

stable and, when it begins to dry, the plants are ready for the corms to be harvested.

Uses

The mature corms and young shoots of Amadumbe are mostly used as boiled vegetables, but the corms are also roasted, baked, or fried. Roasted or boiled corms can be eaten alone or with stew. The boiled corms are mashed and used as weaning diet. Mature edible aroids are also processed into flour, which is used to prepare “fufu” that is commonly eaten in Nigeria with stew. Amadumbe corms are very rich in starch and they are a good of dietary fibre.

Acknowledgement

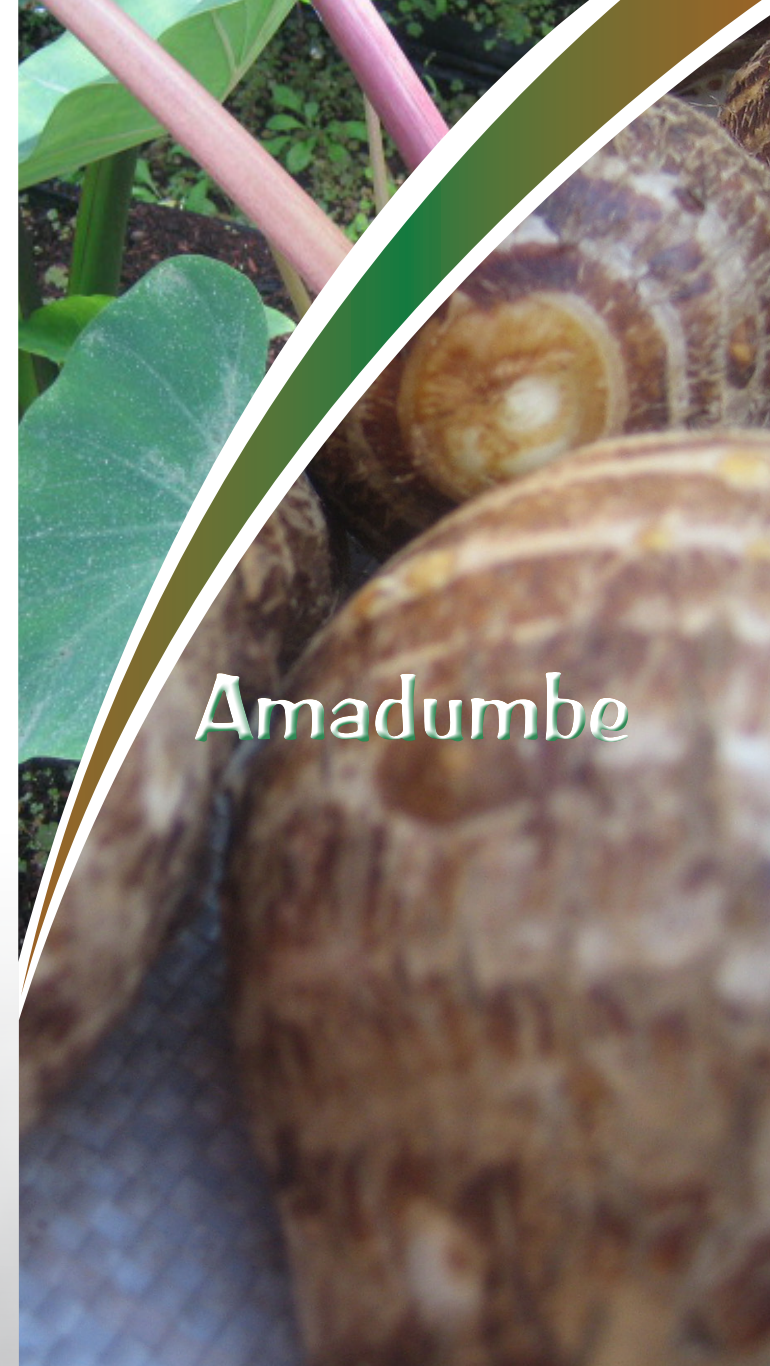
ARC–Institutes for Vegetables and Ornamental plants for their valuable information.

