

Pests and diseases

The major pests of cassava in Africa are the cassava green mite, cassava mealybug, and the variegated grasshopper. The main diseases affecting cassava are cassava mosaic disease, cassava bacterial blight, cassava anthracnose disease and root rot.

Uses

The tuber is used as a food, as a substitute for rice or maize meal and the leaves and tender shoots are cooked as a vegetable or used in sauces. The tuber can be chopped, dried and fed to animals. The main use of cassava in South Africa is for the production of starch, which makes a good natural adhesive.

Acknowledgement

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References

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CASSAVA



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REPUBLIC OF SOUTH AFRICA

Scientific name: *Manihot esculenta*

Common names: Cassava, Anioc, Apioca plant, Mutumbula, Mobulula, Muthupula, Ntumbula, Umdumbula Othobola, Uthupula, Unjumbula

Origin and distribution

Although still a subject of some debate, the centre of origin of cassava is generally believed to be the southern border of the Amazon basin, Brazil. In the 15th century it was introduced to the tropical areas of Africa, the Congo River delta by the Portuguese and later it spread rapidly to many agro-ecological areas. In South Africa, the crop is cultivated in Limpopo, Mpumalanga and Northern KwaZulu-Natal. It is mainly produced on a large scale in Limpopo for industrial purposes.

Description

Cassava is a perennial shrub or small tree that can grow to a height of about 1 to 3 m.

Roots

The roots are thick, fleshy cylindrical and clustered. Feeder roots grow downwards from the stem and from the storage roots and penetrate the soil to a depth of 50 to 100 cm. The number of tuberous roots and their dimensions vary greatly among the different varieties. The roots may reach a length of 30 to 120 cm (4 to 15 cm in diameter), and have a weight of 1 to 8 kg or more. The peel consists of an outer and an inner part, the former comprising a layer of cork cells and the phellogen. The cork layer is generally dark coloured. The inner part of the peel contains the phellogen and the phloem (tissue conducting food material), which separate the peel from the body of the root. The

cork layer varies between 0,5 and 2 % of the weight of the entire root, whereas the inner part of the peel accounts for about 8 to 15 %. In the case of ripe roots this is generally about 2 to 3 mm thick. The starch content of the peel is only about half that of the core. The peel is much firmer in structure.

Stem

The stem erects and radiates from the root and has milky latex (sap). As the plant grows, the main stem usually divides into three branches which then divide similarly.

Leaves

The leaves are large, lobed (five to seven) borne on a long, slender stalk joining a leaf. The leaves grow only towards the end of the branches. They are dark green above and light green below.

Flowers and fruit

Male and female flowers are arranged in loose plumes and are found on the same plant. The triangular fruit contains three seeds.

Climatic and soil requirements

Temperature

Ideally cassava should be grown in areas with a temperature between 25 and 29 °C. Prolonged temperatures below 10 °C affect cassava adversely. Cassava should not be planted in areas prone to frost.

Rainfall

Cassava is known to be drought tolerant but well-distributed rains during the growing months (September to May) are essential for high yields. The plant produces best when rainfall is fairly abundant, however,

it can be grown where the annual rainfall is as low as 500 mm. If moisture availability is low, the crop will cease growth and shed some older leaves, reducing the transpiration surface. Cassava responds well to supplementary irrigation.

Soil

At present most production is on deep, sandy soils, although it has been noted that on the better red sands such as the Hutton, Joubertina and Clansthal series cassava grows much better than on the very white Fernwood series. Cassava should preferably not be planted on soils that contain more than 20 % clay, or are gravelly or stony. Ideally, soils should be well drained with at least an effective rooting depth of 0,50 m. Planting on ridges can be a method to increase the effective rooting depth. Cassava will grow ideally in a pH range of 4,5 to 7,0.

Cultural practices

Propagation

Cassava is mainly propagated by means of stem cuttings.

Fertilisation

As an efficient soil nutrient miner, cassava removes large quantities of N, P, K and Mg. It is always advisable to conduct soil tests and apply fertiliser according to recommended rates. Also note that high nitrogen levels produce high levels of glucosides.

Rotation

Cassava occupies the field for 1½ growing seasons, so it is usually intercropped with cereals. Cassava should not be planted after a legume as high nitrogen levels produce high levels of glucosides (compounds giving glucose and other products).