



Mineral Content Quantification of Avocado Seeds from South-West of Nigeria.

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ABSTRACT

Avocado seeds have been around for some times. Many works has been done on its fruits but little has been done on the seeds. In this work I have try to quantify the mineral content of the seed using AAS. The results were in line with an earlier work by L.A Nwaogu et al (2008).

Keywords: Avocado, AAS , digestion

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1. INTRODUCTION

The *Persea americana* Mill. belongs to the family Lauraceae, genus *Persea* and is a plant native of Central America. It is use for different purposes. it is used in the treatment of hypertensive, hypoglycemic and anti-viral, and is applied for the treatment of ulcers and cardiovascular diseases (Anita et al., 2005; Nayak et al., 2008; Raharjo et al., 2008; Anaka et al., 2009; Kosińska et al., 2012).it has also been used as analgesic and has been reported to have analgesic and anti-inflammatory properties (Adeyemi et al., 2002).In this research work, our intention is to quantify the mineral content of the seed. This would help us to know how we can use it as additive in foods.

2. MATERIALS AND METHODS

2.1 Materials

Conical flasks,beakers,fume cupboard,bob pipette, heater

2.2 Sample Collection and Preparation

Avocado seeds were bought from sagamu in Ogun state Nigeria. The seeds were sun dried and grinded into powder form before using it for analysis.

2.3 tandards and Reagents

The reagents required are concentrated nitric acid and sulphuric acid.

2.4 Digestion of the Powdered Avocado Seed

50mls of Mixture of concentrated nitric and sulphuric acid in the ratio of (2:1) plus heating at about 120⁰C is used, to digest 10gms of avocado powder in a conical flask in a fume chamber for 6-10 hours for complete digestion .^{2-8,18,19} before AAS analysis as describe in British pharmacopeia 98.

3. RESULTS AND DISCUSSION

The result of the Atomic Absorption spectroscopy reveals that every 100g of the powdered seed contains 13.16gm of sodium, 32.10 gm of potassium, and 25.52gm of calcium. In addition, it contains 1.37gm of copper, no cadmium, and 6.30gm of iron, 1.95gm of zinc, 3.82gm of manganese and 15.95gm of magnesium.In another development, one liters of avocado contains



5.26mg of sodium, 12.84mg of potassium, 10.21mg of calcium and 0.55mg of copper. Further investigation reveals that cadmium is zero; iron is 2.52mg, 0.78mg of zinc, 1.53mg of manganese and 6.38mg of magnesium. These results are in accordance with the work of LA Nwaogu, CS Alisi, and OA Ojiako(2008).

Table1: Results

Element	Concentration(mg/L)	Concentration (mg/100g)
Sodium	5.26	13.16
Potassium	12.84	32.10
Calcium	10.21	25.52
Copper	0.55	1.37
Cadmium	N.D	N.D
Iron	2.52	6.30
Zinc	0.78	1.95
Manganese	1.53	3.82
Magnesium	6.38	15.95

4. CONCLUSION

In conclusion avocado seed is a rich source of minerals that can be use as additive in foods especially for children that needs high concentration of calcium, manganese, iron and magnesium in their diets to help their growth.

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