HORTICULTURE NOTE: NO. 1

CAPSICUMS

By P.B. Bull,* Senior Horticulturist, D.P.I., Laloki

Common name: Capsicum, pepper. (Pungent or hot types are known as chilli or cayenne)

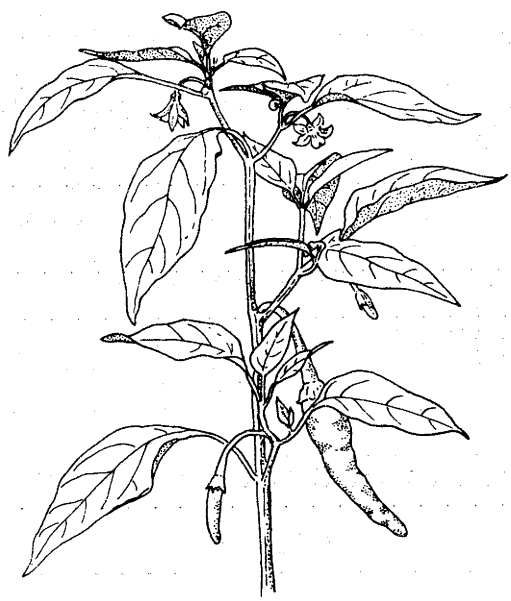
Botanical name: *Capsicum annuum*

WHAT THE PLANT LOOKS LIKE

Capsicum is an annual plant which grows from 30 to 90 cm tall. The stem is woody at the base. The leaves are oval and dark green in colour. Single small white flowers develop at the stem branches.

The fruits vary in size, shape, pungency (how hot they are) and colour. There are two main shapes - bell and long. All the bell varieties grown in Papua New Guinea are sweet. They can be picked and used either green (immature) or red (mature). Most of the long varieties have pungent (hot) fruit that are used in cooking for flavouring. They can be picked and used either green or red.

Sweet, bell-shaped capsicum



Long, pungent capsicum

WHERE IT GROWS

Capsicums are native to tropical Central and South America.

The pungent varieties grow best at day temperatures between 24 and 30°C. So these varieties grow best in lowland Papua New Guinea.

The sweet capsicums grow best with day temperatures 21 to 25°C. This type will grow in

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both the lowlands and highlands, although growth is slow at altitudes above 2100 m. The plant is damaged by frost.

SOILS AND FERTILIZERS

Capsicums grow best in well-drained soils, which have a high content of organic matter. The soil should be at least 70 cm deep with a pH of between 5 and 7. Growing on raised ridges improves drainage.

Nitrogen is necessary for good plant growth while potassium is needed for good fruit quality. Bell capsicums sometimes get sunburn followed by fruit rot. This can be prevented by regular applications of nitrogen to make the leaves grow well, and shade the fruit.

Use 200 kg/ha of 12.12.18 fertilizer spread along each ridge. before transplanting. Four weeks after transplanting side-dress with up to 50 kg/ha of urea, or with 200 kg/ha 12.12. 18 fertilizer.

VARIETIES

For both the lowlands and the highlands:

Sweet bell capsicums
1. California Wonder
2. Yolo Wonder

Long pungent capsicums
1. Ilimo (seed is available from D.P.I., Laloki)

HOW IT IS GROWN

Seed

To plant 0.1 ha with capsicums you need about 18 g of seed. (approximately 3600 seeds). Seed is available from shops, or you can easily save your own from mature fruits of good plants. There is an article on producing and saving seed in HARVEST, Vol. 9, No. 1, pp. 1-4.

Sowing

Seed can be sown into 'Jiffy 7's', plastic cups or trays. Sow two seeds per hole and thin to one after 7 to 10 days.

Transplanting

Young seedlings grow slowly at first. They will be ready for transplanting 4-5 weeks after sowing when they are 10-15 cm tall. Seed sowing, nursery care and transplanting are described in Farming Note No. 10, *Introduced Vegetables*.

Plant spacing

Prepare ridges 1.2 to 1.3 m apart before transplanting. Plant a single row of plants 0.5 m apart, along each ridge.

