



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

Grain Sorghum – *Sorghum bicolor*

Grain Sorghum is an annual summer crop. Grain Sorghum is used for human and animal consumption and is also used for malt in brewing. This crop grows best in regions where the annual rainfall ranges from 400 to 800 mm rainfall, but is mostly planted where rainfall is too low for maize production. High humidity may sometimes affect seed set. This crop is more tolerant to drought in comparison with most other grain crops.



What can it be used for?

- White Seed:** The flour made from white seed is mainly used for human consumption.
- Red Seed:** Is mainly used as malt or for animal consumption.
- Silage:** It can be used to make silage.



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Stover: After the crop has been harvested for grain, the stover can be utilized by ruminants.

Cover Crops: Grain Sorghum builds organic matter in the soil and stabilizes soil aggregates. In addition the roots have an ameliorating effect on compacted soil. Grain Sorghum has shown to accumulate heavy metals like Lead (Pb), Zinc (Zn) and Cadmium (Cd) in the roots and shoot material.

Biofuels: The crop can be harvested for ethanol production.

Production potential: Production potential is influenced by soil fertility, environmental conditions, the cultivar chosen, plant density and management skills.

Establishment

Climate: Grows best in warm areas and very often, low temperatures can have an adverse effect on production. It requires a soil temperature of 15 - 18°C or more for satisfactory germination and seedling vigour. The optimal growth occurs between temperatures of 26 and 32°C.

Moisture: Sorghum has the ability to become 'dormant' (growth ceases) under unfavourable conditions (such as dry spells) and can resume growth as soon as it rains again. It is very drought tolerant and can be planted in areas where average rainfall is as low as 400mm. It is normally planted where Maize cannot be grown due to low rainfall.

Soil: Sorghum somewhat tolerant to salinity and more tolerant to waterlogged conditions than most other grain crops. It does however prefer a well-drained soil but doesn't do well on very sandy soils. An ideal pH (KCl) of > 5 is required for optimal production.

Fertilization: A soil analysis before establishment is essential ⁽¹⁾. Very similar fertilization as for Maize; however, may have a higher N requirement.

Methods: A well prepared seedbed is essential to establish a vigorous and uniform plant population.



SEED



SEED TREATMENT



FORAGE

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COVER CROPS



Advance Seed

Planting time: Grain Sorghum can be planted as soon as minimum soil temperatures reach 15°C. Later plantings (after early December) will have adverse effects on production.

Seeding rates: A stand of 100 000 – 120 000 plants/ ha is a common guideline. The number of seeds/ kg may vary between 26 000 and 34 000, depending on the seed batch and cultivar (about 3.5 – 6.5 kg/ ha).

Cultivars

Cultivar	Type	Seed Colour	Ear Type	Plant Height	Uniformity*	Stability*	Threshability*	Leaf and Stem Disease Resistance*	Days to 50% flower	Days to Harvest	Grading
Macia	Open Pollinated	White	Half Open	1.3 to 1.5 m	3	3	3	3	60 to 65	145 to 150	GM
NS 5751	Open Pollinated	Red	Half Open	1.2 m	2	2	2	3	75 to 80	135 to 140	GH
NS 5511	Hybrid	Red	Half Open	1.5 m	2	2	2	3	80 to 85	140 to 145	GH
NS 5655	Hybrid	Red	Half Open	1.5 m	3	2	2	3	80 to 85	140 to 145	GM

* Relative scale where 1 = excellent and 9 = extremely poor

Resources

- <https://www.pioneer.com/home/site/us/agronomy/grain-sorghum-management/>
- <http://www.sorghumcheckoff.com/all-about-sorghum>



SEED



SEED TREATMENT



FORAGE

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