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Amadumbe



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Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Amadumbe

Scientific name: *Colocasia esculenta*

Common names (including names used by different communities in South Africa):

Amadumbe, Amadombie, Amadombi, Mufhongwe

Origin and Distribution

This “potato of the tropics”, Amadumbe (*Colocasia esculenta*) is found all over the world in subtropical regions cooked much like a yam. Amadumbe, originated in Oceania and South East Asia, and the tannia, yautia or new Amadumbe (*Xanthosoma sagittifolium*) from American tropics. It was spread by human settlers eastward to New Guinea and the Pacific over 2000 years ago, where it became one of the most important food plants economically and culturally. It is believed that amadumbe has been cultivated for over 6000 years.

Production areas in South Africa

KwaZulu-Natal

Mpumalanga

Western Cape

Description

The amadumbe, is a wetland herbaceous perennial plant, up to 2 m in height.

Roots/corms

Amadumbe is a tubular root or corm. The corm is shaped like a top with rough ridges, lumps and spindly roots. It usually weighs around 0,5, to 0,9 kg, but occasionally as much as 3,6 kg. The skin is brown and the flesh is white or pink. Certain kinds of amadumbes produce smaller tubers called eddos, which grow off the sides of the main corm. The eddos are usually around 2 to 4 g.

Stem

The stem consists mainly of leaves, which arise in a whorl from the apex of the corm. The terminal bud remains very close to this apex.

Leaves

It produces heart-shaped leaves which are 0,6 to 0,9 m long and 0,6 to 0,9 m across on 0,9 m long petioles that all emanate from an upright tuberous rootstock, technically a corm. The petioles are thick, succulent and purplish.

FLOWER

Inflorescences sprout between the leaves in a spadix, with a white 12 to 15 cm spathe which closes at its base in the form of a spherical chamber and opens at the top into a concave lamina; the spadix is cylindrical, slightly longer than the spathe, with female flowers on the lower portion, male flowers on the upper portion and sterile flowers in the middle portion. The spadices are rarely fertile and produce few viable seeds.

Climatic and Soil Requirements

TEMPERATURE

Amadumbe requires an optimum temperature of between 13 and 30 °C. It prefers warm conditions because it does not withstand freezing.

WATER

Amadumbe can tolerate high rainfall areas, provided there is good drainage, but does not tolerate waterlogging. Optimum rainfall of 1 400 to 2 000 mm is required for the growing season.

Soil

It grows best in moist, heavy, well-aerated soils and with a good moisture-holding capacity. A pH of 5,5 to 7,8 is required. High yields can be obtained with a pH as low as 4,8. Amadumbe grows in a slightly acidic, moist or wet soil, rich in organic matter.

Cultivation Practices

PROPAGATION

Amadumbe is propagated from whole tubers or cuttings from corms.

Soil preparation

After the land is cleared, the field is plowed, followed by harrowing or rotovation at 5 to 7-day intervals. Heaps or ridges can be made at 1 m x 1 m apart.

Field layout and planting

The planting distance is 1,3 m between rows and 40 to 50 cm between plants. In small plantations, planting can be done in mounds spaced at 1 x 1 or 1.3 x 1.3 m. Plant on the crest of the heaps or ridges at 1 m apart on the rows.

Planting is either by hand or from a tractor-drawn planter. Plant 15 to 20 cm deep. Planting time is between December and April, but plantings can be made any time during the year if moisture is adequate.

Fertilisation

Apply NPK. 15:15:15 at 5 to 6 Coke bottle capfuls in a ring about 10 cm around the plant. The applications are made at 2, 5 and 7 months after planting. The initial fertiliser application should include 1,5 % Mg, 1 % Mn, and 0,1 % Zn.

Irrigation

Irrigate at least 15mm 3 times, a week with an overhead sprinkler. Drip can work as well.

Weed control

Weeds should be controlled mechanically or chemically for the first 3 months after planting. Soil is moved up around the plant to control weeds and to enhance underground storage organ size. Weeding must be done at least 3 times per season.

Disease control

Root rot or “leaf-burning disease” is the most serious disease believed to be caused by a complex of pathogens involving *Pythium myriotylum* and *Corticium rolfsii*. Corm and root rots can be avoided by planting in well-drained soils. Tannia (dynastid beetle, *Ligyrus eburnus*), can be controlled by using malathion. Dasheen mosaic virus can be controlled by using virus-free seed stock. Fungi can be controlled by uprooting the affected plants, and then burying or burning these.

Harvesting

Most Amadumbe varieties mature in about 8 to 10 months from planting. During the first 6 months the corms and leaves develop; in the last 4 months, the foliage remains