

Effect of moisture content and drying method on the amylose content of rice

Abstract

Rice is a primary source to all human beings. It gives energy and supply carbohydrate in human daily life. It is also one of the main sources of employment for people living in the rural area to generate incomes. In this study, determinations of quality of rice dried in an oven and in a Laterally Aerated Moving Bed (LAMB) dryer were performed. The drying in an oven was performed with initial moisture content (MC) of 18% reduced to 14% w.b. at temperatures of 35, 45, 55, 65 and 75 °C. The amylose contents of the rice were 20.78, 21.81, 21.53, 21.63 and 22.50%, respectively. Furthermore, drying of paddy with temperature of 45 °C and initial moisture content of 15% w.b was performed with different final moisture content of 14, 12, 10 and 8% w.b using oven drying. The amylose content were 21.79, 20.17, 20.85, 26.35%, respectively. As for paddy dried in LAMB dryer, it was found that the amylose content were in the intermediate range (20 - 25.50%). The drying temperature of the LAMB dryer was at 25 °C with 100 to 200 L/min of air flowrate resulted in the intermediate amylose content of the rice despite the final moisture content reduced to 8% w.b.