Ministry of Food Production, Land and Marine Affairs



Extension Training and Information Services Division

Home Gardening Series

HG/TT:Ag Ext 98:16

HOW TO GROW PAK-CHOI

INTRODUCTION

Pak-choi; (*Brassica rapa subsp chinensis)* belongs to the family Cruciferae. Other members of this family include cabbage, cauliflower, broccoli and others.
Pak-choi is eaten either cooked or raw. It contains carbohydrate, protein, fat, dietary fibre, vitamin C and sodium.
Just a few plants planted weekly will provide a constant supply of this vegetable for the household.

VARIETIES OF PAK-CHOI

Some of the varieties grown are Joi Choi, Gracious and Pak Choy White.

SOIL PREPARATION

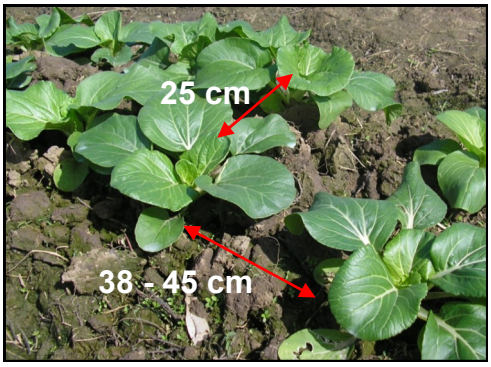
The soil should be well tilled and sufficiently drained but must allow for good water retention. This is because pak-choi requires a plentiful and uniform supply of clean water. To prepare the soil for planting, till the soil with a garden fork. Form beds if needed; about 1 m (3 ft) wide.
Pak-choi responds well to organic manure and does not tolerate acid soils. Mix one handful of well-rotted manure in the soil and incorporate 5 g (1 tsp) of hydrated agricultural lime in each planting hole.

PLANTING

In a home garden situation, plants may also be planted in containers. See factsheet on "Container Planting" Pak-choi may also be intercropped with herbs and other vegetables.
Pak-choi seeds germinate in 1-2 days and is ready for transplanting in about 10–14 days after germination.

If producing your own seedlings, see the factsheet "Producing Seedlings for the Home Garden". If purchasing seedlings, select healthy seedlings, making sure they are not too old. A healthy seedling is characterized by

- A shoot: root ratio of about 2:1.
- Having about 3–4 leaves and the outer leaves should be at least 5cm (2 in).
- White roots



When several plants are planted in the same area, plants should be placed about 25 cm (10 in) apart within rows and 38–45 cm (15-18 in) between rows.
Seedlings should be transplanted late in the afternoon. This will prevent the plants from wilting.
When transplanting, observe the following steps:

- Place one seedling into each planting hole and be careful not to cover the base of the first leaves with soil.
- Ensure that the seedlings are firmly positioned by pressing the soil around it with your hand.
- After transplanting, apply a soil insecticide and soil fungicide at the recommended rates to protect the seedling in its early stages
- Keep the plants free from weeds at all times.

WATERING

Water the plants immediately after transplanting.
Thereafter, water daily if there is not sufficient rainfall.
When watering, add water to the ground at the base of the plant so as to avoid splashing soil unto the leaves.
Remember to use clean water to irrigate the plants.

FERTILIZER APPLICATION

- Immediately after transplanting, apply 5g (1 tsp) of a granular NPK fertilizer such as 12:24:12 to each plant to encourage root growth. Be sure to place this fertilizer at least 5 cm (2 in) away from the plant.
- On the 7th, 14th and 21st days after transplanting apply a granular NPK fertilizer e.g. 20:10:10, at a rate of about 1–3 tsp (5–15 g) per plant depending on the health of the plant.
- Alternatively a foliar fertilizer can be used weekly e.g. 20:20:20 at a rate of 5g (1 tsp) to 4 litres (1 gal) of water. Apply 125 ml (1/2 cup) of this mixture in the leaves and root area of each plant.

PEST AND DISEASES

Integrated Pest Management (IPM) is the best approach to controlling pests and diseases in a home garden. In this method, pesticides are not heavily relied upon and cultural, as well as biological methods are used.
For further information on IPM see the factsheet entitled "Integrated Pest Management for Home Gardeners" .
The following table highlights some of the major pests and diseases that attack pakchoi.

HARVESTING

Most varieties mature in about 4-5 weeks after transplanting although it is not unusual to harvest earlier than this. Harvest by cutting the entire head from the soil and trimming off old, dead leaves. When harvesting is delayed, the leaves are characteristically bitter and purplish streaks are seen on the stems.
Do not harvest just after rain or if dew is present in order to avoid cracking of the leaves. Pak-choi can be placed in perforated plastic bags and kept in the refrigerator for 2 – 3 weeks.

PEST/DISEASE	SYMPTOMS	CONTROL
Black rot ***Xanthomonas campestris*** 	• This is a bacterial disease. • The first sign observed is V – shaped yellow to brown lesions on the outer edges of the older leaves • The leaf veins become black in colour.	• Black rot can be controlled by use of resistant varieties • Good weed control • Proper drainage ensuring that the soil is not acidic • Spraying plants with a copper based fungicide
Leafminers ***Liriomyza sp*** as seen on Cabbage 	• This is an insect that tunnels its way through the leaves and makes unsightly marks	• Leafminers are controlled by good weed control, avoiding excessive use of fertilizers and if necessary, use insecticides that are safe to human health and the environment
Budworm ***Hellula phidealis*** as seen on Cabbage 	• This is a caterpillar that bores holes into the leaf stalks, growing point and main stem of the plant. • The plant usually responds by forming smaller heads, which are unusable	• Budworms are controlled by mixed cropping encouraging natural enemies such as wasps • Plants known to ward off insects may be planted nearby, such as marigold and chive • If necessary, use insecticides that are safe to human health and the environment
Diamond back moth ***Plutella xylostella*** as seen on cauliflower 	• This is a small green caterpillar, which feeds on the underside of the leaves and create many tiny 'windows' and shotholes all over the leaves. • The holes do not extend through the leaves so that the leaves have a skeletonized appearance	• Control of the diamond back moth is similar to that for budworm

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