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Effects of different treatments on the physicochemical, protein, pasting, dynamic rheological behaviour, SDS- PAGE, amino acid profile, Fourier-transform infrared spectroscopy (FTIR) of rice bran and rice bran protein isolates from treated Sharbati rice

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Objective: The objective of the present study was to study the effects of treatments on the physicochemical, protein, pasting, dynamic rheological behavior, SDS- PAGE, amino acid profile, Fourier-transform infrared spectroscopy (FTIR)f rice bran and rice bran protein isolates from treated Sharbati rice

Methodology: Rice (Oryza sativa) bran of Sharbati rice was given three different treatments. Sharbati Golden Sella (SGS); Shrabati Steam (SS); Sharbati White Sella (SWS) was defatted using n-hexane at 1:10 ratio. The Protein isolates (PI) from defatted bran was prepared. he protein content of the isolates was determined by estimating nitrogen content following the Kjeldahl method. Proteins were characterized using Sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS PAGE). Thermal properties were evaluated using Differential Scanning Calorimetry (DSC). Fourier-transform infrared spectroscopy (FTIR) and Dynamic rheological behavior of treated rice bran were studied and compared. The amino acid composition was analyzed by using the amino acid analyzer.

Results and Discussion: The present study was evaluated to see the effects of treatment on the physicochemical, protein content, electrophoresis profile, amino acid composition, DSC, FTIR and dynamic rheometer behavior of bran and protein isolates of Shrabati rice. Amongst the three different treated Sharbati rice, Sharbati Golden Sella rice bran showed a highest protein content and essential amino acids than Sharbati Steam and Sharbati White Sella. he rice brans of treated Sharbati Rice showed a different rheological behavior, antioxidant activity, and other physicochemical properties.

Conclusion: Sharbati Golden Sella rice bran was the best amongst the treated Sharbati Rice Bran.

Biography

Amandeep Kaur Research Scholar in Department of Food Science & Technology, Guru Nanak Dev University, Amritsar (INDIA). My broad area of research is to characterize and productive use of the protein hydrolysates from different sources of cereals. I have been the member of the Association of Food Scientists and Technologists (India). These days I am working as a UGC-RGNF fellow.

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