



Tall Fescue – *Festuca arundinacea*

Tall Fescue is a tufted, perennial grass that is best adapted to cool-season production. It grows strongly during spring and autumn, with poor growth during winter (even though it stays green) and limited growth in summer. It can spread with small underground roots called rhizomes. Leaves have characteristic ridges on the upper side. This grass is best adapted to areas where the annual rainfall exceeds 1000 mm and distribution correlates with the crop’s production curve. In South Africa, Tall Fescue is normally planted under irrigation.



Strengths

- Production of up to 18-24 t DM/ha/season
Depending on environmental conditions and management
- Strong perennial
- Temperate species, but adapted to subtropical areas
- Tolerant to heavy grazing
- Ideal foggage crop
- Can survive prolonged periods of waterlogging

Limitations

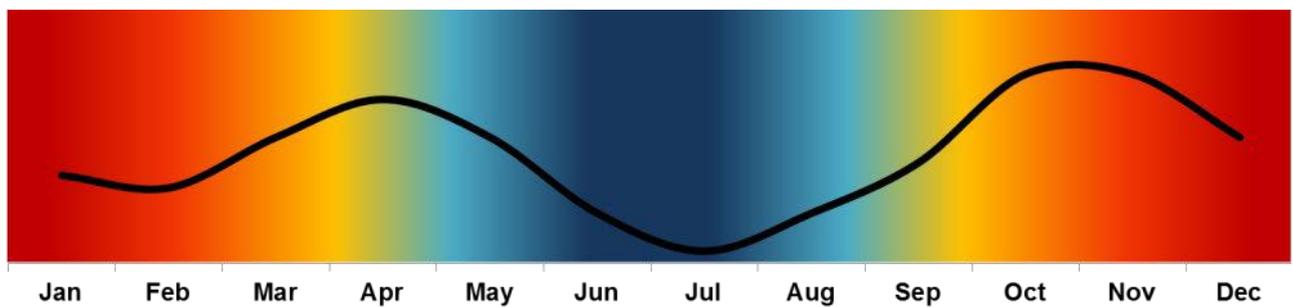
- Slow to establish
- Does not do well on sandy, low fertility soil
- Poorer quality than ryegrass and cocksfoot
- Reduced summer palatability



What can it be used for?

- Grazing:** Utilise with production animals like weaner calves and sheep. Rotational, high-pressure grazing ensures optimal utilisation.
- Foggage:** This crop stays green throughout the year and autumn growth can be utilised in the winter as foggage.
- Silage:** Surplus production can be ensiled to use during times of low production.
- Cover Crop:** Tall Fescue provides excellent erosion control and improve the soil by stabilising soil aggregates and building the organic content of the soil. Tall Fescue extracts some heavy metals from the soil, restore polluted soil and can even tolerate saline soil conditions. It is also a habitat for beneficial insects.

Production potential: A yield of 18 – 24 t DM/ha/season can be achieved. This depends on soil fertility, environmental conditions and frequency of utilisation. The production lifetime also depends on management and climate, but under ideal conditions, Tall Fescue can be productive for well over 10 years ^(1,2).



Relative growth curve of an established Tall Fescue stand - one year cycle



Metabolic disturbances in animals on cultivated pastures:

Endophytic fungi may be a problem in some of the older varieties, however this is not commonly experienced in South Africa.

Establishment

Climate: Tall Fescue is best adapted to temperate areas, however, it performs well in many subtropical regions if properly managed. Seedlings exposed to extreme conditions can be damaged and stand loss may occur.

Moisture: Under dryland conditions it requires at least 1000 mm per annum, if distribution correlates with its production curve. Best production is achieved under irrigation. Tall Fescue is more drought resistant than Perennial Ryegrass. Tall Fescue can also tolerate temporary waterlogging better than other commercial temperate species.

Soil: It can survive in sandy, low fertility soils at pH (KCl) levels as low as 4.5 as long as acid saturation < 25%. Optimal production is however achieved on deep, less sandy soils with the pH (KCl) > 5. It can tolerate prolonged periods of water logging (up to 4 weeks) and has a high salt tolerance.

Fertilization: Tall Fescue responds very well to high Nitrogen fertilisation (> 250 kg/ha/season), however, it can still produce well at lower levels (180 kg/ha/season) relative to Ryegrass. A soil analysis before establishment is essential ^(1, 2, 3).



	N (kg/ha)	P (mg/kg soil)	K (mg/kg soil)
Requirement for establishment***	30-50*	15-30	80-140
Seasonal application (kg/ha)	180-450**	Use removal rates	
Production - Removal rates (kg/ton):			
Good quality fodder	35	3.3	32
Average quality fodder	24	2.6	23
Poor quality fodder	13	2	16

*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 stock. 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: Establish on 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.

Our prescribed seeding rate:	Rows ^(1, 2)	Broadcast ^(1, 2)
		20 kg/ha

Planting time: Best establishment months are March-May, however a spring planting (August to mid-September) can also be successful. Tall Fescue is very susceptible to competition because it establishes slowly, relative to other temperate grasses.



Management

Utilisation: Due to its slow establishment, Tall fescue can only be utilised from 8-12 weeks after planting. It has the highest summer production potential among the temperate species, but winter production is very poor. Forage for winter is normally grown in autumn and utilised as foggage. Tall Fescue is more adapted to longer grazing cycles compared to the short grazing cycles of perennial ryegrass. 4-8 grazing cycles per season may be expected.

Cultivars

Fuego

Fuego is a high producing, dense tillering, soft leaf type with good digestibility and animal production – Endophyte free.

Baroptima

Baroptima is a high yielding, high energy cultivar with the beneficial endophyte E34 for superior pasture persistence.

Resources

1. Pasture Handbook, Kejafa Knowledge Works, ISBN 0-620-31994-1
2. FAO - <http://www.fao.org/ag/agp/AGPC/doc/Gbase/data/pf000199.htm>
3. Nutrient Requirements of Beef Cattle, 1984
4. Penn State Extension, Crops and Soils, Tall Fescue
5. Dannhauser CS. 1991. Die bestuur van aangeplante weiding in die somerreënvaldele, vol. 1. Warmbad
6. Truter, WF. Dannhauser, CS, Smith, H. and Trytsman, G. 2014. *Festuca arundinaceae* (Tall fescue). Integrated Crop and Pasture-based livestock production systems. Conservation Agriculture – Part 9. SA Grain. ISSN 1814-1676. Page 71-73.

