Calibre BMR Forage Sorghum

*Sorghum bicolor x sudanese*

- Early to mid maturing, Brown Mid Rib sorghum x Sudan grass hybrid
- 12 gene BMR now delivering new high quality in the forage market
- Low Lignin = highly digestible feed
- Lignin is indigestible in ruminants
- Reducing the lignin results in higher feed intake and improved weight gains. The traditional types that have wide stems also have high levels of lignin
- Calibre BMR offers this reduction trait that will give you better grazing, silage and hay results than conventional types
- An increase in milk production by up to 20% has been achieved with the BMR trait
- The BMR 12 gene background resulted in taller plants with higher yields, later maturity and reduced ADL (acid digestible lignin). This reduced level of ADL is directly attributed to the increases in digestibility
- Safe low prussic acid levels
- Plant on 16°C and rising soil temperature
**Seed agronomy table**

<table>
<thead>
<tr>
<th>Lifespan</th>
<th>9 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min Rainfall (mm)</td>
<td>500</td>
</tr>
<tr>
<td>Seeding Rate</td>
<td>kg/Ha</td>
</tr>
<tr>
<td>Dryland</td>
<td>10</td>
</tr>
<tr>
<td>High Rainfall / Irrigation</td>
<td>25</td>
</tr>
</tbody>
</table>

**Enterprises this seed is being used for**

- Sheep
- Beef Cattle
- Hay & Silage
- Viti & Horti

**Establishment Guarantee®** replacement of your crop if it fails to establish satisfactorily in the first thirty days.

**Strengths**

- Easy to establish.
- Highly productive.
- Good regrowth potential.
- Provides standover forage in winter.
- Can be grown in dryland and irrigated situations.
- Can be used for grazing, hay &/or silage.

**Limitations**

- Requires high fertility soils.
- Requires good soil water or irrigation for maximum production.
- Requires appropriate grazing management to obtain maximum potential.
- Prussic acid poisoning though the potential is low in normal seasons.
- Varietal selection must be made carefully, depending on the final use e.g. for grazing, hay production, pit silage or round bale silage.

**Plant Description**

**Plant:** Vigorously-growing, erect, annuals with branched tillers reaching 2-3 m in height.

**Stems:** Erect to 2-3 m.

**Leaves:** 2.5-4.0 cm wide.
Seedhead: Large pyramidal panicles with secondary and tertiary branches.
Seeds: Oval to round; size varies with cultivar between 30,000-75,000 seeds/kg.

Pasture type and use

Various species and their hybrids are grown as forage for livestock production or for hay or silage conservation. Coarse-stemmed varieties are not suitable for round bale silage production. The various types of hybrids have different agronomic features and uses.

Sudan grass and Sudan x Sudan hybrids: Grazing, hay: Suitable for repeated, heavy grazing with excellent recovery between grazing. Feed quality is often higher than the Sudan grass x grain sorghum hybrids. Suited to hay making because it tillers heavily and has finer stems than other sorghums. Lower prussic acid levels than other forage sorghums.

Sorghum hybrid: Limited recovery from grazing. High forage yield combined with high grain content. Developed specifically for the silage industry.

Sweet sorghum hybrids: Grazing, hay or silage - coarse stemmed varieties for pit silage, narrow-stemmed varieties for round bale silage. Late-flowering cultivars for standover grazing into autumn. Slow recovery from grazing (poor regrowth). Tall late flowering types with thick stems and high sugar content are most suitable for standover feed into the autumn-winter. Prussic acid levels are sometimes high. However, contemporary varieties have lower levels of prussic acid than older varieties and prussic acid is usually only a concern in drought years when plants are stressed. Tall early flowering types with fine stems, have lower prussic acid and can be managed for silage by allowing them to set seed but harvest them when the seeds are soft. Fine-stemmed cultivars can be used in both pit and round bale silage. Mainly used for standover feed into autumn-winter, or silage preferred planting time December to January.

