



AGT Foods Africa Pty Ltd.
 8 Jacobs St., Chamdor, Krugersdorp 1739
 P.O. Box 414, Krugersdorp, South Africa 1740
 Reg. No. 1994/001269/07
 VAT Reg. No. 484 014 1495

Tel: +27 11 762 5261
 Fax: +27 11 762 4111
 0861 AgriCote (247426)
 sales@advanceseed.com
 www.agtfoods.com/za

Kikuyu – Pennisetum clandestinum

Kikuyu is a stoloniferous (above ground) and rhizomatous (below ground) perennial summer grass. It can be used as a permanent pasture. Surplus production can be ensiled. Kikuyu is also a popular turf species. Even though Kikuyu is a tropical/subtropical pasture that produces well in summer months, it is classified with the temperate species such as Tall Fescue, Cocksfoot and the Ryegrasses as an intensive, high-input pasture. For high production, rainfall varying from 700 to 3000 mm is required. Under most South African conditions, it is cultivated under irrigation.



Strengths

- 10 – 20 t DM/ha/season
Depending on environmental conditions and management
- Strong perennial
- Can tolerate heavy grazing
- Provides good ground cover

Limitations

- Has high fertility requirement when used under intensive systems
- Can become a weed in cultivation
- Not an efficient user of water

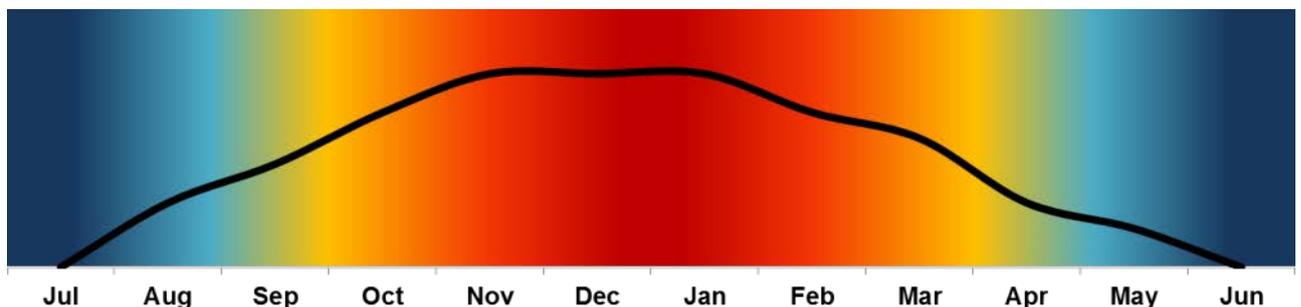


THIS COPYRIGHTED WORK AND AGRICOTE® IS A LICENCED PRODUCT THAT AGT FOODS AFRICA USES ON ALL ITS COATED SEEDS. THIS INCLUDES ADAPTING, COPYING, ISSUING COPIES, UNAUTHORISED LENDING, PUBLIC PERFORMANCE, BROADCASTING, OR MAKING THE SAME AVAILABLE TO PRINT, INTERNET, WIRELESS TECHNOLOGY OR IN ANY OTHER FORM – THIS IS STRICTLY PROHIBITED. AGT FOODS AFRICA 2005 - 2017

What can it be used for?

- Grazing:** Under intensive utilisation, Kikuyu is grazed by productive animals, such as weaner calves, dairy cattle and sheep.
- Foggage:** Surplus summer production can also be grazed as foggage in winter, using strip-grazing to optimize usage.
- Silage:** Surplus production can be ensiled.
- Cover Crop:** Kikuyu is included in cover crop blends for long term soil erosion control. It stabilises the soil aggregates and build organic material in the soil.
- Turf Grass:** Kikuyu is a popular and well known turf grass. It has a medium texture and recovers quickly after each cut.

Production potential: Kikuyu is usually slow to establish and can only be utilized 6 months after planting. High production (up to 20 t DM/ha/season) can be achieved in pure stands. This depends on soil fertility, environmental conditions and frequency of utilisation. By using a Kikuyu in a crop rotation system with ryegrass, a more stable fodder flow can be maintained. The production lifetime depends on management and climate. Under ideal conditions however, Kikuyu can be productive for decades ^(1, 2).



Relative growth curve of an established Kikuyu grass stand - one year cycle

Metabolic disturbances in animals on cultivated pastures:

Nitrate poisoning: Nitrate build up in plants under periods of poor growth, especially after high N fertilisation.



