

### CULTIVATION OF NAPIER GRASS

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Napier Grass (*Pennisetum purpureum*) commonly referred to as elephant grass is popular fodder crop for small scale dairy farmers in the high and medium potential dairy production. It is a fast growing, deeply rooted, perennial grass growing up to 4 metres tall that can spread by underground stems to form thick ground cover. Napier is easy to establish and persistent; drought tolerant; suitable for cutting and very good for silage making. Napier grass is a high yielding fodder crop with good palatability, highly nutritious especially when young, dark green leaves and less than 1 metre tall. It is also used as a soil stabilizer in soil conservation methods and can intercropped with various forage legumes. <http://www.nafis.go.ke/fodders/napier-grass>



#### Climate and soil

The grass grows throughout the year in the tropics. The optimum temperature is about 31° C. Light showers alternated with bright sunshine are very congenial to the crop. Total water requirement of the grass is 800-1000 mm <http://www.maralika.com/GRASS.html>

Hybrid Napier can grow on a variety of soils. Light loams and sandy soil are preferred to heavy soils. The soil has as to be wet at the root zone but should not be stagnated. The grass does not thrive well on water logged and flood prone lands. Phenomenal yield are obtained from very deep fertile soil rich in organic matter and nutrient elements. It tolerates a pH range from 5 to 8.

**Varieties** French Cameroon, Banana grass, Kakamega I, Kakamega II, Kakamega III, Uganda hairless.

**Land preparation** Clearing of the bushes, removal of thorns, weeds etc. are must be done at the beginning. Hybrid Napier requires a deep, thorough, weed free and compact seed bed. One disc ploughing may be followed by two or three fork ploughing, levelling and removal of clods. Basal application of farmyard manure is done before the preparation of ridges. Ridges are made across the slope far as possible at a spacing of 60 cm with a height of about 25 cm which enables irrigation uniform and easy.

**Manuring** Spread farmyard manure at the rate of 10 MT/Acre before ploughing. Apply fertilizer as per soil test recommendations. The standard recommendation for a barren land is

as follows: N: P: K @ 8:10:5 kg/Acre as basal application. The above fertilizer recommendation can be given at the time of the first weeding, normally 30 days after planting.

**Spacing and seed rate** The spacing recommended and adopted is 50 cm X 50 cm. 16000 cuttings are planted per acre.

**Planting** is done with the onset of monsoon or any time, if irrigation facility is available. Being a sterile hybrid, the grass is planted by rooted slips or by stem cuttings. Cuttings with 2 nodes from the middle portion of moderately matured stems (3 – 4 months old) are preferred. The cuttings are planted at a slanting position at one side of the ridges with one node buried in the soil. The underground node develops roots and shoots while the upper node shoots only. The soil around the stem has to be pressed tightly for better root growth.

**Topdressing** Application of Nitrogen @ 30 kg/acre after every harvest with gentle raking of the soil produces more tillers.

**Irrigation and drainage** The field should be provided with good drainage during the rainy season as the crop cannot stand water stagnation. The first irrigation is done at the time of planting and the life irrigation on the 3rd day after planting. Frequencies of subsequent irrigations depend upon the rainfall and weather conditions. The standard irrigation interval during summer is 3-4 days (depending upon the soil quality).

**Weed control** Weeding should be done within 30 days of planting and second weeding is essential only if there is heavy weed growth.

**Harvesting** The first cut is taken from 60 to 75 days after planting. Subsequent cuts are taken after 30-45 days or when the plants attain a height of 1½ m. Annually at least 6 to 8 cuts are possible. The fodder has to be cut closer to the ground level for more profuse tillering.

**Yield** 100 - 150 MT/acre/year green fodder is obtained on an average if it is cultivated as a single crop. Hybrid Napier can be cultivated as a single crop or intercrop with banana etc. [http://indiaeng.com/Kaveripakkam/01-hybrid\\_napier\\_grass.htm](http://indiaeng.com/Kaveripakkam/01-hybrid_napier_grass.htm)

#### Nutritative value (Approximately)

Dry matter	16.20 %
Crude protein	9.38 %
Calcium	0.88 %
Phosphorus	0.24 %
Oxalates	2.97 %
Digestibility	58.00 %

**Herbage quality** Leaves (Foliages) are larger and greener, sheaths are softer, and margins are less serrated; so the herbage is more palatable. It is juicier and succulent at all stages of growth. It is less fibrous and more acceptable.

#### References

[http://indiaeng.com/Kaveripakkam/01-hybrid\\_napier\\_grass.htm](http://indiaeng.com/Kaveripakkam/01-hybrid_napier_grass.htm)

<http://www.nafis.go.ke/fodders/napier-grass>

<http://www.maralika.com/GRASS.html>