PLANT FACT SHEET

Xanthosoma sagittifolium (L.) Schott

GENUS *Xanthosoma* **FAMILY** Araceae

COMMON NAMES Chinese taro, Cocoyam, Tannia, West Indian kale

EDIBLE PARTS AND USES

Edible parts: Tubers, Root, Leaves, Vegetable, Stem

Cormels are eaten roasted or boiled.
Main corms are often fed to pigs.
Young leaves can be eaten after cooking.
The leaf stalks are cooked as a vegetable and also used in chutney.

DESCRIPTION

A herb up to 2 m tall. It has a short stem. At the top of the stem it produces large leaves. A corm is produced at the base of the plant. It produces about 10 cormels on the underground corm. These are about 15-25 cm long and flask shaped. The get wider towards the tip. Leaves are large and the stalk joins to the edge of the leaf. The leaves stand erect on stout petioles. There is a vein around the edge of the leaf. The leaf stalks can be 1 m long. The leaf blade is oval and 50-75 cm long. The leaf has triangular lobes at the bottom. The flower is produced below the leaves. The large bract around the flower is pale green and about 20 cm long. The bases of this overlap. The closely arranged spike of flowers is about 15 cm long. The smaller female section is at the bottom and the male section is larger and towards the top. There is a variety with blue on the stalks and leaves that was called Xanthosoma violaceum.
X. mafaffa. The leaves are broad and spearhead shape. They are 60-130 cm long. There is a gap in the leaf blade on either side where the stalk joins which helps distinguish it from Xanthosoma sagittifolium. The edges of the leaves are wavy and they can have bluish or white veins. The flowers are of one sex. The spadix is taller than the spathe. The spathe is white and a vase shape. It is constricted below. It is 25 cm tall.

HABITAT

A tropical plant. It suits tropical rainforest regions. It grows well in hot, humid tropical areas. It can stand high rainfall. It can tolerate light shade. It does well in regions with an annual average temperature of 26°C. It grows from sea level up to about 2000 m. Soils need to be well drained but should be moist. It needs a well distributed rainfall of 1,400-2,100 mm during the growing season. It does not do well in atoll soils. The best pH if 5.5-6.8.

PRODUCTION

Cultivation

Xanthosoma taro is normally planted by using the top piece of the main central corm or stem. Pieces weighing 1.5 kg are often used. It can also be grown by using the small side corms which may weigh 0.3 kg; or pieces of the corm can be used as long as they have some buds on them. These are often presprouted before planting. To multiply large amounts of planting material and still achieve acceptable yields, the latter method of using sections of the main corm works well. In crop growth, an axillary bud is produced in the axil of each leaf but only some of these develop into cormels. Often 10 or more cormels develop per plant into cormels 15-25 cm long.

The crop duration is about 9 months although crops are often left for 12 months before harvesting. Plants are often planted to make the maximum benefit of natural rainfall. It has been recorded that plants increase in total dry matter production for 6 months then the percentage of dry matter in corm and cormels continues to increase while overall dry matter reduces. This effect may be due to lower rainfall near maturity.

They can be planted at any time of the year but in dry areas the middle of the dry season should be avoided. Plants are spaced at varying distances but there is often about 0.9m x 1.5m between plants. A closer spacing of 0.5 m x 0.6 m producing a plant density of 36,800 plants per hectare has given high yields, but variations with rainfall regime and other growth conditions undoubetdly alter this. Closer spacing increases planting requirements but reduces weeding requirements.

Soil compaction reduces yields drastically. It reduces plant size as well as the shape and number of cormels. Therefore either naturally lose soils from forest fallow or well cultivated soils are needed. The free water table must be at least 45cm below the soil surface for satisfactory yields.

Xanthosoma taro grows better in good soils especially ones with plenty of nitrogen. But is can be grown in relatively poor soils and still give a satisfactory amount of food. It is best suited to alluvial soils with a well distributed rainfall. It is tolerant of shade and is therefore used in intercropping under cacao and coconuts. In such conditions yields are reduced but still satisfactory.

Plants deficient in nitrogen give stunted growth, small pale green leaves with short leaf stalks. Potassium produces dead edges around the margin of the leaf. Magnesium gives a bright orange colour between the veins.

Sometimes a crop of corms can be harvested after 7 or 8 months but often plants take up to one year to grow a good crop. Where plants are on hillsides the corms are often harvested without actually digging out the whole plant. The soil is carefully dug away from the plant and the small corms are broken off the parent plant. The main stem is then covered to produce a new crop.

Weed control is important and it is possible to use herbicides in this regard.

The corms will store reasonably well under dry cool well ventilated conditions. The corms will also remain in good condition if they are left growing in the ground and just harvested when needed.

Harvesting and Seed Production

Harvesting occurs after about 9 months. Cormels can be removed without moving the mother plant. Corms can be stored for a few weeks. They can be stored for 8 weeks at 7°C with a relative humidity of 80%.

NOTES

There are 57 Xanthosoma species.

PICTURES



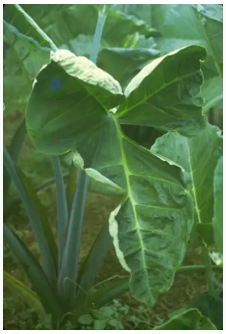
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