4/2000

EXTRACTION AND ANALYSIS OF OILS FROM AVOCADO FRUITS GROWN IN THIKA.

TRADE PROJECT

PRESENTED BY : PAUL NGUGI MUTHONDU.

INDEX NO. : 401001/____

COURSE NAME : DIPLOMA IN ANALYTICAL CHEMISTRY

INSTITUTE : KENYA POLYTECHNIC

PRESENTED TO: KENYA NATIONAL EXAMINATION COUNCIL

DATE OF PRESENTATION: NOVEMBER 2000.

CHEM S

ABSTRACT

Despite the fact that a number of oil crops are grown in Kenya, few of thee crops have been exploited. For a long time the use of oil has been in practice but their significance has not been fully studied.

In this project, extraction and subsequent analysis of oils from avocado fruit, botanically known as *Persea americana* was the major objective. Solvent extraction method was used to extract the oils from mashed avocado pulp. Different types of solvent were tried in an attempt to see which one was the best solvent for avocado oil extraction. Petroleum ether was found to be the best both in yield and the ability to separate the solvent and the oil. Therefore oils extracted by petroleum ether were used for the analysis.

Different parameters both chemical and physical were used so as to determine the quality of extracted oil. Trace metal analysis was also carried out and in this respect only three metals were analysed, that is, iron, copper and zinc which were all present but in low quantity. Attempt to determine the calorific value using adiabatic bomb calorimeter showed a great difference from those of pure oil.

Avocado oil showed that it is of superior quality and can be used as a substitute in the manufacture of salad and it can find its application in preparation of cosmetics.

ABSTRACT

Despite the fact that a number of oil crops are grown in Kenya, few of thee crops have been exploited. For a long time the use of oil has been in practice but their significance has not been fully studied.

In this project, extraction and subsequent analysis of oils from avocado fruit, botanically known as *Persea americana* was the major objective. Solvent extraction method was used to extract the oils from mashed avocado pulp. Different types of solvent were tried in an attempt to see which one was the best solvent for avocado oil extraction. Petroleum ether was found to be the best both in yield and the ability to separate the solvent and the oil. Therefore oils extracted by petroleum ether were used for the analysis.

Different parameters both chemical and physical were used so as to determine the quality of extracted oil. Trace metal analysis was also carried out and in this respect only three metals were analysed, that is, iron, copper and zinc which were all present but in low quantity. Attempt to determine the calorific value using adiabatic bomb calorimeter showed a great difference from those of pure oil.

Avocado oil showed that it is of superior quality and can be used as a substitute in the manufacture of salad and it can find its application in preparation of cosmetics.

TABLE OF CONTENTS