



CHEMICAL COMPOSITION, PHYSICAL AND SENSORY PROPERTIES OF DEHYDROFROZEN YAM CHIPS AS INFLUENCED BY PRE-DRYING CONDITIONS

Olajide Adedeji^{1✉}, Josephine Samuel¹, Benjamin Ayoola²

¹Department of Food Science and Technology, Federal University Wukari, P.M.B. 1020, Wukari, Nigeria

²Department of Food Technology, University of Ibadan, Ibadan, Nigeria

✉adedeji@fuwukari.edu.ng

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ABSTRACT

This study investigated the effect of pre-drying conditions on the quality of dehydrofrozen yam chips. Yam tubers were processed into yam chips and pre-dried using two methods, microwave and hot-air drying. Microwave pre-drying was carried out at microwave power 252, 406 and 567 W for 12.5, 7.0 and 5.0 min, respectively, and hot air pre-drying at temperatures 50°C, 70°C and 80°C for 60, 40 and 20 min, respectively. Pre-dried yam chips were frozen for 48 h, thawed and analysed for chemical composition and physical properties. Dehydrofrozen yam chips were deep-fried and subjected to sensory evaluation. Moisture, sugar and amylose contents of chips were 63.59-60.21%, 5.43-7.89% and 23.5-38.03%, respectively. Drip loss of dehydrofrozen yam chips decreased with increase in pre-drying time. Measures of lightness, yellowness/blueness, hue angle, chromaticity and colour intensity were higher in chips pre-dried at high microwave power and air temperature. This study showed that pre-drying conditions affected the quality of dehydrofrozen yam chips.
