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DETERMINATION OF PHYSICO-CHEMICAL PROPERTIES AND NUTRITIONAL CONTENTS OF AVOCADO PEAR *(PERSEA AMERICANA M.)*

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ABSTRACT

The physical, chemical and nutritional properties of avocado pear which are relevant to engineering and industrial application were selected for study. These were determined using standard tests and experiments. Four replicates of Fuerte avocado pear specie was used for the analysis.The following physical properties of Avocado pear were studied: shape, size, weight, volume, density, surface area, colour and sphericity. The physico- chemical properties of Avocado Pear oil studied include: Ph value, acid value, Flash point and density. The nutritional contents of Avocado pear determined are: Ash, moisture content, protein, Fat (lipid), crude fibre and carbohydrate. The results obtained for the physical properties of avocado pear are: oblong (shape), major diameter of 10.075mm,a minor diameter of 8.465mm and intermediate diameter of 9.025mm (size), 0.3825kg (weight), $2.687\times10^{-3}m^2$ (volume), $1051kg/m^3$ (density),$1.63065\times10^{-4}m^2$(surface area), purplish black (colour) and 0.042 (sphericity). The results for the physico-chemical properties of the oil include: 5.7 (pH), 22.44mg/KOH/g(acid value), 108^0C (flash point) and $0.9032g/cm^3$ (density), 0.62% (Free fatty Acid), 37.2 (Iodine value) and 219.20 (Saponification value). The oil yield was 27.12%. The results obtained for the nutritional properties are as follows: Ash content 1.52%, Moisture content 77.72%, Protein 0.94g, Fat (lipid) 12.18g, Crude fibre 6.9g and Carbohydrate 7.4g. The Physico-chemical properties of this oil compares favourably with those obtained from other conventional seed oils, it therefore has great potential for domestic and industrial purposes.

Keywords: Avocado, Physico-chemical, Pear, Fuerte, Oil.