PDF - PRELIMINARY PHYTOCHEMICAL AND ANTI MICROBIAL SCREENING OF SEED AND COAT OF CITRUS SINENSIS - researchcub.info**CHAPTER ONE**

INTRODUCTION

The *Citrus sinensis* popularly known as sweet orange seed in Igbo of Nigeria is of the *Rutaceae* family. The seed is best sown in a greenhouse as soon as it is ripe after thoroughly rinsing it, sow stored seed in March in a greenhouse, germination usually takes place within 2-3 weeks at 130C. seedlings are liable to damp off so they must be watered with care and kept well ventilated. *Citrus sinensis*

Contains a wide range of active ingredients and research is still underway in finding uses for them. They are rich in vitamin c, flavonoids, acids and volatile oils. They also contain coumarins such as bergapten which sensitizes the skin to sunlight. Bergapten is sometimes added to tanning preparations since it promotes pigmentation in the skin, though it can cause dermatitis or allergy responses in some people. Some of the plants more recent applications are as sources of anti-oxidants and chemical exfoliants in spercified cosmetics. The fruit is an appetizer and blood purifier, it is used to allay thirst in people with fever and also treat catarrh. The fruit juice is useful in treatment of bilious infections and bilious diarrhea. The fruit rind is caminative and tonic cure for acne. The dried peel is used in the treatment of anorexia, cold cough etc.

1.1 **AIMS AND OBJECTIVES OF THE RESEARCH**

1. To screen the coat and seed of *Citrus sinensis* for the presence of phyhtochemicals of interest

To determine the antifungal/antibacterial activities of the seed and coat of *Citrus sinensis*

LITERATURE REVIEW

SCIENTIFIC CLASSIFICATION KINGDOM: PLANTAE

(Unranked)	-	Angiosperm
(Unranked)	-	Eudicot
(Unranked)	-	Rosids
Order	-	Sapindales
Family	-	Rutaceae
Genus	-	Citrus
Species	-	*C. xsinensis*
Bionomial na,e	-	*Citrus Sinensis*

The research into phytochemical and antimicrobial screening of active compounds from natural source has always been of great interest for scientists looking for new sources of useful drugs against infection and diseases [1].

Plants are indispensable sources of medicinal importance used in both western type pharmaceutical products and local medicinal preparations. The traditional use of plants materials for treatment of human ailment dates back to prehistoric times [2] according to the world health organizations 80% of the world population relies on traditional medicines to meet their daily health requirements[3]. However, from the estimated 250 000 species of higher plants described to date, only 5-15% have been studied for their potential therapeutic value[4].

Ethiopia is a tropical country with a high floral diversity and endermism[5]. According to [6], there are about 700 species of higher plants of which 12% are endemic, more than 80% of the Ethiopian population

depends on traditional remedies[7] the nation wide use of plants as a sole source of traditional medicine provides promising opportunities for the search of ethnobotanical specimens based on traditional knowledge.

Several researchers have studied the ethnobotanical [8] phytochemical[9] and antimicrobial activities[10] of a variety of medicinal plants.

1.3 ORIGIN AND DESCRIPTION

The orange is unknown in the wild state; its assumed to have originated in Southern China. Northeastern India and perhaps Southeastern Asia (formally Indochina). It was carried to the mediterenian area possibly by Italian traders after 1450 of by Portuguese navigators around 1500. Up to that era citrus fruits were valued by Europeans mainly for medicinal purposes, but orange was quickly adopted as a luscidious fruit and wealthy persons grow it in private conservations, called orangeries. By 1646, it had been much publicized and was well known.

The orange has become the most commonly grown fruit in the world. It is an important crop in the far east, the union of South Africa, Australia, throughout the Mediteranian area and sub tropical areas of South America and the Caribbean. The United States leads in the world production, with Florida, alone, having an annual yield of more than 200 million boxes, except when freezes occur which may reduce the crop by 20 or even 40%.

1.4 MORPHOLOGY ASPECT OF THE *Citrus sinensis*

The orange tree, reaching 25 ft (7.5m) or with great ages up to 50ft (15m) has a rounded crown of slender branches. The twigs are twisted and angled when young and may bear slender semi-flexible, bluntish spines in the leaf axils. There may be faint or conspicuous wings on the petioles of aromatic evergreen, alternate elliptic to ovate, sometimes faintly toothed “leaves” - technically solitary leaflets of compound leaves. These are 21/2 to 6m (6.5-15cm) long 1 to 33/4 in (2.5 – 9.5cm) wide. Brone singly or in clusters of 2 to 6, the sweetly fragrant white flowers, about 2 in (5cm) wide, have a saucer-shaped, 5 pointed calyx and 5 oblong, white petals, and 20 to 25 stamens with conspicuous yellow anthers. The fruit is subglobose oblate or some what oval, 21/2 to 33/4 in (6.5-9.5cm) wide. Dotted with minute glands containing an essential oil, the outer ring (epicarp) is orange or yellow when ripe, the inner ring (mesocarp) is white spongy and nonaromatic, the pulp (endocarp) yellow, orange or more less red, the sweet orange differs physically from sour orange in having a solid center.

1.5 GENERAL USES AND IMPORTANCE

Seeds and coat of the *Citrus sinensis*

It is a sunny and radiant oil bringing happiness and warmth to the mind and helps people to relax and helps children to sleep at night.

Orange oil can be used effectively in immune system, as well as for colds and flu and to eliminate toxins from the body. It is a good diuretic and is most useful in balancing water retention and obesity. Its lymphatic stimulant action further helps to balance well-being. For the digestive system, orange oil can help with constipation, dyspepsia and as a general tonic, it is also useful in cases of nervous tension and stress.

Vapour therapy

In vapour therapy, orange oil can help with colds and flu, nervous tension and stress and helps to create a feeling of happiness and warmth, while helping children fall asleep at night.

Blended massage oil and in a bath as a blended oil or added to a bath , it assists with colds and flu

eliminate toxins boost.

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