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PHYSICO-CHEMICAL PROPERTIES OF FLOUR FROM TAPPED & NON-TAPPED KITHUL (*CARYOTA URENS*) TREES IN KANDY, SRI LANKA

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Abstract: This paper describes comparison of physicochemical characterization of flour obtained from Tapped & Non-Tapped Kithul (*Caryota urens*) trees in Kandy, Sri Lanka. The protein content of tapped and non-tapped flour was 1.10% and 1.21% respectively while the total fat content was 0.36% and 0.37%. Though there was no any significant difference of moisture, protein, total fat and crude fiber, total starch among these two types of Kithul flour samples , it could clearly identify slight increment in above properties of non-tapped Kithul flour than tapped Kithul flour. Total starch content was 67.0% for Non-tapped Kithul flour while tapped flour showed 66.64%. In the case of Amylose content, tapped Kithul flour contained 28.45% while non-tapped flour showed 28.4% without any significant difference. The high moisture sorption of Kithul flour samples both tapped and non-tapped as 29.47 and 28.67 without any significant difference ($P>0.05$). The measurement of gelatinization temperatures of tapped and non-tapped Kithul flour treatments which were obtained by DSC were 76.17 °C and 77.32 °C respectively, while enthalpy for gelatinization of tapped and non-tapped Kithul flour treatments were 10.8 J/g and 11.45 J/g respectively. And also being high density flour (Tapped Kithul Flour: 0.71g/ml and Non-Tapped Kithul Flour 0.69g/ml) Kithul flour will be better thickener as well as a stabilizer in baking powders and as an emulsifier in the food industry. By considering all above similarities there is possibility to use Kithul tree for flour preparation after tapping process, and suggest that it could be useful to protect both tapping and flour industries by empowering Kithul Industry with rural economy in Sri Lanka.

Keywords: Tapped & Non-Tapped Kithul , (*Caryota urens*), Kithul flour, physicochemical characterization, DSC, Gelatinization.

Introduction: Starch is a[1]