

The role of pre-gelatinization for the quality improvement of rice flour

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Pre-gelatinized rice flour has been widely used for many foods. Popular rice oriental foods, such as baby foods and instant rice milk, are also made from pre-gelatinized rice flour. In Sri Lanka pre-gelatinized properties has not been previously evaluated. Therefore, the aim of this study was to develop a process for producing pre-gelatinized rice flour and observe their physicochemical properties.

The popular Sri Lankan paddy variety BG 94/1 was selected for the study. Paddy was treated varying soaking time, steaming temperature and steaming time called hydrothermal treatment. Lab scale apparatus, soaking bins, water bath, and oven were used for preparation of pre-gelatinized paddy. Steamed paddy was immediately dried in an oven up to the moisture content of 12%. Then paddy samples were de- husked using lab scale rubber roll sheller and whitened with the polisher to the bran removal percentage of 60%. For making into flour, disk mill was used. The degree of gelatinization (SG) of starch was measured by using Barbender method. Treatment which was prepared paddy under rinsed and steaming 20 minutes time at 800C was given the satisfactory change in visco-Amylograph. It is predicted that hydrothermal treatments could be affected to the change of physicochemical properties of rice flour. This study proved that pasting and nutritional values are markedly dependent on hydrothermally treatments.