in this paper. Paddy samples were soaked in distilled water and 0.25 N sodium hydroxide (NaOH) for 15.5 and 2.5 hours, respectively. The moisture content of soaked paddy samples was 30% wet basis then they were steamed at 121 °C for 15 minutes and followed by tray drying at the drying temperature of 40, 50 and 60 °C until the moisture content down to 14% wet basis. Physical properties of the samples were subsequently determined in term of head parboiled rice yield and color. The results showed that the head parboiled rice yield of paddy soaked in 0.25 N NaOH and dried at 40 °C had the highest percentage. However, paddy soaked in distilled water and dried at 40 and 50 °C had no significant difference with paddy soaked in 0.25 N NaOH and dried at 40 °C. For the color analysis, lightness (L^*) was higher in paddy soaked in distilled water than those soaked in NaOH while the redness (a^*) showed the contrary results. However, yellowness (b^*) was not significantly different in all treatments. In addition, eating qualities such as cooking time, cooked rice elongation and cooked rice texture were also determined. The results indicated that cooking time of paddy soaked in distilled water was longer than those paddy samples soaked in NaOH. Cooked rice elongation was not significantly different in all treatments. The texture of cooked rice of soaked paddy in distilled water was harder than those soaked paddy in NaOH and positively increasing with the drying temperatures.

Therefore soaking paddy in 0.25 N NaOH with the drying temperature of 40 °C should be recommended to be used in parboiled rice production, as this process provided higher quantity of head parboiled rice yield and reduced the time for producing parboiled rice particularly in soaking step.