

**Scientific Name:**

*Trichanthera gigantea*

**Family:**

*Acanthaceae*

**Common Names:**

Trichanthera

**Plant Description**

Trichanthera is a small to medium sized shrub that grows to about 5 m high but reach to a height of 12-15 m (Cook et al., 2005; Rosales, 1997).

**Leaves:** The leaves are oppositely borne on 1-5 cm long petioles. Leaf blades are 26 cm long x 14 cm broad, ovate to oblong in shape, dark green on the upper surface and paler on the underside.

**Branches:** The crown is 6 m in diameter and the tree is many branched. Branches are quadrangular with rounded nodes and minutely haired tips.

**Flowers:** The yellow and red inflorescences are compact terminal panicles bearing 10-20 bell-like flowers.

**Pods & Seeds:** Fruits are dehiscent woody capsules, containing between 4 and 40 seeds (Heuzé et al. 2016).

**Propagation and Cultivation**

Trichanthera is generally propagated from cuttings selected at the basal part of young stems.

**Cuttings:** These cuttings can either be planted directly in the ground or put in plastic bags for transplanting later. The best root development is obtained with 20 cm long, 2-3 cm diameter cuttings.

**Transplanting:** Cuttings can be planted at 0.5-1 m spacing intervals in the field. This indirect planting method was reported to give good results (Moreno et al. 2005).

**Fertilisation:** Trichanthera responds positively to Nitrogen fertilizer (optimal level being 160 kg/ha/year).

**Forage Management:**

The initial yield of Trichanthera is about 15 t/ha/year of fresh matter, first harvest is 8 to 10 months after establishment. *Trichanthera* can be harvested for foliage every 3 months and yields 17 t/ha/year of fresh matter at a cutting height of about 1 m. In acid infertile soils, Trichanthera was reported to yield 3-6 t DM/ha/year at densities ranging from 10,000 to 40,000 plants/ha. Trichanthera withstands regular and repeated cuttings, even with minimal fertilizer application (Rosales 1997).

## Nutrient content *Trichanthera* leaves, fresh

Analysis	Unit	Avg	Min	Max
Dry matter	% as fed	17.5	13.0	26.3
Crude protein	% DM	17.9	12.0	21.7
Crude fibre	% DM	16.1	13.0	18.0
Ether extract	% DM	4.9	4.0	5.8
Ash	% DM	21.4	14.6	26.4
Gross energy	MJ/kg DM	16.1	15.8	18.4

Table taken from <http://www.feedipedia.org/node/7270>

## Feeding *Trichanthera* to Small Ruminants

*Trichanthera* foliage is relatively rich in protein, (13 to 22% DM), most of the crude protein is true protein and the balance of amino acid appears to be good; the ash content (often more than 20% DM) and more specifically the calcium content has been found to be particularly high compared with other fodder trees, which may have potential for feeding lactating animals (Rosales, 1997) it is recommended that it should not make up more than 50% of the animal's daily intake. A normal standard for feeding weaned small ruminants is to feed 4% of the body weight of the animal on a dry matter basis example:

- According to the table above the average dry matter of *Trichanthera* is 17.5% which means that 100 lb of fresh *Trichanthera* contains approximately 17.5 lb of dry matter and 82.5 lb of water.
- A 100 lb animal would require 4 lb DM and as previously recommended *Trichanthera* should compromise 50% of the daily intake therefore 50% of 4 lb is 2 lb.
- To provide 2 lb DM of *Trichanthera* you would have to feed  $100/17.5*2=11.4$  lb of wet *Trichanthera* leaves. Mature animals should be fed 2.5% body weight on a dry matter basis

## References

1. Cook, B. G., B. C. Pengelly, S. D. Brown, J. L. Donnelly, D. A. Eagles, M. A. Franco, J. Hanson, B. F. Mullen, I. J. Partridge, M. Peters and R. Schultze-Kraft. 2005. Tropical forages. CSIRO, DPI&F(Qld), CIAT and ILRI, Brisbane, Australia
2. Heuzé V., G. Tran, A. Boudon, and D. Bastianelli. 2016. Nacadero (*Trichanthera gigantea*). Feedipedia, a programme by INRA, CIRAD, AFZ and FAO. <http://www.feedipedia.org/node/7270> Last updated on February 25, 2016, 16:53
3. Moreno, F., and A. Guerrero. 2005. Evaluation of four propagation methods in field of *Trichanthera gigantea* and establishment costs for protein bank. Rev. Fac. Agron., 22 (1).
4. Rosales, M. 1997. *Trichanthera gigantea* (Humboldt & Bonpland) Nees: A review. Livest. Res. Rural Dev., 9 (4)

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