

cultivation is only recommended in weed-free zones around the plantation because it may damage shallow feeding roots.

### *Pest and disease control*

The various pests and diseases require different treatments.

Ensure that suckers intended for planting new fields are free from the pest. Remove all soil from the sucker and part the corm to remove all roots and discoloured portions. Plants that are infected in the field can be given an insecticidal treatment.



# BANANAS

(*Musa acuminata*)



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## Background

### Origin

Banana and plantain are native to Southeast Asia, where they have been cultivated for thousands of years. Bananas are believed to have been introduced to Africa in prehistoric times. Recent evidence suggests bananas were introduced into the New World (Ecuador) by Southeast Asians around 200 B.C., and more recently by Portuguese and Spanish explorers in the early 16th century. The Portuguese introduced bananas into the Canary Islands and the Spanish into the Island of Hispaniola during the 1500s.

### Climatic and soil requirements

Bananas require a warm, humid, frost-free climate with optimum temperatures between 22 and 31 °C. The plants flourish under uniformly warm to hot conditions. Shoot growth is best between 26 and 28 °C and fruit growth at 29 to 30 °C. Plant growth slows below 16 °C and stops at 10 °C. Temperatures below -2 °C may kill plants to ground level. However, new growth usually sprouts from the underground rhizome with the return of warm weather. Temperatures at or above 37 °C may result in leaf scorch and emerging new leaves may have very narrow blades.

Bananas do best on flat (slope 0–1 %), well-drained, deep soils high in organic matter with a pH of 5,5 to 7,0.

### Uses

Bananas are eaten fresh and used in salads, deserts, breads and candy. Banana plants may also serve as ornamental plants in the home landscape.. Throughout the tropics and subtropics bananas and plantains are of importance as a dietary source of energy. In other parts of Africa, bananas are a staple food, with an average *per capita* consumption exceed-

ing 100 kg/year in certain areas. It also has a low fat content and is therefore suitable in low-fat diets. The fruit is rich in minerals and vitamins and, because of a particularly high potassium and low sodium content, is a good dietary component for people suffering from high blood pressure.

### Cultural practices

#### Planting

A 200–300 mm deep planting furrow should be drawn, planting positions marked out, holes dug at the bottom of the furrow and soil pre-irrigated to field capacity. Medium in the bags must be wetted before bringing plants to the field. Detriment Plants are brought to the field in the early morning (summer planting). Each plant must be placed upright in the hole (never on its side). Plastic bag is cut away without disturbing the roots and the rootball placed immediately in the bottom of the hole. After planting the surface of the potting medium should be 50–100 mm below the bottom of the furrow (about 300 mm below surrounding soil level). Topsoil is packed around the rootball. About 100 mm of the pseudostem is covered with soil, which is lightly compressed around the plant.

Plant spacing in cool areas at 1 666 plants/ha should be as follows:

- 3 x 2 m if highest gross margin is required.
- 5 x 3 x 1,5 m if mild tramline is preferred.
- 6 x 2 x 1,5 m if maximum accessibility and fruit quality is required.

Plant spacing in hot areas at 2 222 plants/ha should be as follows:

- 3 x 1,5 m if wider rows required for accessibility.
- 2,5 x 1,8 m if narrower rows required for climatic protection.

### Fertilisation

Fertilisation should be based on soil analysis. Generally, 40 g LAN (28) per plant every month from September to April and 200 g KCl per plant in September, November and February should be applied. The use of organic matter is very advantageous, especially for tissue culture plants, and, if available, 15 to 20 t/ha kraal manure should be incorporated in the soil.

### Irrigation

An evenly distributed rainfall of 100 mm per month is the minimum requirement for bananas. Most production areas in SA would fall short of this requirement in at least 7 months of the year, therefore it is important to plan for irrigation.

### Weed control

Establishing a good weed control programme from the outset is very important and this can be best accomplished by a combination of hand hoeing, mowing, mulching and using herbicides. Mechanical

