

Scientific Name:

Morus alba L.

Family:

Moraceae

Common Names:

Mulberry,
White mulberry

**Plant Description**

Mulberry leaves have been the traditional feed for the silk worm. Mulberry is a fast-growing deciduous woody perennial plant. The form of the tree can vary from pyramidal to drooping. Mulberry is an excellent forage for both ruminant animals and monogastric animals in its young shrub stage (Sánchez 2002).

Roots: It has a deep root system.

Stems: Its sparsely pubescent stems are sub-erect and woody at the base and may be up to 5 m long.

Leaves: The simple, alternate, stipulate, petiolate, light green leaves are cordate at their base.

Flowers and Fruits: Flowers are unisexual, borne in the axils of leaves. Fruits are collective, fleshy, white, lavender, deep red to black.

Forage Management:

Mulberry can be harvested 3-4 months after planting, this is followed by a cutting interval of 6-8 weeks. When harvesting, it is important that the branches be cut in an upward direction, this will prevent any stripping of the bark that will cause fungal infections. Mulberry could have a dry matter yield between 2-47 tonnes/year/hectare providing there are favourable growing conditions.

Propagation and Cultivation

Mulberry is easily propagated and grows well in soils that are flat, deep, fertile, well drained and loamy to clayey, The ideal range of soil pH is 6.2 to 6.8. It can be established by seeds or cuttings.

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: High density planting of mulberry is recommended for maximum production.

One row with two stakes are planted 30 cm between and 60 cm within, each row is established 1.5 m apart).

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

Nutrient content Mulberry leaves, fresh

Analysis	Unit	Avg	Min	Max
Dry matter	% as fed	28.4	24.2	35.1
Crude protein	% DM	19.4	11.5	25.3
Crude fibre	% DM	15.7	13.3	20.2
Ether extract	% DM	5.6	3.0	7.4
Ash	% DM	13.2	7.9	22.2
Gross energy	MJ/kg DM	18.1	17.4	18.1

Table taken from <http://www.feedipedia.org/node/123>

Feeding Mulberry to Small Ruminants

In many studies Mulberry, has been shown as an ideal forage to replace commercial concentrates. 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 Mulberry is 28.4% which means that 100 lb of fresh Mulberry contains approximately 28.4 lb of dry matter and 71.6 lb of water.
- A 100 lb animal would require 4 lb DM and Mulberry should comprise up to 20% of the daily intake therefore will be 20% of 4 lb is 0.8 lb DM.
- To provide 0.8 lb DM of Mulberry you would require $100/28.4*0.8= 2.8$ lb of wet Mulberry leaves to be fed.

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

References

1. Cheema, U. B., J. I. Sultan, A. Javaid, P. Akhtar, and M. Shahid. 2011. Chemical composition, mineral profile and in situ digestion kinetics of fodder leaves of four native trees. *Pakistan J. Bot.*, 43 (1): 397-404
2. Mandal, N. 1997. Nutritive values of tree leaves of some tropical species for goats. *Small Rumin. Res.*, 24 (2): 95-105
3. Sánchez, M.D. ed. (2002). *Mulberry for animal production*. FAO Animal Production and Health Paper 147. Food and Agriculture Organization of the United Nations, Rome, Italy.

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