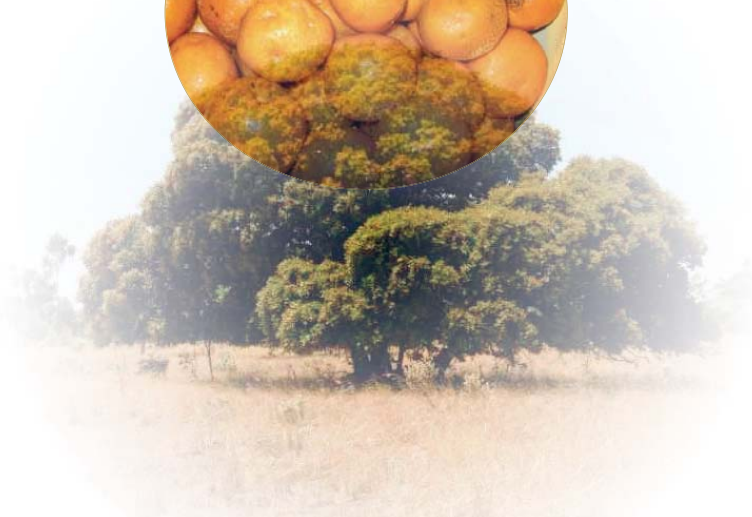


PRODUCTION GUIDELINE

Mobola plum



**agriculture,
forestry & fisheries**

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

PRODUCTION GUIDELINE

Mobola plum

2015

DIRECTORATE PLANT PRODUCTION

2015

Printed and published by

Department of Agriculture, Forestry and Fisheries
Directorate: Communication Services
Private Bag X144
PRETORIA
0001

CONTENT

General aspects	1
Origin and distribution.....	1
Climate and soil requirements	2
Cultivation practices	2
Utilisation	3
References	4



GENERAL ASPECTS

Classification

Scientific name: *Parinari curatellifolia*

Common names: Mobola plum, grysappel, Bosappel, Mmola, Mbulwa, Mobola, Muvhula, Umkhuna.

Family: Chrysobalanaceae

ORIGIN AND DISTRIBUTION

Mobola plum is a tropical tree native to Africa. It is widely distributed from northeastern Africa in deciduous woodland areas and grows frequently in poorly drained areas and inland at moderate altitudes. It grows in the Guinea Savannah region of West Africa, from Senegal across to Chad and then in seasonal woodland across the Equator, through Kenya and the eastern side of the continent in the deciduous Miombo woodland inland to Zambia. It is widely distributed to the southern parts of the African continent in Zimbabwe, northern parts of the Limpopo and Mpumalanga provinces of South Africa, and the Kingdom of Swaziland.

Growing areas in South Africa

In South Africa, *Parinari curatellifolia* occurs in areas classified as bushveld in the northeastern areas of the Limpopo and Mpumalanga provinces.

Description

Mobola plum is an evergreen, tropical fruit tree with pale green, spreading foliage, forming a dense, rounded, umbrella-shaped crown or a mushroom-like shape, which casts heavy shade and can grow up to 8–12 meters tall under favourable conditions (South African species). Three species has been recorded to be adaptable to South African climatic conditions. The Mobola plum tree stands out among surrounding vegetation because of its large size and mushroom-shaped canopy.

Stem

The stem is bare and dense, with a round to mushroom-shaped crown and branches that droop all around. At certain times of the year, particularly in hot weather, it can emit an unpleasant odour.

Bark

The bark is dark grey, rough and is deeply fissured, with square or rectangular blackish scales and deep red slash.



Leaves

The leaves develop from sagging branches and are mostly dark greenish on the upper surface and grey to brown on the lower surface. They often have small galls and up to 20 pairs of fusing lateral veins.

Flowers

Mobola plum flowers are small, white and sweet-scented and occur in short panicles (4–6 cm diameter) in the leaf axils. The stalks and calyx are covered with yellowish, woolly hairs. The bisexual flowers have five sepals, five petals, seven or more stamens and a two-chambered ovary. The stamens are joined at the base in a ring that is inserted into the mouth of the receptacle. It takes 9 to 10 months from flower fertilisation to fruit ripening. The Mobola tree flowers from July to October in Southern Africa and this differs in seasons with other parts of the continent.

Fruit

Fruit is oval to round and 30–50 mm long, yellowish-red in colour, and turns brown as it ripens. It has a rough, scaly skin, with golden coloured warts on the surface. The fruit is characteristically single-seeded.

CLIMATE AND SOIL REQUIREMENTS

Temperature

The Mobola plum is sensitive to extreme weather, such as frost and cold winds. It grows well at mean minimum and maximum temperatures of 10 °C and 30 °C, respectively.

