CHAPTER ONE INTRODUCTION

1.1 Backgroundof Study

Vegetables andfruits are essential foods in our diet and also have many compounds that arebeneficial for health due to minor components which include phenolic substances(Francisco *et al*., 2012). Theconsumption of the tropical-subtropical fruit, avocado, has increasedconsiderably in the last century throughout Nigeria. There seems to bepotential for further increases in consumption in the future (Manuela, 2011).Nowadays,great importance has been attached to oils from fruits and seeds, this isbecause of their numerous functions and uses to mankind. Fats and oils fromseeds act as insulators to the body. They serve as protective layer or coveringfor the internal organs such as heart and lung. They also serve as sources ofenergy to the body in the absence of carbohydrates (Akpabio *et al.,* 2011).

Perseaamericana, commonly known as Avocado, is a fruit that contains a high valueof oil and chlorophyll concentration which when extracted results to an oil ofemerald green color (Genevive *et al*.,2013). The avocado fruit is rich in nutrients, high in proteins, antioxidantsand dietary fiber is perhaps the most poorly conceived and misunderstood fruitof all times. This is mainly attributed to its high fat and calorie content andso most nutritionists and dieticians either advise against it or to use it“sparingly” (Kuinimeri, 2007). The presence of a ‘tree factor’ and C7 sugarshas been hypothesized to act as inhibitors in the repining process of avocadofruit. Additionally, the content of sugars seems to decrease with fruitmaturity. Also, in exceptional cases, avocados do not ripen until harvestedalthough maturity does increase while the fruit remains on the tree (Manuela,2011).

There had beenmany studies regarding the extraction of avocado pulp. Most of these haveindicated the high amount of oleic acid present in avocado. Oleic acid is saidto be an effective aid to lower serum cholesterol levels and low-densitylipoproteins in the human body (Genevive *etal*., 2013). However, with the abundant production of avocado apple inNigeria, 15% of avocado pear (pericarp/peels) is discarded as waste which oughtto have been a potential source for the production of oils for industrialapplications, specifically, the fruits’ pericarp that are reported to haveantiviral, antibiotic and insecticidal properties and employed as a vermifugeand remedy for dysentery and in the production of cosmetics (Adama and Edoga,2011).

1.2 Statementof Problem

Nowadays, great importance has been attached to oilsfrom fruits and seeds, this is because of their numerous functions and uses tomankind. Due to this fact the demand for avocado oil has increased. This workwill therefore focus on improving the production of the oil in large quantitiesto meet up the demand by investigating some parameters that would enhancebetter production.

1.3 Aim

The aim of thiswork is to study the effect of solvent type and extraction time on the yield ofAvocado pear seed oil using solvent extraction method.

The objectivesof this work are:

1.To carry out seed preparation

2.To carry out solvent extraction process using soakingmethod

3.Finding out the oil yield of avocado pear by varyingthe solvent type and extraction time.

1.4 Scopeof Study

This study will be conducted on the seed ofan Avocado Pear (*Persea americana)* and the method to be employed will be carried out in the laboratoryusing soaking method with hexane, diethyl ether and chloroform assolvents in determining the bestpossible yield with varying time intervals.

1.5 Relevance of Study

This study willgive a full knowledge of the parameters to consider when carrying out acommercial production of oil from avocado pear seed in order to get a betteryield. With this information, the production of avocado oil from the seed willbe optimized by choosing the best solvent required for maximum extraction. Thiswill provide better parameters to be used in the conversion of seed as a formof waste to useful products.

EFFECT OF DIFFERENT SOLVENT TYPES ON THE YIELD OF OIL FROM AVOCADO PEAR SEED