PLANT FACT SHEET

Ipomoea aquatica Forsk.

GENUS *Ipomoea* **FAMILY** Convolvulaceae

COMMON NAMES Kangkong, Water spinach

EDIBLE PARTS AND USES

Edible parts: Leaves, Vegetable, Stems, Fruit, Roots

The young tips are cooked and eaten. They can be boiled, steamed, stir-fried, or added to soups, stews or curries. The young stems can be used in pickles. The young tips can be eaten raw in salads.
The roots are occasionally cooked and eaten.
The harvested leaves can be stored for 4-5 days.
The fruit are fried and eaten.

DESCRIPTION

Kangkong is a creeping sweet potato like plant. It has hollow stems and can float on water. The leaves are green and are normally not divided like some sweet potato leaves, but the shape and size varies a little between different kinds. The trumpet shaped flower looks like a sweet potato flower and is normally white. The runners develop roots at the nodes and also branch. This branching increases when tips are picked off. Some variation in leaf shape can be observed. Leaf shape is less variable than in the related sweet potato, but narrow and broad leafed kinds occur. White and green stemmed kinds occur. Green stemmed kinds have more cold tolerance than white stemmed.

HABITAT

A tropical plant. It grows best in short day stable high temperature, moist conditions. Temperatures need to be above 25°C for satisfactory growth. In equatorial region plants probably grow up to 1000m altitude. Below 23°C the growth rate is too slow for economic production. So production is mainly in the lowland tropics. Optimum pH is between 5.3-6.0. It suits damp places and grows well in swamps. It can grow as a partly floating plant in swamps and lagoons behind the beach along the coast. It grows in wetlands. Kangkong is grown in a number of other tropical countries including Malaysia, Indonesia, Egypt, Fiji and especially Hong Kong and Taiwan. In some of these countries they grow the dry land form in gardens. In Nepal it grows up to 500 m altitude. In Zimbabwe it grows up to 1,500 m above sea level. In Yunnan.

PRODUCTION

Cultivation

Dryland kangkong is normally grown from seed. Sometimes seed are pre-soaked for 12-24 hours prior to sowing. Plants can also be grown from cuttings and establishment is rapid. Top cuttings 25-40 cm long can be planted beside a pond.

Harvesting and Seed Production

Young tips can be taken 30 days after planting, and subsequent harvests every 7 to 10 days. Production of new shoots probably declines at flowering. Yields up to 60,000 kg/ha have been recorded in other countries.

Planting instructions

Kangkong

Scientific name: Ipomoea aquatica

What is the kangkong plant like?

Kangkong is a creeping sweet potato like plant. It has hollow stems and can float on water.

The leaves are green and are normally not divided like some sweet potato leaves, but the shape and size varies a lttle between different kinds.

The trumpet shaped flower looks like a sweet potato flower and is normally white.

The runners develop roots at the nodes and also branch. This branching increases when tips are picked off.

Names.

Sometimes this plant is called water spinach in English. But more commonly the name kangkong is used. Kangkong is the name used in Tok Pisin and is also the same in Malaysian and Indonesian.

It was given the scientific name Ipomoea aquatica by a man called Forskal in the year 1775. Sometimes other scientific names like Ipomoea reptans and Ipomoea repens are also used for the same plant. The first name is the correct one. Two different varieties of kangkong occur. One floats on water and is grown from cuttings and the other grows on dry land and is grown from seeds.

Where is kangkong grown?

In Papua New Guinea kangkong is a coastal plant and probably only grows satisfactorily up to about 1000 metres. It suits damp places and grows well in swamps. It can grow as a partly floating plant in swamps and lagoons behind the beach along the coast.

Kangkong is grown in a number of other tropical countries including Malaysia, Indonesia, Egypt, Fiji and espceially Hong Kong and Taiwan. In some of these countries they grow the dry land form in gardens.

NOTES

There are about 500 Ipomoea species. Chemical composition: Protein (crude) = 14.2% (dry). Fat = 2.4% (dry). Fibre (crude) = 9.3% (dry). Ash = 18.6% (dry). Carbohydrate (soluble): Starch = 39.2% (dry). Sucrose = 1.9% (dry). D-glucose = 2.1% (dry). F-fructose = 2.6% (dry). Amino acids (g [16g N]-1): Asparic acid = 11.5g. Threonine = 4.0g. Serine = 3.9g. Glutamic acid = 12.3g. Proline = 3.3g. Glycine = 4.3g. Alanine = 5.3g. Valine = 5.2g. Cysteine = 0.8g. Methionine = 1.3g. Isoleucine = 3.9g. Leucine = 6.6g. Tyrosine = 3.2g. Phenylalanine = 4.6g. Lysine = 4.9g. Histidine = 1.8g. Arginine = 4.6g. Minerals: Sulphur = 0.29% (dry). Potassium = 0.19% (dry). Magnesium = 0.48% (dry). Calcium = 2.14% (dry). Na = 0.20% (dry). K = 2.83% (dry). Zinc = 30 mg/kg-1 (dry). Iron = 3080 mg/kg-1 (dry). Manganese = 325 mg/kg-1 (dry). Copper = 11 mg/kg-1 (dry).

It has 2.6 mg per 100 g dry weight and 1.4 mg fresh weight of alpha-tocopherol (Vitamin E).

Ipomoea aquatica Forskal.
What was originally classed as two species Ipomoea aquatica and Ipomoea reptans (Syn. I repens) is now considered as botanical varieties. Ipomoea aquatica var. aquatica is the kind most commonly occurring in Papua New Guinea either as an aquatic or semi aquatic floating herb grown from cuttings. Ipomoea aquatica var. repens is similar in form but grown from seeds and often in dry land sites. This form is more common in

Indonesia and Malaysia and may occur in Papua New Guinea. The common name kangkong is used in Indonesian and Malaysian as well as in Tok Pisin. Taiwan and Hong Kong are the main centres of cultivation of this vegetable. Some variation in leaf shape can be observed. Leaf shape is less variable than in the related sweet potato, but narrow and broad leafed kinds occur. White and green stemmed kinds occur. Green stemmed kinds have more cold tolerance than white stemmed.

Production:- Plant establishment from cuttings is rapid. Cuttings can be harvested 30 days after planting and subsequent harvests made every 7 to 10 days. Production of new shoots probably declines at flowering. Plants are spread by people, but once established in a swamp or pond receive little attention except for harvesting. The temperature needs to be above 25°C for satisfactory growth. Plants in Papua New Guinea grow from sea level to about 1000m altitude.

PICTURES



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)



Credit: Food Plants International (Bruce French)

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