

National University of Science and Technology

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FACULTY OF THE APPLIED SCIENCES
DEPARTMENT OF APPLIED CHEMISTRY

Title:

*Extraction and characterisation of oil from local Nicotiana
tabacum varieties*

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Abstract

Virginia, Burley and Oriental tobacco are the most common varieties farmed in Zimbabwe. In Zimbabwe there is no documented use or commercial use of tobacco seed products. Three tobacco seed varieties namely Virginia, Burley and Oriental were assessed for their oil content using soxhlet extraction. The three tobacco seeds varieties yielded glyceride oil of 34.17% to 36.55%. The glyceride oil was then analysed with thin layer chromatography. The FTIR spectrum showed that the oil contained carboxylic acid, alcohol, alkyl, vinyl functional groups. Fatty acid methyl content was as follows palmitic [8.83-9.26%], stearic [0.57-0.94%], oleic [9.97-11.69%], linoleic [64.38-68.49%], linolenic [0.51-0.71%], and the physical properties were as follows density [925.63kgm⁻³], viscosity [94.30]. The oil had an iodine and saponification values of 133.71 and 189.48 respectively. In addition, the seed cake was also rich in protein. These properties are essential when considering applications of the oil.

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