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## Bahia grass – *Paspalum notatum*

Bahia grass is a summer growing perennial forage crop. This creeping grass grows with rhizome-like stolons enabling stands to fill open areas and make dense, tough sods even on drought-prone sandy soils. The growth form enables this species to be highly adaptable to dry conditions while providing good soil cover for erosion control. This grass is best adapted to areas where the annual rainfall varies between 650 to 1500mm.



### Strengths

- 3 to 10 t DM/ha/season under dryland conditions
- **Depending on environmental conditions and management**
- Perennial species
- Widely adapted
- Dryland cropping and under irrigation
- Highly palatable
- Ideal for sheep
- Cold tolerant
- Fair shade tolerance
- Good short term drought tolerance
- Tolerant of grazing and traffic wear

### Limitations

- Slow establishment rate
- Relatively unpalatable once mature
- Can become moribund with time
- Not suitable for high pH soils
- Difficult to mow



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## What can it be used for?

**Grazing:** The majority of leaf material is close to the ground and therefore should be grazed closely.

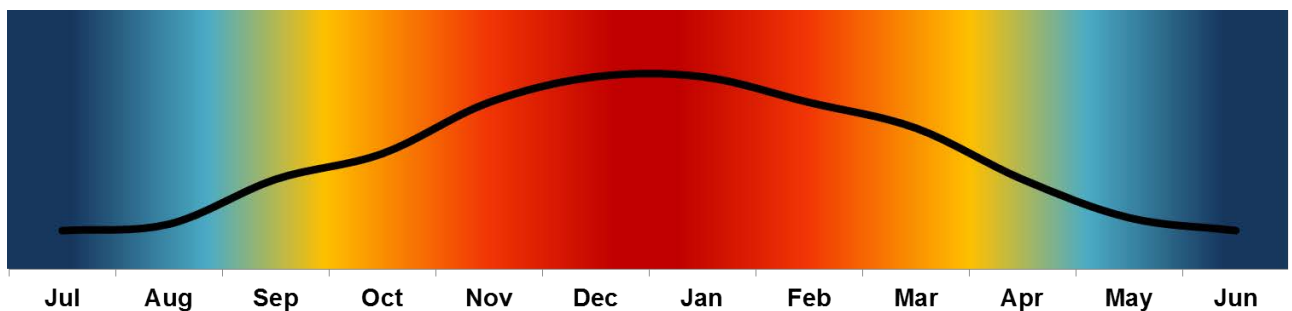
**Foggage:** Even though palatability decreases with maturity, this grass is often used as foggage during winter months.

**Agroforestry:** Popular grass use in agroforestry, due to its shade tolerance.

**Cover Crop:** Bahia grass is included in cover crop blends for long term erosion control. It stabilises the soil aggregate stability and builds organic material in the soil.

**Turf Grass:** Bahia grass is a turf grass with a rough texture. It is preferred in areas with very cold and very hot climates.

**Production potential:** Under irrigation and optimal fertilization, yields can exceed 10 t DM/ha/season. This depends on environmental conditions and frequency of utilisation <sup>(1, 2)</sup>.



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

### **Metabolic disturbances in animals on cultivated pastures:**

In some susceptible Bahia grass cultivars, ergot may cause slight toxicity or mycotoxic symptoms.

## Establishment

**Climate:** Bahia grass is widely adapted and will grow optimally between 25 and 30 °C. Little growth occurs during cooler months. It can survive low temperatures of -10 °C.



SEED



SEED TREATMENT



FORAGE

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LAND REHABILITATION



COVER CROPS



Advance Seed

**Moisture:** Under dryland conditions it requires at least 650 mm per annum, but production can be increased under irrigation.

**Soil:** Bahia grass is adapted to a wide variety of soil types, ranging from sandy or light textured soils to clay soils. A soil pH (KCl) of 5 is recommended for optimal production, but it can grow at a low pH (KCl) of 4.5. It has a moderate tolerance to aluminium.

**Fertilization:** It has a high fertility requirement. A soil analysis before establishment is essential <sup>(1, 2, 3)</sup>.

	N (kg/ha)	P (mg/kg soil)	K (mg/kg soil)
Requirement for establishment***	20-40*	15-20	80-100
Seasonal application (kg/ha)	80-220**	Use removal rates	
<b>Production - Removal rates (kg/ton):</b>			
Good quality fodder	32	3.2	22
Average quality fodder	23	2.5	16.2
Poor quality fodder	10	1.8	9

\*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 <sup>(5)</sup>. 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:**

Forage:	Rows <sup>(1,2)</sup>		Broadcast <sup>(1,2)</sup>	
	Uncoated	AgriCOTE®	Uncoated	AgriCOTE®
	10-15 kg/ha	10-15 kg/ha	25 kg/ha	25 kg/ha

**Turf Grass:** **25 – 30 kg/ha**  
Under ideal environmental conditions, combined with excellent seedbed preparation and equipment, the seeding rate of uncoated seed can be lowered.



SEED



SEED TREATMENT



FORAGE

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LAND REHABILITATION



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**Planting time:** Optimal establishment periods are between October and February (or as soon as average minimum soil temperatures exceed 16°C), whenever rainfall is most reliable.

## Management

**Utilisation:** Grazing during the vegetative stage ensures good quality forage. A grazing frequency of  $\pm 6$  weeks has shown to provide the optimal balance between yield and quality. In the year of establishment, only light grazing is recommended. The low growing growth habit makes this grass highly suitable for sheep production, but difficult and unsuitable to cut as hay.

## Cultivars

### **Pensacola**

Pensacola is a narrow leaf cultivar. This cultivar was selected for vigour and production. Even though moderate frost will kill the top growth, it is more frost tolerant than other cultivars. Growth starts early in the spring and continues late into the season. It is drought tolerant with deep (2 – 3 m) roots. It has also proved to be fairly resistant to ergot.

## Resources

1. Pasture Handbook, Kejafa Knowledge Works, ISBN 0-620-31994-1
2. Tropical Forages - [http://www.tropicalforages.info/key/Forages/Media/Html/Paspalum\\_notatum.htm](http://www.tropicalforages.info/key/Forages/Media/Html/Paspalum_notatum.htm)
3. Feedipedia - Animal feed resources information system - Bahia grass (*Paspalum notatum*) - <http://www.feedipedia.org/node/402>
4. FAO - <http://www.fao.org/ag/agp/AGPC/doc/Gbase/data/pf000291.htm>
5. Dannhauser CS. 1991. Die bestuur van aangeplante weiding in die somerreëval-dele, vol. 1. Warmbad
6. SANSOR - <http://sansor.org/sub-tropical-grasses/>
7. Truter, WF, Dannhauser, CS, Smith, H. and Trytsman, G. 2014. *Paspalum notatum* (Bahia grass). Integrated Crop and Pasture-based livestock production systems. Conservation Agriculture – Part 16. SA Grain. ISSN 1814-1676. Page 57-58.

