

# **Growing Cabbage as a Commercial Crop in the Lowlands**

By  
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## **Introduction**

Sarawak imports huge quantities of cabbage annually especially during the festive seasons. These imported cabbages are usually grown under the cool climate and are sometimes referred to as temperate crops. Due to advances in plant breeding, many hybrids of cabbage can now be grown in the tropical lowlands. The Department of Agriculture (DOA), Sarawak has initiated research into this crop as early as 1964.

There is a great potential in growing cabbages in the lowlands as the quality and yield of the crop is good and the market demand is also substantial. Cabbage gives higher returns when compared with other common leafy vegetables because it fetches a better price and the yield per hectare is high. Another advantage is that the cabbage has a good storage life which enables it to be easily transported to a distant market.

## **The Plant**

Round cabbage or simply known as cabbage is botanically identified as *Brassica oleracea* variety *capitata*. It is a member of the *Brassicaceae* family. The shapes of the cabbage heads can either be round, pointed or flat. Other types of cabbages are the Savoy cabbage, Red cabbage and Baby cabbage.

## **Recommended Cabbage Varieties**

Some of the varieties recommended by DOA Sarawak are KK Cross, Summer Autumn, Good Season and US Hybrids. Each variety may be more suited to a particular area or season. Summer Autumn is suitable for planting during the wet season while Good Season and KK Cross will do better during the drier season. The characteristics of the recommended varieties are tabulated in Table 1.



Recommended variety 'Summer Autumn'



Recommended variety 'KK Cross'



Recommended variety 'Good Season'

**Table 1 : Characteristics of the recommended cabbage varieties**

Crop characteristics	Variety			
	KK Cross	Summer Autumn	US Hybrids	Good Season
Days to harvest (from transplanting)	68	71	71	72
Fresh head yield (t/ha)	18.43	15.16	17.81	18.51
Head shape	Globe	Flat globe	Flat globe	Flat globe
Head size (kg)	1.06	1.09	1.07	1.00
Heading percent	100	100	100	100

Soft rot incidence ( <i>Erwinia carotovora</i> )	Slight	Slight	Slight	Slight
Leaf disease incidence	Moderate	Slight	Slight	Slight
Reliability	High	High	High	High
Ratoon sprouts (Baby cabbage/Baby kailan)	yes	yes	yes	yes

### **Seedlings nursery**

Seeds can be purchased from any seed company or from the garden stores. About 200 – 300 g of seeds are needed for one hectare of planting. The seeds are either sown into polybags or 50-hole seeding trays filled with enriched soil in the nursery. Watering and applying a few granules of compound NPK fertilizer or well rotted chicken manure will help the germinated seedlings to grow healthy . The 4 – 5 weeks old healthy seedlings are transplanted to open field or nethouse, during the late evening.

### **Preparation of Planting Beds**

Before the preparation of planting beds, the field must be cleared of all existing vegetation. Beds measuring 120 cm wide x 30 cm high x any suitable length, depending on the farmer's requirement, can be prepared. The beds are spaced at 50 cm apart. An application of 8 – 10 t/ha well rotted chicken manure, 1 – 2 t/ha dolomite and 15 g/plant compound NPK fertilizers is given to the prepared beds, before planting. Subsequent fertilizer applications or 'Top dressing' of the beds with 30 g/plant of the same fertilizer at the first week after transplanting and every alternate week up to fifth or seventh week, depending on the variety are to be carried out.



Cabbage growing

### **Crop management**

The seedlings may be spaced at 60 cm apart and planted in 2 rows. One hectare will give about 25,000 plants. Watering is important during plant establishment and should be done once a day. The most important pest of cabbage is diamond back moth, which should be controlled early. An integrated pest management approach should be practised for crop health. Only registered chemicals are to be used for pest control. Bacterial soft rot, caused by *Erwinia carotovora*, is a serious disease of cabbage (photo 4). This can be overcome by planting resistant cabbage varieties. The beds can either be covered with lalang mulch or black plastic mulch to control weeds.



Damage caused by diamond back moth



Soft rot of cabbage

## **Harvesting**

Harvesting should be done when the plants are surface dry (no dew). Depending on the cabbage variety, harvesting usually starts about 65 days after transplanting. The heads should be firm and solid when lightly pressed by hands. Use a sharp knife or secateur, to cut the heads with a few non-wrapping leaves attached to protect the heads from being damaged. The harvested heads may be wrapped with paper and packed into baskets or netbags for transporting to markets.



Freshly harvested cabbage heads

## **Yield**

Fresh yield of 18–25 t/ha of good quality heads, weighing about 1 kg each are obtainable in 65–78 days after transplanting. The sprouts (commonly known as baby kalia) from the ratoon crop are an additional income to the farmers (photo 5). Locally grown cabbages are fresh and wholesome and are readily accepted by our consumers (photo 6).

## **Costs and returns**

The cost of seeds, fertilizers, agrochemicals, wages and others is estimated to be RM9,500.00 for one season on one hectare of land. Assuming the harvest is 20 t/ha and the produce is sold at RM1.00/kg, the estimated net return is around RM10,000.00 per hectare per season.



Baby kalia (cabbage sprouts)