Guinea grass

Common name: Guinea grass

Botanical name: *Panicum maximum* Jacq.

Guinea grass, a tall perennial grass, is a native of tropical and sub-tropical Africa. It is considered to be the most valuable fodder plant. It has a high leaf stem ratio which makes it most palatable grass to livestock. It remains green until late winter. It is cultivated throughout the country for green nutritious fodder. When it is leafy and young, it has 10 % crude protein but it falls rapidly with delayed harvesting. This can be prepared as hay or silage. It grows naturally in open grasslands, usually under or near trees and shrubs and along riverbanks. It is suited to areas with an annual rainfall of over 1100 mm, but grows better with moderate (700-900 mm) rainfall. It has a deep root system, which allows it to tolerate some drought. Guinea grass is extremely tolerant to shading by trees and other pasture species.

Soil and it preparation

All types of soils with good drainage are preferred for this grass. Guinea grass adapts to a wide range of soils, but grows best on deep soils of medium to high fertility which remains wet for longer period in dry season. 2-3 ploughings followed by planking are essential for good crop.

Varieties

Varieties	**Areas of cultivation**	**Green fodder yield (t/ha)**
Macuenni	Kerala (rainfed)	60-80
Hamil	South and North-East central India	70-85
PGG-1 and PGG-9	Hill and North west	70-100
PGG-14	Central India	95-140
PGG-19 and PGG-101	Punjab	90-120
CO-1 & CO-2 (Irrigated)	Tamil Nadu	200-280
Bundel guinea-1	Sub temperature hills, North-west, central and south zone (rainfed)	60-80
Bundel guinea-2	Entire country (rainfed)	70-90

Sowing/planting time:

Irrigated crop is cultivated throughout the year whereas rainfed crop is cultivated only during monsoon season. It can be successfully sown and planted from mid February to July.

Seed rate and sowing method

Guinea grass can be grown by using seed and vegetative materials likes rooted slips. A seed rate of 3-4 kg/ha is sufficient for better crop stand in sole crop. 40,000 rooted slips in sole stand and 20,000 rooted slips in inter cropping has been found optimum. A well-prepared, weed-free seed-bed is required for good establishment. For best results, the seed should be sown by a combine or a drum seeder, by dropping seed in the soil surface and rolling. It can also be propagated by nursery sowing. A seedling of 20-25 days old nursery or rooted slips at the spacing of 50 cm x 50 cm is optimum for sole stand. In intercropping it may be planted of 150 cm row to row and 50 cm plant to plant.

Cropping systems

The promising cropping systems of guinea grass are of perennial nature because guinea grass, as main crop has to be retained for 4-5 years. Normally in milkshed areas, guinea grass + (cowpea – berseem), guinea grass (sole), guinea grass in hortipasture and guinea on field bunds are grown.

Nutrient management

The crop should be supplemented with 20-25 t FYM/ha at the time of land preparation. At sowing time a basal dose of 60 kg N, 50 kg P_2O_5 and 40 kg K_2O/ha should be applied in bands prior to planting. The crop should be fertilized with 40 kg N/ha just after the each cut. The crops respond well to organic manures and biofertilizer (*Azotobactor* + *Azospirillum*).

Water management

The grass should be planted in well moist soil condition. The crop needs regular irrigation at an interval of 15-18 days during March to May and at 10-12 days interval in summer months. During monsoon seasons, the irrigation is rarely needed in event of long monsoon failure.

Inter cultivation

Regular hand weeding/hoeing ensures good aeration and crop growth as well as control the weed growth.

Disease and insect-pest management

Generally guinea grass is not much affected by any insect pest and disease but leaf spot (*Bipolaris hawaiiensis*) is often found on leaves during the wet season. There is no evidence that this disease affects production.

Harvesting management

First cut at 60-65 days after planting and subsequent cuts are to be taken at 25-30 days interval.