World Academy of Science, Engineering and Technology
International Journal of Biotechnology and Bioengineering
Vol:9, No:06, 2015

Effect of Variety and Fibre Type on Functional and organoleptic Properties of Plantain Flour Intended for Food "Fufu"

Authors : C. C. Okafor

Abstract : The effect of different varieties of plantain (Horn, false horn and French) and fibre types (soy bean residue, cassava sievette and rice bran) on functional and organoleptic properties of plantain-based flour was assessed. Horn, false horn french were processed by washing, peeling with knife, slicing into 3mm thickness and steam blanched at 80℃ for 5minutes, oven dried at 65℃ for 48 hours and milled into flours with attrition mill, sieved with 60 mesh sieve, separately. Fibre sources were processed, milled and fractionated into 60, 40 & 20 mesh sizes. Both flours were blended as 80:20, 70:30 and 60:40. Results obtained indicated that water absorption capacity is highest (2.68) in French plantain variety irrespective of the fibre type used. And in all variety tested the swelling capacity is highest (2.93) when the plantain flour is blended with soy residue (SR) and lowest (1.25) when blended with rice brain (RB). The results show that there is significant variety and fibre type interaction effect at (P < : 0.05). Again the results showed that texture mold ability and overall acceptability were best (7.00) when soy residue was used where as addition of rice bran into plantain flour resulted in fufu with poor texture. This trend was observed in all the verities of plantain tested and in all of the particle size of flour. Using cassava serviette also yield fufu similar to that produced with soy residue in all the parameter tested (mold ability, texture and overall acceptability. Generally, plantain flours from french and false horn yielded better quality fufu in terms of texture mold ability, overall acceptability, irrespective of the fibre type used.

Keywords : functional, organoleptic, particle size, sieve mesh, variety
Conference Title : ICFAB 2015 : International Conference on Food and Agricultural Biotechnology
Conference Location : New York, United States
Conference Dates : June 04-05, 2015