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Practical Guide

NON-TIMBER FOREST PRODUCTS
(*NTFPs*)

BAILLONELLA TOXISPERMA
Sapotaceae

Baillonella toxisperma

Moabi tree



Name in local languages:

Bassa : Njap

Bulu : Adjap

Douala : Njapi

Ewondo : Adjap

Baka : Djaba

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Baillonella toxisperma, which grows to a height of around 60m, is also known by the names Moabi, African Pearwood and Djave Nut. This species of the Sapotaceae family is held in very high esteem in Congolese forest regions, and has many different uses.

Regeneration:

Planting the Moabi

The Moabi tree grows very rapidly in good light and is grown from seeds. When planting, the following stages need to be followed.

Stage 1

Construct the nursery

The nursery is where the seeds are sown, and closely monitored until they produce seedlings which are ready for replanting in the field.

The nursery is made up of the following elements:

- A shaded-area to protect the seeds and seedlings from direct sunlight as well as heavy rains. This will be made using wooden stakes, cut from the forest, and palm leaves.
- Seedbeds where the seeds are sown; these will be 1m wide and have varying lengths. The soil for the seedbeds will be composed of two parts manure to one part fine sand. The shaded area will need to be surrounded by bamboo plants or boards.
- A potting area specially reserved for putting the seedlings into pots.
- A display area where the potted seedlings are stored.
- A fence to protect the nursery from animals.
- A water source, which should be close to the nursery in order to ensure easy and regular irrigation.
- The nursery should be built on a flat surface, with easy access to black soil. If possible, the nursery should be situated close to the final planting place.

Stage 2

Sow the seeds

Choose fresh seeds that have not been affected by parasites before falling from the tree as parasite attacks seriously hinder the development of the seedling and compromise its germination.

On the day of planting, before introducing the seeds to the soil, the ground should be well irrigated. In the seedbeds, the seeds should be partially buried, with the hilum (scar) facing down towards the soil. They should be spaced at 20cm x 20cm intervals. They must be watered every evening. Germination takes place between the seventh and forty-second days after being sown.

They should be kept on the seedbed for a month after germination. Finally, they must be transferred into the sachets.

Stage 3

Transfer the seedlings into polythene bags and monitor

This is a very delicate process, as the roots of the seedling should incur no damage. In order to do so, fill the bag two thirds of the way with compost. If compost is unavailable, use a mixture of two parts black soil and one part sand. Water the seedbed well and, using the back of a cutting knife, delicately lift the plants out and place each one into a pot. Fill the rest of the pot with soil, whilst lightly pressing it down with your fingers. The potted seedlings should be watered every evening, until the sixth month, when they should be 50 to 80 cm tall. During the time spent in the nursery, the shading should progressively be reduced in order to accustom the seedlings to the light.

Stage 4

Plant and monitor

The Moabi tree is planted 6 months after germination, preferably at the start of the rainy season. The Moabi should be planted where lots of light is available. The planting holes should be 30cm x 30cm x 30cm. Distances of 10m x 10m can be adopted in pure culture. The plants need to be taken out of their sachet, being careful not to damage the roots during the process. After putting the plant in the planting hole, it needs to be filled with soil, and a protective enclosure built around each plant when situated at a distance from the living quarters. The Moabi tree can also be planted on cocoa or coffee plantations, but only so long as the young sapling is able to receive sufficient light. Monitoring the saplings consists of weeding the area all around the saplings and also ploughing. Those saplings which are not planted should be taken back to the nursery.

Transformation:

Main stages in obtaining oil

Stage 1

Preparatory work

It is necessary to identify which stems have begun to produce the oil. Next, clean beneath and around the tree, ensuring that young Moabi shoots, found under the tops of large stems, are not damaged. These young saplings should be collected, and potted in the nursery in the case of those that are still very young. For those which cannot be moved, the shade covering them needs to be removed so that they can receive more light, thus speeding up their growth.

Stage 2

Fruit collection

It is necessary to remember that animals (e.g. monkeys, gorillas and elephants) consume and scatter the fruits from the Moabi and, as such, there exists a competition between them and yourself in terms of collecting them. In order to recover the maximum amount of nuts, it is important to establish a temporary camp around any trees which are often surrounded by animals. Otherwise, a group project organised between harvesters and transporters to the village is also effective.

Stage 3

Storage and packaging of the fruits

Once delivered to the village, the fruits can be kept on the ground in an enclosure so that the fleshy part (mesocarp) can decompose. This is also edible. Once the mesocarp has disappeared (after 7 to 10 days), the harvest should be split into two unequal parts: one part goes back to the nursery and the other will be used for the extraction of oil. The seeds used for oil extraction will be dried in the sun for a week and then put onto a grille for around a month. This is the time needed for the oil to form properly in the nuts. The seeds to be taken to the nursery will be dealt with according to the stages listed above.

Stage 4

Obtaining the kernels

After having dried the nuts, break them using a piece of wood and completely remove the brown husk surrounding them. Once obtained, these nuts are dried for 4 to 5 days in the sun.

Stage 5

Preparation of the nuts

The dried nuts are put into a large cooking pot and boiled until they get hot. They are then ground until a paste is formed. This paste is put into a large cooking pot containing hot water and put back onto the heat. The amount of water should be equal in volume to that of the paste. Whilst boiling, the paste needs to be vigorously and regularly stirred, using a stick. Occasionally, a little water should be sprinkled over the paste. This process is carried out until a purplish cake is formed, which is covered with oil and can be removed using a ladle. The paste is now ready.

Stage 6

Actual pressing

The paste which has now been obtained can be pressed in one of two ways, by hand or by using the press developed by ECOFAC. The advantage of this is not only a yield double that of the

hand pressing technique, but it also makes the work less difficult. After pressing, an oil is obtained which is still unfit for consumption and needs to be purified.

Stage 7

Purification of the oil

The mixture of creamy oils which has now been produced is put into a large cooking pot with a little water and brought to the boil until the water has completely evaporated. During this phase, the dirty mousse which appears on the surface must be removed and discarded. The oil obtained at the end of this process is pure and ready for consumption. The residues of pressed paste are very toxic (thus the name toxisperma) and must be buried in a ditch inaccessible to domestic animals.

Stage 8

Storage of the oil

The oil is stored in 5 litre plastic demijohns or beer bottles which have been cleaned well and hermetically sealed. The storage time for the oil is one to two years. However, this time may vary according to the quality of the extraction and the effectiveness of packaging.

Commercialisation:

Where to find Moabi oil

Commonly called **karité** oil, Moabi oil is very sought after on the market. It is used not only in human foodstuffs, but also as a cosmetic product. In addition, it can be useful in the manufacture of soap and margarine.

Moabi oil is different to **karité** oil. How to differentiate between the two oils:

	Karité oil	Moabi oil
Colour	whitish	more beige
Consistency	firmer when cold	forms balls when cold

SOURCE:

Via this practical guide, EWB promotes the work of Capacity Building Programme (CBP)