



**EFFECT OF PRETREATMENTS AND DRYING METHODS ON PHYSICOCHEMICAL PROPERTIES OF UNRIPE PLANTAIN FLOUR AND SENSORY ACCEPTABILITY OF ITS COOKED DOUGH (*AMALA*)**

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**ABSTRACT**

Effect of pretreatments (sulphiting and blanching) and drying methods (sun, oven and freeze) on physicochemical properties and acceptability of unripe plantain flour was investigated. Proximate compositions, selected mineral contents and functional properties of the flour, as well as the sensory attributes of their cooked dough (*amala*) were determined using standard methods. Pretreatments and drying methods had varying individual and interactive effects on the unripe plantain flour. Moisture contents of the flour, except the blanched sun-dried sample, were lower than the 10% recommended by Standard Organisation of Nigeria as the maximum safe-keeping limit for flour. Carbohydrate contents were generally high (80.33-83.06%) but protein (2.17-2.87%), fat (1.30-1.56%) and ash (1.75-2.10%) were most retained in freeze-dried samples and blanching caused about 40-47% reduction in crude fibre. Pretreatments reduced ( $p < 0.05$ ) calcium (32.15-30.07 mg/100g) but increased ( $p < 0.05$ ) phosphorus (21.51-23.00 mg/100g) contents of sun-dried flour while sodium generally increased with sulphiting. Freeze-dried flour had highest bulk density (0.83-0.84 g/ml), swelling index (4.12-4.17%), water absorption capacity (24.80-27.68%) and dispersibility (60.10-63.00%). Cooked dough (*amala*) prepared from the various unripe plantain flour were all accepted by the panelists but those from freeze-dried flour were the most generally acceptable with the sulphited-freeze-dried unripe plantain cooked dough being rated as the best.