



Guinea grass (*Panicum maximum CV Mombasa*)

1. Ecology

Agro-ecological zones

Mainly highlands, zones II & III.

Soil requirement / types

Grows in most soils provided they are well drained, moist and fertile, intolerant to waterlogging or salinity, pH of 4.8 – 6.7

Moisture

Require minimum rainfall of 800mm per annum.

Temperature range

Drought tolerant although they do not tolerate dry periods longer than 4 or 5 months. Require optimum temperature of 20 – 30 degrees Celsius.

2. Agronomy

Land preparation

Plough with disc and hurrow to fine tilth. For minimum tillage use a chisel/subsoiler.

Sowing

Sowing rate of 2-3kg/ha.

Sow seeds on the surface or no more than 2 cm and roll to ensure soil contact.

Spacing 50cm between rows and 30 cm within rows.

Fertilizer rate

Establishment fertilizer is necessary on infertile soils, for planting using 20-40kg/ha P and Top dressing 60 kg/ha N after every harvest.

Weeding

Physical or use of selective herbicides - 150ml/20 litres.

Pest & Disease challenge

No major diseases or pests.

Harvesting & storage

Ready for harvest 75-100 days after planting.

Harvesting can be done by hand or with a mechanical harvester.

Cutting height of 10-15 cm is recommended preserved through drying/bailing or ensiling.

3. Nutritive value

Nutritive composition at 4 weeks

Crude protein from 16.9 - 23.4% at depending on age and supply

Crude fibre 34%

Neutral detergent fibre(NDF)- 45.2 - 54%

Acid detergent fibre(ADF)- 38.6 - 40.6%

In-vitro digestibility of up to 75-80%

Metabolizable energy of 7.3 - 8.8 MJ/kg DM

Palatability

Highly palatable.

Formulation with other forages

Combine at a ratio of 3 grass parts : 1 legume

4. Yield

Dry matter

Yield of 25 to 35t/ha/yr.

5. Advantages

- Very productive leafy grass.
- Suitable for cut and carry

6. Disadvantages

- Intolerant of waterlogging or salinity.

About the implementing project

The Integrated & Climate Smart Innovations for Agro-Pastoralist Economies and Landscapes in Kenya's Arid and Semi-arid Lands (ICSIAPL) is a three-year (2021 - 2023) project funded by the European Union (EU) and the Ministry of Foreign Affairs of the Kingdom of the Netherlands (DGIS).

The project is implemented by SNV Netherlands Development Organisation, SNV, (lead partner) and the Kenya Agricultural and Livestock Research Organization, KALRO (research partner).

The objective of the project is to enhance the livelihoods of agro-pastoralist communities through improved forage production and sustainable landscape management. It will also upscale commercialisation of climate smart innovations while creating an enabling policy environment for the livestock sector.

SNV is a not-for-profit international development organisation that makes a lasting difference in the lives of people living in poverty by helping them raise incomes and access basic services.

KALRO is the National agricultural and livestock research organization in Kenya mandated to coordinate agricultural research in technology.

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