SORGHUM TRUST (https://sorghumtrust.co.za/)

CULTIVATION

Origin and History
(https://sorghumtrust.co.za/origin-and-history)

The Sorghum Plant
(https://sorghumtrust.co.za/the-sorghum-plant/)

Cultivation
(https://sorghumtrust.co.za/cultivation)

Uses
(https://sorghumtrust.co.za/uses/)

Cultivation

Regions

The accompanying map shows the areas in which sorghum is cultivated in South Africa.

The distribution of sorghum has been determined partly by historical circumstances because producers found through the years that where the soil or climatic conditions are such that maize and other crops fail, sorghum can still supply a reasonable crop. Sorghum is well-adapted to grow on heavier clay soils with a low and erratic rainfall.

On the map it can be seen that sorghum is mainly produced in the dryer parts of the North-west Province (Western Transvaal), the Western Free State and the Northern Province (Northern Transvaal), as well as more eastwards in areas where heavier clay soil is found, such as Bethal, Standerton, Heilbron and Koppies.

Climates

Temperature: Sorghum is a fast growing, hot weather crop which requires high temperatures for germination and growth, but exceptionally high temperatures reduce the yield. The minimum temperature for germination is 7 to 10°C. Given sufficient soil moisture and a temperature of 15°C, sorghum seed will germinate within two days and 80% of it will appear above the ground in ten to twelve days. For optimal growth and development temperatures of 27 to 30°C are required.

Flower initiation and development of flower primordia are retarded by increasing day and night temperatures. The critical initial

temperature for tiller formation is 18°C. Temperatures above 18°C inhibit tiller formation. The physiological age of the plant determines whether tillers will be formed if the ideal temperature prevails. Plants with four to six mature leaves form tillers after exposure to the ideal temperature, where plants with eight mature leaves have already developed to such an extent that apical domination prevents development of tillers.

Day length: Sorghum is a short day plant because long photo periods (short nights) retard flower formation. The optimum photo period which accelerates the induction of flower formation is between 10 to 11hrs. Photo periods of longer than 11 to 12 hours stimulate vegetative growth, but retard flowering.The plants are at their most sensitive to photo period during the flower initiation stage.

In the case of short photo periods after early plantings in the spring, the main stem flowers relatively early. Tillers which develop later under the long photo periods of summer are not only longer than the main stem, but also have more internodes and their flower initiation is also retarded to a greater extent. The relative rate of development is gauged in relation to the number of days from the planting date up to and including the shedding of 50% of the pollen.

Moisture requirements and water utilisation of sorghum: Sorghum is cultivated in areas with a low rainfall, as well as in areas with a high rainfall. Regions are selected, inter alia, on the basis of the long-term annual average, the extent of fluctuations in the average and the distribution of rain during the growing season. This information is essential as far as decision-making with regard to cultivar choice, planting date and planting density are concerned.

Practices

Planting time

In South Africa sorghum is planted from mid-October to mid-December. The ideal soil temperature for germination is 15°C at a depth of 10cm & the last frost must have occurred before one can plant. Furthermore, it's important that the planting date be selected so that the critical stage of moisture need does not coincide with periods of drought.

Planting depth

When sufficient moisture is available,ideal planting depth is 25mm.Under drier conditions one has to plant deeper, but not more than 50mm. In heavy soil, preferably not deeper than 25mm, whereas one can plant as deep as 50mm in light soil.

Planting pattern

Where moisture is a limiting factor, plant wide rows, where narrow rows can be planted in high-rainfall areas. Depending on long-term rainfall and type of soil, sorghum is planted in rows of 0,91; 1,5 & 2,3m.

Table 2: Plant populations and quantities of seed (kg per hectare) for different inner row spacings and row widths.

Inner row spacing (cm)	0,91m rows	1,5m rows	2,3m rows
2,5	#439 560 (12,6)*	266 666 (7,6)	173 913 (5,0)
5,0	219 780 (6,3)	133 333 (3,8)	86 956 (2,5)
7,5	146 520 (4,2)	88 888 (2,5)	57 971 (1,7)
10,0	109 890 (3,1)	66 666 (1,9)	43 478 (1,2)
12,5	87 912 (2,5)	53 333 (1,5)	34 782 (1,0)
15,0	73 260 (2,1)	44 444 (1,3)	28 985 (0,8)
17,5	62 794 (1,8)	38 095 (1,1)	24 844 (0,7)
20,0	54 945 (1,6)	33 333 (1,0)	21 739 (0,6)

 # Plants/hectare

**** km/hectare***

ABOUT US

After the termination of the Sorghum Board in 1997, all of the funds of the Sorghum Board were transferred to the Sorghum Trust. These funds became the discretionary funds of the Sorghum Trust, which are governed by the Trustees in terms of the Trust Deed. The main objective of the Sorghum Trust is to maximise the income of the Trust and to provide funding for the benefit of the Sorghum Industry – in particular, for sorghum research & development projects and the maintenance of information required by the Sorghum Industry.

Read more (https://sorghumtrust.co.za/about-sorghum/)

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