

Effects of Different Processing Methods on Composition, Physicochemical and Morphological Properties of MR263 Rice Flour

Authors : R. Asmeda, A. Noorlaila, M. H. Norziah

Abstract : This research work was conducted to investigate the effects of different grinding techniques during the milling process of rice grains on physicochemical characteristics of rice flour produced. Dry grinding, semi-wet grinding, and wet grinding were employed to produce the rice flour. The results indicated that different grinding methods significantly ($p \leq 0.05$) affected physicochemical and functional properties of starch except for the carbohydrate content, x-ray diffraction pattern and breakdown viscosity. Dry grinding technique caused highest percentage of starch damage compared to semi-wet and wet grinding. Protein, fat and ash content were highest in rice flour obtained by dry grinding. It was found that wet grinding produce flour with smallest average particle size (8.52 μm), resulting in highest process yield (73.14%). Pasting profiles revealed that dry grinding produce rice flour with significantly lowest pasting temperature and highest setback viscosity.

Keywords : average particle size, grinding techniques, physicochemical characteristics, rice flour

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020