

ABSTRACT

This study aimed at investigating the relationship between heat gain and dehulling effectiveness of soybean and properties of soy flour. Soybean sample was soybean named Chiang Mai 60, which was harvested 120 days after planting. Soybean was steamed at 100°C for 0, 5, 10 and 15 minutes, and subsequently isothermally dried at 60, 100, 130 and 160°C until moisture content of sample was 6.38% dry basis. During steaming and drying, temperature profile within soybean was determined, and heat gain was also calculate. Furthermore, dehulling effectiveness and properties of soy flour were investigated. The results show that an increase in drying temperature resulted in increasing heat gain. However, steaming step did not affect heat gain. On the other hand, steaming step improved dehulling effectiveness for soybean dried at 60 and 100°C. In contrast, steaming did not affect dehulling effectiveness of soybean dried at 130 and 160°C. The results on the properties of soy flour revealed that both steaming and drying resulted in the reduction of nitrogen solubility index because of thermal denaturation of protein, which were the major component of soy flour. Nevertheless, both steaming and drying did not significantly affected water and oil absorption efficiencies of soy flour. There were no relationship between heat gain and heat gain and dehulling effectiveness of soybean and properties of soy flour.