

## Croton megalocarpus

musine

### LOCAL NAMES

English (croton); Luganda (nkulumire, mbula); Swahili (msenefu); Trade name (musine)

### BOTANIC DESCRIPTION

*Croton megalocarpus* grows to 15-35 m; it has distinctive layering of branches and a rather flat crown. Bark dark grey, rough, and crackling. Hardy and fast growing.

Leaves variable, long, oval and pointed to about 12 cm. The dull green upper surface contrasts with the pale, silvery underside.

Flowers conspicuous but very short-lived; yellow white, inserted in many-flowered, silver-budded racemes, up to 30 cm long; a few female flowers towards the base, the remainder male.

Fruit turns from green to greyish-brown as it matures. Endocarp hard and woody. Each fruit contains 3 ellipsoid-ovoid or oblong-ellipsoid seeds, 2.2-2.4 cm long and 1.2-1.4 cm wide. Seeds white when immature, grey-brown when mature, with a minute caruncle.

The generic name 'Croton' is based on the Greek word for 'tick', because of the appearance of the seed. The specific epithet means large-fruited.

### BIOLOGY

After pollination by insects, fruit development takes 5 months and mature fruits can be collected from the ground. In Kenya, seeds mature during October-November in central regions, and from January to March in western regions. *C. megalocarpus* is monoecious, occasionally dioecious.

Hutch.

Euphorbiaceae



Croton tree: A 15-year-old *C. megalocarpus* tree at a site in Bondo District, western Kenya. The tree is approximately 12 m tall and 15 cm in diameter. Note the clear arrangement of branches in the canopy to form a mosaic. (Phanuel O. Oballa)



Trunk of Croton tree: Trunk of a 10-year-old *C. megalocarpus* tree in Muguga 25 km NW of Nairobi, Kenya. The bark is pale grey and starting to show longitudinally fissured lines. (Phanuel O. Oballa)



Branch form: A fruiting tree clearly showing pendulous branches at the same site in Bondo district. (Phanuel O. Oballa)

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## ECOLOGY

*C. megalocarpus* is a pioneer species and it is found growing in cleared parts of natural forests, forest margins or as a canopy tree.

## BIOPHYSICAL LIMITS

Altitude: 1 200-2 450 m

Mean annual temperature: 11-26 deg. C

Mean annual rainfall: 800-1 900 mm

## DOCUMENTED SPECIES DISTRIBUTION

Native: Burundi, Democratic Republic of Congo, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda

Exotic:



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

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### PRODUCTS

**Fodder:** The seed is incorporated in poultry feeds, as its protein content is high (50%).

**Fuel:** Well-dried nuts are reportedly used in some areas together with charcoal in cooking stoves. The tree is also utilized for firewood.

**Apiculture:** This species produces a dark-ambered honey with strong flavour.

**Timber:** Wood is of medium weight, hard, termite-resistant, strong; it is used for timber and building poles.

**Medicine:** Seed contains up to 32% oils, which have been used favourably as medicine. Bark decoction is used as a remedy for worms and whooping cough.

### SERVICES

**Shade or shelter:** *C. megalocarpus* forms a flat crown and has horizontal layers of branches, which make it useful in providing light shade and serving as a windbreak.

**Soil improver:** Leaves have high levels of nitrogen and phosphorus and serve as a source of mulch, for instance, in coffee plantations.

**Ornamental:** Its conspicuous flowers make it suitable as an ornamental.

**Boundary or barrier or support:** As the species is not browsed by livestock, it is often used as a live hedge.

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### **TREE MANAGEMENT**

The species regenerates well through seedlings, and under favourable climatic conditions may sometimes become invasive.

Young trees coppice well after pruning, but fruiting is unlikely with intensive pruning, such as in hedgerow management.

In agroforestry systems, it is sometimes managed as scattered trees in farmland because of its open canopy and usefulness for mulching.

### **GERMPLASM MANAGEMENT**

The seeds are extracted from the shell by cracking with a hammer or a stone. On average there are 1700 seeds/kg. The seeds are dried in the sun to approximately 5-9% moisture content and thereafter can be stored up to 1 year at 3°C. After sowing, the seeds germinate within 35-45 days, attaining germination rates of 95% without any pretreatment.

### **PESTS AND DISEASES**

The tree is reported have been damaged by Ambrosia beetles in areas between 1300 to 2100 m in Kenya. Other insect pests recorded include Scolytidae.

**FURTHER READING**

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**SUGGESTED CITATION**

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