PLANT FACT SHEET

Saccharum officinarum L.

GENUS *Saccharum* **FAMILY** Poaceae

COMMON NAMES Sugarcane

EDIBLE PARTS AND USES

Edible parts: Sap, Shoots, Flowers

The stems are chewed.
The flowers can be cooked and eaten before the flower opens.
The stems are the source of cane sugar. This is used as a sweetener in many foods and drinks.

DESCRIPTION

A tall thick stemmed clumpy grass. It has many nodes. It grows 1-6 m tall. It spreads 100 cm wide. A large number of different cultivated varieties occur. The leaves are long and narrow. They taper to the tip. They are rigid and droop at the tip. The cane varies in thickness, length of nodes, colour etc. The stalks have distinct nodes and the bottom of the leaf is wrapped in a sheath around the stalk. The flower is brownish. It is surrounded by dense silky white hairs.

HABITAT

It is a tropical plant. It occurs throughout the country of Papua New Guinea up to 2,750 m above sea level. It needs a temperature over 21°C for sprouting. It is frost sensitive. In Nepal it grows up to about 1400 m altitude. It suits hardiness zones 9-12. In Sichuan and Yunnan.

PRODUCTION

Cultivation

Plants are mostly grown from tops of canes. They can be grown from sections of the stalk or division of the root stock. It requires a good fertility and good rainfall. Plants can be ratooned or cut back if the soil fertility is high. Tall cultivars need staking.

Harvesting and Seed Production

Plants mostly take 14-18 months until they are ready for harvest.

Planting instructions

Sugarcane

Scientific name: Saccharum officinarum

Sugarcane.

Most scientists consider that Papua New Guinea is the original home of sugarcane. It is one of the major centres in the world for sugarcane varieties. Several hundred varieties have been collected and used as the basis for the sugarcane crops in most countries of the world.

Sugarcane in subsistence is one of the commonest and most widely used of the food plants of Papua New Guinea.

The preferred varieties for chewing are normally very tall growing (up to 5m) and thick (5-6cm across). These large canes are also important in ceremonial exchanges.

The plant.

This coarse erect grass is a rapidly growing clump forming grass. The leaves clasp the stem then bend out with leaf blades up to 1.3m long and 10cm wide. At the top in many varieties a large open flower is produced.

A very large number of varieties occur. These not only vary in their height and thickness, but also in colour, length of internodes, toughness of the stem and in many other ways. Many of the stripes and colour patterns on the stems are just surface changes and sometimes not really good guides to how different the canes really are.

There are also important variations between varieties in how effectively they convert sunlight to sugar, some varieties are better suited to different temperatures and others can produce in poorer soils. Some can tolerate drought and withstand salty soils. This means particular varieties are selected for different regions of the country. Some varieties occur in most areas around the country while other kinds are just localised in certain villages.

There are also important differences in disease and pest resistance between varieties.

The large number of varieties has been able to develop because in the tropics sugarcane can both flower and produce seed which will grow.

Growing sugarcane.

Within subsistence agriculture, by far the most common method of planting sugarcane is to use the top of the cane. As buds quickly develop and grow from the nodes of the cane, sections of the cane could be used, but in gardens the canes are normally used for chewing and the tops planted.

Plants can be ready in 9-10 months but often are left to grow for 2 years or longer.

Although in good soils plants can be cut back and allowed to regrow many times, this is not normally used in Papua New Guinea.

Tall canes have supporting poles to which they are tied to prevent them falling over and breaking.

Sugarcane can make very efficient use of sunlight and the wide spacing used with intercropping in subsistence gardens probably helps its growth.

Where is sugarcane grown?

Sugarcane grows in most areas of Papua New Guinea. Sugarcane grown in the highlands grows more slowly but is sweeter. Therefore sugarcane is a more important part of gardening and of the diet at altitudes over 1000m. In many
highland gardens sweet potato and sugarcane are the two main crops grown.

For most rapid growth sugarcane needs a temperature between 32o - 38oC. These conditions occur on the coast. The average temperature for sugarcane needs to be about 21oC.

For sugarcane to become sweet and store lots of sugarcane it needs to have a check to its growth. This can be provided by cool temperatures or by drought. That is why commercial sugarcane is being established in the Markhum Valley where there is a seasonal dry period.

Varieties differ in how they respond to drought. Some can reduce water loss while others let leaves dry off and die then reestablish new leaves quickly when it rains again.

Pests and diesease.

Many different diseases, insects and other pests like rats have been recorded damaging sugarcane in Papua New Guinea. Often the same diseases and insects also damage other grasses similar to sugarcane and damage coastal pitpit.

NOTES

It is used as a sweetener.

PICTURES



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



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