Irrigation

In dry areas or seasons, the crop should be irrigated every three days for the first two weeks after transplanting. After that, irrigation (either flood or sprinkler) is needed only weekly.

Weeding

The crop should be kept from of weeds, by hoeing between the plants and between the rows.

TIME TO MATURITY

From transplanting, capsicums take from 6 to 12 weeks until fruit are ready for harvest. Most of the crop will be harvested over 6-8 weeks in the lowlands, but longer in the highlands. To grow capsicums for supplying the market all the time, a new crop should be sown every two months in the lowlands, or every three months in the highlands.

HARVESTING AND STORAGE

The fruit should be fully developed and shiny dark red or green, before they are picked. Immature fruit do not store well after harvest. Mature fruit stored between 7 and 10°C and at high humidity will keep for 8 to 10 days.

HOW IT IS USED

Capsicums are rich in Vitamins A and C. They contain iron and other minerals as well. They are a protective food.

Sweet capsicums are often eaten raw, but they can also be used cooked, in meat stews. The pungent types are used in small quantities as a spice in cooking. Capsicum leaves can be cooked and eaten.

INSECT PESTS

Heliothis caterpillars *(Heliothis armiger)* occasionally damage capsicum fruit. Inspect the crop regularly and spray with Orthene (13 ml per 10 litres of water) as necessary.

TAKE CARE: Do not harvest the capsicums for 3 days after spraying.

Others insecticides which can be used are listed in *Recommendations for the Control of Pests, 1983.*

DISEASES

Capsicums are susceptible to bacterial wilt, but are less often infected than tomatoes. No resistant varieties are available.

Collar rot, caused by *Sclerotium rolfsii* is the most common disease of capsicums. It causes the plants to wilt and die. The disease is usually more serious in older crops that have produced most of their fruit. The best means of control is planting crops on new ground. If the disease kills a lot of plants, plough in the old crop and plant a new one on clean ground. Do not plant tomato, eggplant or peanut on the infected ground as these crops are also susceptible. (See Plant Pathology Note, No.3).

Several virus diseases, which cause crinkling or yellowing of the leaves occur sometimes. These diseases cannot be controlled.

FURTHER READING

Anon. (1980). Collar rot. Plant Pathology Note No. 3. *Harvest* 6(2): 94-95.

Farming Note No. 10. *Introduced Vegetables.* Department of Primary Industry, Port Moresby. Revised 1983.

Thistleton, B.M. (1983). *Recommendations for the Control of Pests.* Technical Report 83/4. Department of Primary Industry.

For full details about how to grow birdseye chillies *(Capsicum frutescens)*, refer to:

Farming Note No. 17 *Chillies* Department of Primary Industry, Port Moresby, 1977

Rural Development Series Handbook No. 6. *Chillies.* Department of Primary Industry, Port Moresby, 1977.

FURTHER INFORMATION

For further information and advice on vegetable growing contact the Area Horticulturist in your region. The regions and addresses for the Area Horticulturists are as follows:

New Guinea Islands Region
(North Solomons, New Ireland, East New Britain, West New Britain and Manus Provinces)

Lowlands Agricultural Experiment Station, P.O. Keravat
East New Britain Province
Tel: 926251 or 926252

Momase Region
(Morobe, Madang, East Sepik and West Sepik Provinces)

Bubia Agriculture Research Centre,
P.O. Box 73, LAE
Tel: 424933

Papua Region
(Milne Bay, Northern, Central, Gulf and Western Provinces)

D.P.I. Laloki
P.O. Box 417, KONEDOBU
Tel: 281068

Highlands Region
(Eastern Highlands, Western Highlands, Southern Highlands, Simbu and Enga Provinces)

Kuk Agricultural Research Station, P.O. Box 339
MOUNT HAGEN
Tel: 551377

Copies of this Horticulture Note can be obtained from:
The Publications Officer,
Publications Section, D.P.I.,
P.O. Box 417, KONEDOBU.