

Products from the tree

Shea butter extracted from the nuts is a widely used vegetable fat. Today, the nuts are important internationally and are sold to European and Japanese food industries. The refined fat is sold mainly as baking fat or margarine. Shea butter has a fatty composition similar to that of cocoa, and is often used as a substitute for cocoa.

Shea cake is increasingly used for livestock and poultry feed. Leaves and young stems serve as forage. Sheep and pigs eat the sugary flesh of ripe fruit that have fallen to the ground.

In traditional apiculture (bee-keeping), the tree is much sought after for placing hives. *Vitellaria paradoxa* furnishes the bees with a great quantity of nectar and pollen.

Firewood from *Vitellaria* is of excellent quality and burns well with fierce heat. The charcoal, however, burns rapidly and is friable; can be used for domestic purposes but not suitable for iron-working.

The timber is brownish red, darkening immediately it is exposed. It is strong, heavy, durable and withstands weather and wear. Despite its hardness, it is easy to saw and plane and takes an excellent polish. The wood is used in house construction, fencing, household utensils and tool handles. It is termite resistant.

Vitellaria paradoxa has many medicinal attributes. The butter protects against sun burn and is used to treat many skin problems. Traditionally, it is used for preparing skin ointments. Leaf decoctions are used for stomachache, headache and as an eye

lotion. The roots and root bark are used to treat jaundice, chronic sores, diarrhoea and stomachache. Other products include wax, dye, cosmetic base, seed cake, soap making and ant repellent.

Services the tree can provide

The tree regenerates well and is traditionally favoured and protected by farmers. As result, plays a significant role in soil and water conservation and environmental protection semi arid regions. In addition, the husks of the seeds make good mulch and fertilizer. The tree can be combined well with many cereal crops.

Conclusion and acknowledgement

The importance of *Vitellaria paradoxa* has resulted in widespread cutting of the tree for subsistence as well as commercial use. As natural stands dwindle, the future of this precious tree species lies in deliberate effort geared towards its propagation and multiplication on-farm.

After determining the importance of *Vitellaria paradoxa* and other indigenous species, current research and development work aims at documenting knowledge about these species as a way of popularizing them.

The Agroforestry programme of FORRI is grateful to the COARD project of DFID, for facilitating phenology and propagation studies currently being undertaken on priority indigenous species in Teso and Lango.

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Vitellaria paradoxa

Ekungur (Ateso)

Yao (Luo)

Shea butter tree (English)



*Indigenous trees and shrubs
with potential for Agroforestry
in the Teso and Lango
farming systems*

Introduction

A study conducted in Kumi, Katakwi and Lira districts in 2002 identified *Vitellaria paradoxa* as an important tree that provides fruits, oil, income, fuel as well as various services.

The tree has minimal competition with crops and is identified as one of the most important indigenous tree species in the Teso and Lango farming systems.

Description of the tree

Vitellaria paradoxa is a small to medium sized tree that grows to about 10-15 metres high, branches a lot and has a dense, spreading, round-shaped crown. In older trees, the trunk is short, usually 3-4 metres with a diameter ranging from 0.3-1 metre. Its bark is thick and deeply cracked which protects older trees against bush fires.

Its fruits are a yellowish green berry, 5-8 cm long and 3-4 cm wide, containing thick butter-like, slippery substance and a round reddish brown seed.

Where does it grow?

The shea-butter tree is a light demanding species of open sites and range land savannah. The tree can dominate extensive areas (pure stands), but commonly grows with other trees. Its extensive root system is essential for surviving in the 5 to 7 month dry seasons of savannah climates. The tree can withstand quite severe bush fires.

It is found in areas ranging from 100 to 600 metres above sea level, with mean annual rainfall of 600 to 1400 mm, and mean annual temperature of 25 to 29°C. It prefers dry and sandy clay soils with a good humus cover, but also tolerates stony sites.

Vitellaria paradoxa is an indigenous tree in Uganda, and commonly occurs in North Eastern, Northern and North Western parts of the country.

The tree is also found in other many parts of Africa including Benin, Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Ghana, Guinea, Mali, Niger, Nigeria, Senegal, Sudan and Togo.

How is the tree propagated?

The seeds of *Vitellaria paradoxa* lose viability rapidly, starting a week after removal from the fruit. The seed will not germinate if kept for over 4 weeks. Ripe fruit that falls to the ground germinates easily on moist soils, but many seedlings are destroyed by drought and bush fires.

Fresh seeds germinate well. Because of the long tap root and transplanting difficulties, it is sometimes recommended that the tree is left to grow at the site where it germinates.

Seedlings raised in polythene pots should be planted out after 14 to 24 weeks. Plants raised in seedbeds should be planted after 12 months (as balled planting stock).

Air-layering is possible but difficult. Grafting methods have been developed and show a 25% success rate, provided the grafts are not water stressed and that the latex does not block the graft-stock union.

How is it managed?

Wide spacing, site preparation and elimination of weed competition, as well as protection against fire and browsing, are essential. The tree grows relatively slow at first; growth rates can be accelerated by adding compost and fertilizer. The first fruits are borne 3-4 years after flowering, and trees do not start to bear fruit until they are 15-20 years old.

Because of its value as a source of oil, *Vitellaria paradoxa* has long been an integral component of wooded farmland agriculture. Often, it is the only tree retained when woodlands are cleared for cultivation.