

Effect of soaking conditions on properties of flour from sweet potato slices

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Abstract

Native flour of sweet potato has limited industrial applications. This study investigated effect of soaking sweet potato root in hot water and citric acid concentrations on flour properties. Sweet potato root was soaked at temperatures of 50 °C, 60 °C and 70 °C for 2 h; citric acid concentrations of 1%, 3% and 5% for 1 h, and combination of best samples in each of the first two modification treatments in 50:50 proportions. Treated root was processed into flour using standard procedures. Proximate, functional and pasting properties of the flours were determined using standard methods. The flour was used as major ingredient in production of baked snacks. Treatments had significant effect on proximate, functional and pasting properties of the flour. Moisture content ranged from 6.5 to 9.7%, protein content 1.6 to 3.0%, ash content 0.1 to 3.15%, fiber content 3.6 to 4.2%, and carbohydrate content 82.1 to 84.7%. Water and oil absorption capacities ranged from 2.2 to 3.0 ml/g and 0.8 g/ml to 1.8 g/ml respectively, swelling power (4.32 to 9.23 g/g) and bulk density (0.77 to 0.95 g/ml). Snack produced with flour gotten from 60 °C soaked root for 2 h was best in sensory ratings.

Keywords: Sweet potato, root treatment, flour modification, flour qualities, baked snack

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