

Uses

The immature seeds can be eaten boiled or grilled, while mature ones can be roasted in oil or grinded to make flour. They can also be boiled and mixed with maize kernels. The roasted ground meal can be used as a substitute for coffee. Seeds can be soaked and used to feed livestock. The leaves can also be used to feed livestock.

Acknowledgement

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References

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THE FARMER'S WEEKLY. 1949. *Little known indigenous legume*. February 02, p.51.

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Bambara groundnut



(*Vigna subterranea*)



agriculture,
forestry & fisheries

Department:
Agriculture, forestry & fisheries
REPUBLIC OF SOUTH AFRICA

Scientific name: *Vigna subterranea*

Common names: Ditloo marapo, Indlubu, Hlanga, Njugo, Nduhu, Phonda, Tindhluwa

Origin and distribution

The centre of origin of the bambara groundnut has been a matter of discussion, however, it is generally accepted that wild plants are found from the Jos plateau and Yola (northern Nigeria) to Garua (Cameroon), and possibly in the Central African Republic. In South Africa, Bambara is grown in the following provinces: Limpopo, Mpumalanga, North West, Gauteng and KwaZulu-Natal.

Description

The bambara groundnut is an annual summer legume.

Roots

It has a compact well-developed taproot with many profuse, geotropic (growth is influenced by gravity), short, lateral roots (up to 20 cm long). The roots bear nodules containing Rhizobium.

Stem

Short or long, much branched with hairy, creeping stem. It has lateral stems which develop from the root terminating in three leaves.

Leaves

Compound with 3 leaflets (trifoliate, ± 5 cm long) usually held upright on long thickened stalk. Leaflets are elliptic to obovate, smooth dark green above, pale below entire. The leaves are attached to the stem by the petiole (up to 15 cm). They are long, stiff and grooved, and the base is green or purple in colour.

Leaves and flower buds arise alternately at each node. The oval leaflets are attached to the rachis (stem) with marked pulvini (leaf joint). The terminal leaflet is larger than the lateral leaflets, with an average length of 6 cm and an average width of 3 cm.

Flowers and pods

Flowers are very small and yellowish in colour. The pod is small (1,5 cm long), round or slightly oval shaped and wrinkled with mostly one or sometimes two seeds. The fruit is an ovoid or round pod, wrinkled containing 1 to 2 seeds. The unripe pod is yellowish green, while the mature pods may be yellowish green or purple. The seeds are round (up to 1, 5 cm diameter), smooth and very hard when dried. They are cream, brown, black, red, or mottled.

Climatic and soil requirements

Temperature

It is a typical short day plant. It needs bright sunshine, high temperatures and at least 4 frost-free months. It grows well in average temperatures of 20 to 28 °C. As it is very sensitive to low temperatures, seeds should only be planted when the minimum temperature stabilises above 18 °C.

Rainfall

Bambara needs moderate rainfall from sowing until flowering. It requires an annual rainfall of 500 to 600 mm. The plant tolerates heavy rainfall, except at maturity.

Soil

Bambara grows best on well-drained, light-coloured, loose, friable, sandy loam soils that contain high levels of calcium and a moderate quantity of organic matter. It can grow on poor soils which are low in nutrients. However, it grows poorly in calcareous soils.

Heavy soils cannot be recommended for bambara. It requires a soil pH of 5,0 to 6, and 5.

Cultural practices

Propagation

Propagation is done by seeds.

Fertilisation

Normally chemical fertilisers are not usually applied on bambara fields because the nitrogen requirement is met by natural N₂ fixation, seed should be inoculated. The root forms nodules for nitrogen fixation, in association with appropriate rhizobia. When the nitrogen content is high in the soil, bambara produces mostly tops and only a few pods and seeds. It is always advisable to conduct soil tests and apply fertiliser according to recommended rates.

Irrigation

Bambara is normally grown under dryland conditions. The reproductive stage may be sensitive to water stress, supplementary irrigation should therefore be applied when necessary.

Weed control

Weed control is done mechanically or by hand. Care should be taken when weeding around the plant, especially at flowering as the flower stalks are fragile and may break with rough handling. Currently, there are no registered herbicides.

Pests and diseases

Frequent pests attacking bambara are: leafhoppers and the larvae of *Diacrisia maculosa* and *Lamprosema indicata*. *Meloidogyne incognita* and *M. javanica* are the most frequent parasitic nematodes on bambara.