

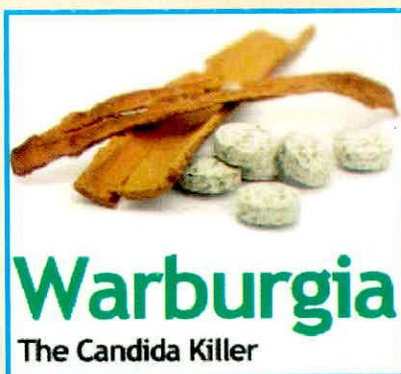
Biological Pest control:

The chemical ingredients in the tree is used as anti-feedant for armyworms that widely occur in crop pests.

Medicinal use of the tree

The dried bark is commonly chewed and the juice swallowed as a remedy for stomach-ache, constipation, toothache, cough, fever, muscle pains, weak joints and general body pains.

The powdered form of dried bark is also effective for treating the same diseases.



Antifungal activity against *Candida albicans*.

Fresh roots are boiled and mixed with soup for the prevention of diarrhea.

The bark, roots or leaves can be boiled in water and the decoction drunk to treat malaria, but this causes violent vomiting.

Service from the tree

The crown provides shade. It can provide green manure and mulch.

Warburgia ugandensis is often planted for decoration and shade in compounds.



Warburgia ugandensis (Sprague) Family: *Canellaceae*

Warburgia ugandensis

Mukuzanume (Luganda)

Omwiha (Runyankole)

Pepper bark tree (English)



Indigenous tree with a great potential for Agroforestry

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Introduction

Almost all plants and plant products used in processing traditional medicines are woody species and are collected from the wild. Very rarely are medicinal plants traditionally cultivated in Uganda. With the increasing local and international demand of traditional medicine, wild plants are threatened with extinction as a result of both over exploitation and poor extraction methods.

Domestication of selected high value tree species and their integration into tree-crop farming systems is a growing research area for the Agroforestry programme.

Warburgia ugandensis has been identified as one of indigenous tree species with potential for Agroforestry because of its attributes of being highly medicinal, provides timber, fuel wood and



Fruit of the *Warburgia ugandensis*

poles. It is currently regarded as one of the high value and multipurpose trees.

Description

Warburgia ugandensis is a spreading evergreen tree 4-30 m tall, bark is scaly, brown, slash pink, bole short and clear of branches for about 3m and is crown rounded.

Where does the tree grow?

Warburgia ugandensis grows in lowland forests, bush land and grassland. It can grow in altitudes ranging from 100 to 2200 meters above sea level and mean annual rainfall of 1000 - 1500 mm. It can grow in a wide range of soil types.

A fairly slow-growing tree, but once established it withstands harsh conditions and regrows fast when cut down.

Seed management

Warburgia ugandensis seeds have relatively short viability and cannot be stored in a dry condition however, with dry seed, viability can be maintained for 6 months at cool temperatures.

In the short term, seeds can be stored in moist sawdust at 3°C.

On average, there are 10 000 seeds/kg, depending on the provenance and the climatic conditions of the ripening year.

Tree propagation

Natural regeneration is primarily from seed,

which germinates easily in natural forests. Artificially it can be regenerated from cuttings, wildlings and direct sowing of seed. Timing of the seed collection is important. Fruit that has fallen to the ground rots easily.

Warburgia ugandensis is propagated from fruit that has been collected directly from the tree or shaken off the branches and collected from the ground.

Tree management

The tree deserves planting as a garden or park tree, but young plants can be difficult to obtain.

The bark is frequently removed for medicinal use, and care must be taken to avoid tree mortality.

Farmers may go for timber production after 30 years or removal of bark every 7 years after 12 years of age.

Crown dieback occurs each time bark removal is done and it also compromises the form of the tree for timber production. Bark yield per tree ranges between 34 to 74kg.

Products from the tree

Wood:

The wood has a high oil content and burns well with an incense-like smell, therefore can be used as fuelwood.

Its timber is good for building and furniture.