Sweet sorghum x Sudan grass hybrids: Compact and leafy with more juicy and sweet stems. Grazing, hay. Late-flowering cultivars for standover grazing into autumn. Prussic acid levels are low. Similar to sweet sorghums but with more rapid regrowth They grow rapidly but some cultivars selected for later flowering are easier to manage as they remain leafy for longer.

Sorghum x Sudan grass hybrids: Suitable for repeated, heavy grazing with good recovery between grazing. Potential for a high dry matter yield. Best grazed at around one metre in height. Early maturing types require strict grazing management in order to maximise both their fodder yield and feed quality.

BMR sorghum x sweet sorghum Brown midrib varieties contain less lignin and have higher digestibility. May be subject to lodging. Graze at 1-1.2 m as with other varieties.

Where it grows

Rainfall: Grown on stored subsoil water. Requires 500-800 mm rainfall or irrigation. Poor tolerance of flooding.
Soils: Performs best on heavy clay soils because of their high water holding capacity. When
sown on lighter soils productivity will be reduced unless adequately fertilised and good seasonal rainfall occurs.

**Temperature:** Sow when the soil temperature is above 16°C.

**Establishment**

**Companion species:**

**Grasses:** It is not recommended to sow with other grasses because of its quick growth and competitive nature.

**Legumes:** Lablab and cowpeas, though difficult to manage owing to different maturity times of the forage sorghum used and of the companion crops.

**Sowing/planting rates as single species:**

Sorghum x Sudan hybrids and Sweet sorghum hybrids: 3-5 kg/Ha under marginal dryland conditions, 8-12 kg/Ha under favourable dryland conditions, 15-20 kg/Ha under irrigation.

Sudan grass types: 2-8 kg/Ha under dryland conditions, 10-20 kg/Ha under irrigation,

**Sowing/planting rates in mixtures.**

Sorghum x Sudan hybrids and Sweet sorghum hybrids: 2-6 kg/Ha under dryland conditions.

Sudan grass types: 2-4 kg/Ha under dryland conditions in favourable environments.

**Sowing time:** When soil temperatures reaches 16°C.

**Inoculation:** Not applicable.

**Fertiliser:** Should be grown on fertile soils and so would need additional nitrogen on soils of lower fertility. N can be applied where adequate soil moisture is available.

**Management**

**Maintenance fertiliser:** Produces large quantities of forage and extract significant quantities of nutrients. Application of fertiliser will depend on usage. Where forage is harvested for hay or silage, fertiliser budgets should be done based on soil test and nutrient extraction, and an application of fertiliser, particularly N and K should be made to maintain feed quality and productivity.

**Grazing/cutting:** Tolerant of heavy grazing with coarse stems remaining unless grazed early. Commence grazing when plants have reached 1-1.2 m in height. Slashing after grazing will promote even regrowth. Should not be grazed below 15 cm if good regrowth is expected. Can expect 4 or more grazings under ideal conditions.

**Ability to spread:** Low.

**Weed potential:** Regenerating seedlings can be a problem in crop rotations.

**Major pests:** None of significance.

**Major diseases:** None of significance.

**Herbicide susceptibility:** Atrazine may be used as a pre-emergence herbicide for grass and broadleaf weed control with care with some hybrids (see label recommendations) but not with sudan grass.
Animal production

**Feeding value:** Nutritive value depends greatly on soil fertility or the amount of fertiliser applied, and on grazing management where best results are achieved with a grazing height of 1-1.2 m. At this height, crude protein levels could be as high as 18% with energy levels of 8.8-9.5 MJ/kg DM.

**Palatability:** Moderately palatable and digestible when young. The sweet sorghum hybrids keep a higher free sugar content in the stem and are more suitable as stand-over feed into winter or the dry season.

**Production potential:** Generally, live weight gains vary between 0.5 to 1.0 kg per head per day depending on plant height and leafiness.

**Livestock disorders/toxicity:** Leaves can be poisonous to grazing livestock due to prussic acid, especially in young stressed regrowth during a dry spell. Having supplement blocks containing sulphur available will reduce the risk of prussic acid poisoning. Nitrate poisoning can occur when grown on fertile soils containing high levels of nitrogen and when plants are stressed by dry conditions or frost.