

Tropical and Sub-tropical Forages

NAPIER BAJARA HYBRID

It is vegetatively propagated high yielding perennial grass. It requires hot moist season for growth and can be grown upto an altitude of 1,500 m. Under irrigated conditions, it provides green fodder from April to November. On an average, it yields 800 q green fodder per hectare per year.

Variety

IGFRI-5 : It is suitable for cultivation in areas of sub-montane and low hill sub-tropical zone of H.P. which are below 800 m under rainfed and irrigated conditions and fertile as well as marginal lands. It is a very vigorous and tall growing hybrid. Its fillers are thin. It has erect growth habit, very leafy (14-15 leaves/filler), no hairs on nodes, stems remain soft upto full growth. It is ready for harvest after 60 days of transplanting. It gives fresh fodder and dry matter yield of 1143 q/ha and 372 q/ha respectively. On an average, it contains 6.35% crude protein and 2.8% oxalate. 3-4 cuttings can be obtained under rainfed conditions.

NB-37 : It is a dwarf hybrid suitable for sub-tropic pastures. It is drought tolerant and has low oxalates (2-3%) and high crude protein (9-10%).

NB-21: It is a fast growing variety with high tillering capacity. Stems are thin and non-hairy with long, smooth and narrow leaves. Oxalic acid content in this variety is comparatively lesser than in other varieties but it has become susceptible to diseases and IGFRI-10 have been identified to replace NB-21 upto 1300 m elevation.

Soil and its preparation

Fertile, well drained loam soil is suitable for its cultivation. However, it can be planted in any type of soil if there is no water logging. Before planting, land should be prepared after two to three ploughings.

Planting

It is propagated vegetatively by root slips or stem cutting. One root slip or stem cutting with three nodes per hill is planted at the rate of 27,000 slips or cuttings per hectare. They are planted 10 cm apart within and between rows. The best time of planting is March or with the advent of monsoon rains.

Nutrient requirement

60 kg N and 60 kg P₂O₅ per hectare at the time of planting and additional 40 kg N after every cutting.

Irrigation and interculture

In dry months, it should be irrigated at an interval of 15 days and during monsoon depending upon the rains. Hoeing should be done after every cut before application of fertilizer to keep the soil loose and friable and also to eradicate weeds.

Harvesting

First cutting is ready about two months after planting subsequent cuttings can be taken after every 40 days.

SETARIA

Varieties

Nandi : It is fast growing grass suitable for low hills with very good regeneration capacity with dark green leaves and thin stem. The vegetative growth starts during March and remains green till early December. It provides green fodder during the lean period i.e. May-June and October-November when no other green grass is available. The forage is nutritive and contains 7-8% protein (DM) at 50% flowering. During its growth period, 3-4 cuttings can be obtained with an average yield of 750 q/ha of green grass. It is suitable for planting in grassland, wasteland and bunds of fields upto 2000 m altitude.

PSS-1 : It is a fast growing perennial grass recommended for cool, frost prone sub-tropical grasslands. It has dark green leaves, medium thick stems and brown rusty heads. It remains green for 9-10 months in a year and provides 3-4 cuttings. Green herbage is available during lean periods viz April-June and October-December. It is a drought and cold tolerant grass. It has yield potential of 600-750 q/ha of green fodder. Its herbage contains low oxalates (2-3%) and high protein (9-10% DM). It can directly be sown in grasslands in lines 30 cm apart.

Nursery raising : Fine seed bed should be prepared. The seed should be broadcast on the bed and covered with thin layer of fine soil. Care should be taken that the seed does not go deeper than 5 cm. Irrigate nursery bed after sowing and continue till the seedlings emerge. It should be sown in the first week of May.

Seed rate : 4-6 kg/ha

Nutrient requirement : 80 kg N and 40 kg P₂O₅ are recommended per hectare. Phosphorus should be applied in equal split doses after each cutting to get a good next cutting.

Transplanting : Seedling become ready for transplanting when they attain an height of 15-20 cm. The transplanting is done during February and July. A distance of 30x30 cm in pasture lands and 50x50 cm in fields should be kept.

Harvesting : In the first year, forage can be harvested after 60-70 days of transplanting. In the second year, first cutting becomes ready in the months of April-May and subsequent cuttings can be taken after 40-45 days interval.

GUINEA GRASS

Variety

PGG-9 : It is an apomictic hybrid and has long, broad light green leaves and thick stem, leaves have pubescence underneath. Panicle is compact, have low seed shedding and good synchrony in seed maturity. It provides 2-3 cuttings with an average yield of 450-500 q/ha. Its herbage contains 8-10% C.P. (DM) and is very nutritive. Dry matter digestibility is between 55-70%. It is adapted between 300 to 400 m above msl and is recommended as perennial grass on marginal and wastelands in Zone-I and for arable land for Zone-I and Zone-II.

Seed rate : 20 kg/ha

Sowing time

Arable Land : April

Wasteland : June

Sowing method

Land should be well prepared by giving 2 ploughings followed by *Suhaga*. Field should be harrowed followed by broadcasting of seed and levelling.

Manuring

40 kg N and 40 kg P₂O₅ at sowing time and 40 kg N/ha after each cutting.

Cutting

First cutting becomes available after 50-60 days of sowing and subsequent cuttings after 30 days.

Nursery raising

For growing on slopy marginal and wastelands, nursery should be raised during April. Plough the seed bed thoroughly and apply good quantity of FYM. Seed should be sown in lines 20 cm apart and 2 cm deep. Cover the seed with thin layer of soil. First irrigation should be given after sowing and subsequent irrigations at 7-day interval till seedlings germinate. Seedlings become ready for transplanting during rainy season.

Transplanting

Seedlings should be transplanted on marginal lands at a distance of 20x20 cm. Apply 100 g of FYM in this pits before transplanting the seedlings and 40kg N/ha after 20-25 days for good establishment and yield. It is nitrogen hungry plant and requires 80-120 kg N/ha for persistence and productivity.