Title of Article: Mineral compositions of an edible emulsion (Bemul-Wax) from cassava (Manihot esculentum) starch

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Abstract

Aims/ objectives: An edible coating “bemul-wax” developed from cassava starch (Manihot esculentum) was examined for its safety for coating agro-crops. Study design: Cross-sectional study. Place and Duration of Study: Nigerian Stored Products Research Institute, Chemistry/ Biochemistry Laboratory, Km. 3, Asa-Dam Road, P.M.B. 1489, Ilorin, Kwara State, Nigeria., between January 2007 and July 2007. Methodology: Some minerals component of the emulsion were assessed and compared with their recommended safety standards. Results: The emulsion was found to contain some health beneficial mineral elements (sodium, potassium, copper, calcium, manganese, iron, and zinc) to human kind. Bicarbonate, fluorine, chlorine, nitrate, sulphate, and phosphate were also found at a level of 35.90 ± 0.09, 1.16 ± 0.04, 112 ± 3.13, 53.93 ± 2.99, 4.10 ± 0.03 and 5.64 ± 0.07 mg/L respectively. The major minerals component of the wax emulsion were found to be calcium (108.1 mg/L), chlorine (112.93 mg/L) and to a lesser extent sodium (87.17 mg/L) and nitrate (53.93 mg/L). Conclusion: Bemul-wax and its coated products may be considered safe for consumption from elemental point of view. It may also be a good source of health beneficial minerals.