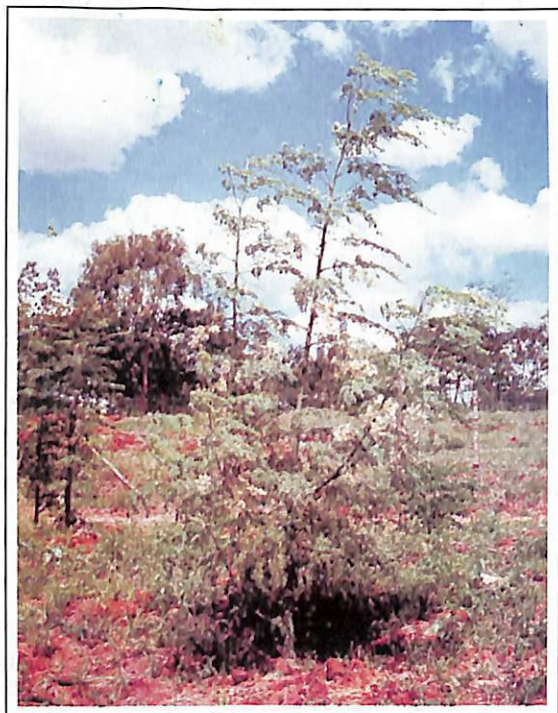


UTILITY OF MORINGA



KENYA/JAPAN



**Social Forestry Extension Model Development Project
(SOFEM)**

MULTIPURPOSE TREE

Moringa oleifera is known widely as 'multipurpose' tree. This species originally came from North India but is widely cultivated in many parts of Africa and other tropics.

Moringa stenopetala is an indigenous species in Kenya and surrounding countries among the same Moringa family, *Moringa ceae*, to which *Moringa oleifera* belongs. This species is minor compared to *Moringa oleifera*, however, it has many common characters of the latter.

The information on this leaflet can be generally applied for both species.

CHARACTERISTICS

- Fast-growing
- Drought resistant
- Easy-planting
- High application to various soils types.
(except swampy or waterlogged soils)



Moringa oleifera



Moringa stenopetala





PROPAGATION

Direct sowing without pretreatment of seeds is one of the easiest propagation methods. The best time for sowing seeds is at the beginning of a rainy season.

Seedlings can be transplanted in 3-4 months after seeds are sown in nursery beds or polythene tubes without pretreatment.

Cutting is reported as an easy method in some publications.

MANAGEMENT

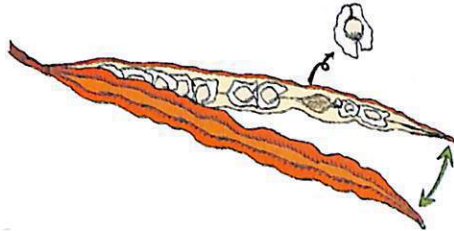
These species are fast-growing, hence they can be managed by the following methods; pollarding, coppicing, lopping, and pruning. In other words, branches and an upper part of a stem can be cut at any height or at any intensity to reduce water consumption, to increase biomass encouraging new sprout, and to reduce pressure to crops on farm.

Water Purification

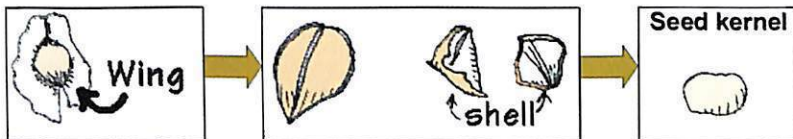


Household water treatment

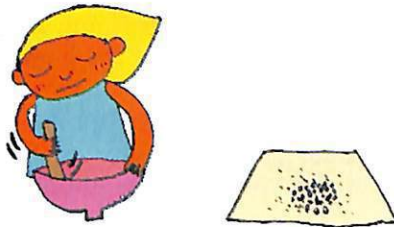
1. Seedpods should be left to mature on the tree and be harvested when dry.



2. Remove the light "wings" and shells of the seeds and leave the white seed kernels.



3. Crush them finely and pound using a pestle and mortar.



The amount of seed needed to treat river water depends on how much suspended matter the water contains.

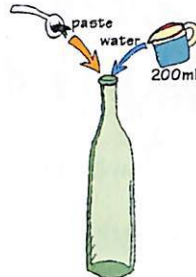
Process of water treatment:

Treat 20 litres of water with about 2grams of crushed seed.
(2 level 5ml teaspoons)

1. Add a small amount of clean water to the crushed seed to form a paste.



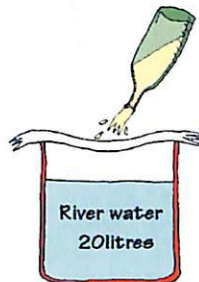
2. Put the paste into a clean bottle (soda bottle), and add a cup of clean water. (200ml)



3. Shake for 5 minutes in order to activate the chemicals in the crushed seed.



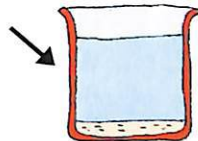
4. Filter this solution through white cotton cloth into a 20 litres bucket of river water.



5. Stir the contents rapidly for 2 minutes then slowly for 10-15 minutes.



During this slow mixing the Moringa seed binds together (coagulates) the fine particles and bacteria into large particles which sink and settle at the bottom of the bucket.



After 1 hour clean water can be drawn off.

This process removes 90-99% of the bacteria which are attached to the solid particles. However, the amount of seed commonly utilized in water treatment would contain insufficient quantities of the anti-microbial agent to have any significant effect.

Although the risk of infection may be greatly reduced, in order for such water to be considered suitable for drinking some form of disinfection, such as boiling, is still recommended.

The dried seeds (remove discolored ones) and powder can be stored for future use.

Cooking



Method A



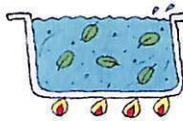
1. Pluck the young leaves.
2. Wash the leaves.
3. Fry the leaves and add flavours and salt as you stir.
4. Cover the saucepan and let them cook for 10-15 minutes until they are soft.



Method B



1. Pluck the young leaves.
2. Wash the leaves.
3. Boil for 10-15 minutes.
4. Drain water.



5. Pound Them
6. Fry the pounded leaves, add flavours and salt as you stir, and the vegetables will be ready after 5 minutes.



Method C

15~20 cm

1. Cut immature pods into small pieces.



2. Boil in water until they are soft.



3. Fry and add flavours.



When ready they can be serve with sukuma wiki, beef and ugali / chapati / rice etc.

Method D



1. Pluck the flowers carefully ensuring that they are not mixed with the leaves.



2. Wash them.

3. Fry using the butter or any other cooking fat that is suitable



4. Add salt and flavours and stir for 5-10 minutes then you can serve when hot with other foods.

OTHER UTILITY

- **The oil from seeds can be used in cooking, cosmetics and so on.**
- **The press cake left after oil extraction from the seeds can be used as a fertilizer.**
- **The press cake has the potential for use as a supplement for livestock feed.**
- **Branches and stems can be used as fuelwood, although they are softwood.**
- **Being managed properly, these species can be useful in agroforestry providing light shade, windbreak, and nitrogen fixing.**

SOURCE AND REFERENCES

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