SEED



SEED TREATMENT



FORAGE

2



LAND REHABILITATION



COVER CROPS



Advance Seed



Frothy Bloat: Build-up of gas in the rumen due to stable foam forming, causing animals to suffocate.

Oxalate poisoning: High oxalate levels can cause “big head” in horses. Oxalate poisoning in young/hungry ruminants is also possible, although this is rarely a problem in mature ruminants.

Establishment

Climate: Kikuyu has adapted well to temperate, subtropical and tropical conditions. It can survive severe frost.

Moisture: Under dryland conditions it requires at least 700 mm per annum, if distribution correlates with its production curve (summer rainfall). Best production is achieved under irrigation. In soils that allow good root development, it can be very drought tolerant. Roots can grow as deep as 3 m. It can tolerate wet soils for up to 10 days. Best growth is achieved in periods with high humidity.

Soil: It is widely adapted but requires high soil fertility. Heavier soils or soils with good structure are often more favourable than sandy soils. It can survive in soils with pH (KCl) levels as low as 4.5, but performs best at pH (KCl) > 5. It has high Aluminium and Manganese tolerance. It also has some tolerance to salinity and requires at least moderately drained soils.

Fertilization: Kikuyu responds especially well to high Nitrogen and Phosphorous fertilisation. Good responses have been achieved when a 150 kg N/ha/season is applied as a split application in spring and autumn. Higher N-fertilization has however shown good response. A soil analysis before establishment is essential ^(1, 2, 3).



SEED



SEED TREATMENT



FORAGE

3



LAND REHABILITATION



COVER CROPS



Advance Seed

	N (kg/ha)	P (mg/kg soil)	K (mg/kg soil)
Requirement for establishment***	30-50*	15-30	80-120
Seasonal application (kg/ha)	150-350**	Use removal rates	
Production - Removal rates (kg/ton):			
Good quality fodder	36	5.5	48.5
Average quality fodder	24	3.7	34.5
Poor quality fodder	13	1.9	18.4

*Fertilizer just after establishment (kg/ha)

**Selected rate should maximise profit

***Determined by production potential

Phosphorus (P) and Potassium (K) can be recycled back to pastures when grazed by animals. This is dependent on the grazing system and the type of animals used. Up to 40% of P and 90% of K can be recycled ⁽⁵⁾. It is however necessary to do annual soil analysis to determine the level to which recycling occurred. The difference should be fertilized.

Methods: Seed into a firm, fine, weed free seed bed. Consolidating (rolling) the seedbed after sowing/planting will ensure good seed-soil contact and subsequently better germination and establishment. Plant seed 10-15 mm deep, in rows. It can also be established by using vegetative means (cuttings/ plugs/ runners).

Our prescribed seeding rate:

Forage:	Rows ^(1,2)		Broadcast ^(1,2)	
	Uncoated	AgriCOTE®	Uncoated	AgriCOTE®
	2-10 kg/ha	5-15 kg/ha	3-10 kg/ha	5-15 kg/ha

Turf Grass: 25 – 30 kg/ha

Higher seeding rates bare a strong correlation with quicker cover.

Planting time: Best establishment months are November-February

Management

Utilisation: Regular defoliation is required to ensure that the quality of the pasture remains high. Occasionally, scarification is recommended to remove excess thatch. Rotational, high-pressure grazing ensures optimal utilisation. Kikuyu can withstand short grazing cycles if well fertilized and irrigated. By grazing often, less stolons and stems develop and only leaves are grazed.



SEED



SEED TREATMENT



FORAGE

4



LAND REHABILITATION



COVER CROPS



Advance Seed



Cultivars

Whittet

This is the most common cultivar in South Africa.

Resources

1. Pasture Handbook, Kejafa Knowledge Works, ISBN 0-620-31994-1
2. Tropical forages:
http://www.tropicalforages.info/key/Forages/Media/Html/Pennisetum_clandestinum.htm
3. Feedipedia - Animal feed resources information system - Kikuyu (*Pennisetum clandestinum*) -
<http://www.feedipedia.org/node/398>
4. Gids tot die volhoubare produksie van weiding. Alles oor natuurlike veld en aangeplante weiding vir kleinvee, grootvee en wildboere. Prof Hennie Snyman, 2012.
5. Dannhauser CS. 1991. Die bestuur van aangeplante weiding in die somerreënval-dele, vol. 1. Warmbad
6. FAO - <http://www.fao.org/ag/AGP/AGPC/doc/Gbase/data/pf000298.htm>



5

