

**Scientific Name:**

*Moringa aleifera*

**Family:**

*Moringaceae*

**Common Names:**

Moringa, Saigen,  
Drumstick Tree

**Plant Description**

Moringa is a multipurpose tropical tree. It is mainly used for food and has numerous industrial, medicinal and agricultural uses, including animal feeding. It is very nutritious, fast-growing, drought-tolerant, adapted to our local conditions and can be seen growing wild throughout. Moringa is a small to medium evergreen or deciduous tree that can grow to a height of 10-12 m. It has a spreading crown, typically umbrella-shaped (Heuzé et al. 2016).

**Roots:** Deep tap root system.

**Leaves:** Alternate, 7-60 cm long, tripinnately compound with each pinnate bearing 4-6 pairs of leaflets that are dark green, 1-2 cm in length (Heuzé et al. 2016).

**Pods & Seeds:** Fruits are 10 to 60 cm in length and is green when young then turns brown at maturity. The capsule contains 15-20 rounded oily seeds, 1-1.5 cm in diameter.

**Propagation and Cultivation**

Moringa is propagated from seeds or from cuttings. Moringa should be planted at the beginning of the rainy season on elevated beds. While propagation through seeds is well adapted to foliage production, propagation from cuttings is suitable for fruit production. (Radovich 2009).

**Sowing:** Seeds can be sown directly or in containers.

**Cuttings:** Should be 30-60 cm long with brownish-green bark and cut at a 45 degree angle at both ends.

**Transplanting:** Seeds and cuttings can be planted 5 x 10 cm to 20 x 20 cm (Gadzirayi et al. 2014).

**Fertilisation:** Organic fertilisers (Manure) can be applied pre-planting and biannually.

**Forage Management:**

Moringa can be harvested for foliage in less than 2.5 months after transplanting. Optimal cutting intervals range from 15 to 75 days, depending on local conditions. Fodder yields are variable and may range from 27 to 120 t/ha fresh weight at the first cutting. Up to 9 cuttings/year can be achieved (Sultana et al. 2014). Highest growth and forage yield are obtained under warm, dry conditions, with some supplementary fertilizer and irrigation (Radovich 2009).

## Nutrient content Moringa leaves, fresh

Analysis	Unit	Avg	Min	Max
Dry matter	% as fed	26.2	16.4	46.1
Crude protein	% DM	24.3	17.1	29.7
Crude fibre	% DM	13.6	8.0	19.3
Ether extract	% DM	5.4	2.2	7.0
Ash	% DM	10.3	7.5	13.3
Gross energy	MJ/kg DM	18.6	17.8	19.4

Table taken from <http://www.feedipedia.org/node/124>

## Feeding Moringa to Small Ruminants

Studies in goats fed Moringa as a complete replacement for concentrate feed showed a slight increase in growth rate and better feed conversion (Asaolou et al. 2012).

- A normal standard for feeding small ruminants is to feed a 4% of the body weight of the animal on a dry matter basis example:
- According to the table above the average dry matter of Moringa is 26.2% which means that 100 lb of fresh Moringa contains approximately 26.2lb of dry matter and 73.8 lb of water.
- A 100lb animal would require 4 lb DM and Moringa could comprise up to 100% of the daily intake therefore to provide 4 lb DM you would require  $100/26.2*4= 15.3$  lb of wet Moringa leaves daily.

Mature animals should be fed 2.5% body weight on a dry matter basis

## References

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5. Radovich, T. 2013. Farm and forestry production and marketing profile for Moringa. In: Elevitch, C.R. (Ed.) Specialty Crops for Pacific Island Agroforestry. (PAR), Holualoa, Hawaii.
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