Rainfall

Mobola plum mostly grows in open woodland, wooded grassland and savannah, and are often found on rocky sites in areas with a mean annual rainfall of 400–2300 mm and altitudes of 1100–1900 m near rivers.

Soil

Mobola plum prefers light yellowish-brown to reddish-yellow, sandy clay loams, red to dark red, friable clays with a laterite horizon, and yellow-red loamy sands. This tree occurs primarily on well-drained, fairly acidic and sandy soils.

CULTIVATION PRACTICES

Propagation

The plant is propagated through seed, coppice or suckers.



Soil preparation

Soil preparation is best done a month or more before planting so that the soil has time to settle. Dig a 60 cm deep by 1,2 m² hole; incorporating as much organic material as possible with the aim to get the soil into a crumbly texture.

Planting

Collect fresh seeds from the ripe fruit, clean the flesh away and dry the seed in the shade. Pretreat the seeds by immersing them in boiling water for 15 minutes and allow them to cool and then soak for 24 hours. Sow the seeds in river sand in a flat seedling tray. Press the seeds down until they are level with soil surface and cover with a thin layer of sand. Transplant the seedling into a nursery bag when they reach the 3-leaf stage. Transplant the seedling into the field or garden after two years.

Pest control

Millipede is the main pest that feeds on ripe Mobola fruit more often, especially the fallen fruit that are ready for collection. Infestation of weevils' larvae in the stone of *P. curatellifolia* destroys the seed and induces leaf drop. Nematodes and ground beetles (Carabids) can be used as biological control agents. The nematodes can be introduced into the soil where they are active to feed on the weevil larvae. Ground beetles also feed on weevil grubs, pupae and adults. It is advisable to apply recommended insecticide to control adult weevils before egg laying starts.

Harvesting maturity

The fruits are usually harvested between October and January. Fruit can be harvested when it turns yellowish-orange and this is done by hand-picking. The fruit often falls to the ground before fully mature, but it is not recommended to collect fruits from the ground as they can be heavily infected or eaten by millipedes.

UTILISATION

It can be cooked as porridge or used for alcohol fermentation for Mobola beer. The crushed pulp of the fruit is an ingredient in making juice. It can also be eaten as dried fruit. The oil enriched nuts are eaten alone or mixed with vegetables and are considered as almonds substitutes. The edible oil is used for cooking or the production of paint, varnish and soap. The liquid is sometimes thickened with maize or cassava flour and cooked into porridges or gruels. Mobola syrup is made from the fruit, and then poured over cereal or added to drinks. The fruit can be crushed with water and



the resulting liquid added to citrus juices. They are generally consumed as snacks, but during the harvest season they become prominent in the diets of some groups. Mobola plums are usually eaten fresh, but sometimes they are boiled with a cereal.

Other uses

An extract from the bark is used in tanning and for dying in basketry. It is reported that a root is used for the treatment of snakebites, toothache, malaria treatment and fractures. The twigs are used as chew sticks. Tree bark extracts are often used to tan or dye baskets and also cure bronchitis, wounds, boils, and stomach ailments: diarrhoea and food poisoning. Mobola plum timber is very durable, hard and heavy and is often used for fine woodwork, mortars, canoes and mining timber. Poor quality timber as a result of weather exposure is used for basic building purposes such as poles for huts and sheds.

REFERENCES

- Development, Security and Cooperation (DSC). 2008. Lost crops of Africa, Vol. III, *Fruits*. Washington, D.C.: The National Academic Press.
- JULES, J. & ROBERT, E. P. (ed.). 2008. *The encyclopedia of fruits and nuts*. CAB International, p. 258. Wellington, Oxford shire, UK: Cambridge University Press.
- MAHARAJ, V. & GLEN, H. F. 2008. *Parinari curatellifolia* Planch. ex. Benth.
- VENTER, F. & VENTER, J. 2005. *Making the Most of Indigenous Trees*. Pretoria: Briza Publications.

Theses

- MAWULA, R., 2009. *Regeneration of threatened indigenous fruit species in Uganda, the case study of Parinari curatellifolia*. Swedish Biodiversity Centre. Sweden
- RAMPEDI, I.T. 2010. *Indigenous plants in the Limpopo province: potential for their commercial beverage production*. Pretoria: Unisa Publications.



Further information can be obtained from

Directorate: Plant Production

Private Bag X250

PRETORIA 0001

Tel. 12 319 6072

Fax 12 319 6372

E-mail Thabo.Ramashala@daff.gov.za

Website www.daff.gov.za

