

# CABBAGE



**Designed By:**

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## **Classifications**

Cabbages are grown for their vitamins and mineral nutrients; they might be classified depending on their duration of growth; early cabbages like golden Acer mature in 65 days, Red express in 63 days, mid season types include baby cabbage which takes 71days to grow, and late growers are Red cabbage which takes 75 days and are resistant to pests and diseases.

## **Soil requirements**

Cabbages prefer well drained, fertile soils high in organic matter and with a pH of between 6.0-7.5. They can however slightly tolerate alkaline soils, mostly importantly is that they are heavy feeders on moisture.

## **Climatic conditions**

Optimum temperatures for seed germination are between 25-30degrees Celsius, the temperatures for growth and head formation are 15-20 degrees Celsius, heat tolerant varieties of cabbage like the red variety can form compact head under tropical conditions in day temperatures of 30-35degees Celsius

## **Planting**

Prepare your soil for seeds or seedling by making a fine seed bed with a firm seed bed such that roots are well anchored because cabbage heads are quite heavy. Sow along a single row or along staggered wide rows with spacing of 12-18 inches wide and 16-18 inches between rows. Ensure to harden off seedlings for planting. Seed germination is seen 4-7days after planting. When seedling is 6-8cm high seedling is ready for transplanting. Water garden a day before planting, move seedlings next day.mulch garden after planting.

## **Fertilization**

Fertilizer requirement depends on soil analysis done prior to planting. However, we can use this as a guide: 120:60:60 kg NPK/acre.

- Split applications is the most recommended.
- 1st split of CAN at 10gms per plant. First top dressing (15-20 Days after Transplanting); 50 kg of C.A.N/Acre.
- 2nd split to be applied two weeks later at 5g per plant, avoid excessive nitrogen application as it causes slip heads. Second top dressing (40-45 Days after Transplanting): 100 Kg of Ammonium Sulphate/ acre +30 kg of MAP/ acre.
- Top dressing should be applied in bands and after each application earthing up of plants is necessary
- Cabbage has shallow root system and hence requires frequent & light irrigations especially during head formation.

## Weed control

Cabbages are shallow rooted so cultivation is normally shallow, always weed your cabbages as need arises, you might also use available chemicals for weed control.

## Diseases

### Black Rot



#### Symptoms

- Yellow and brown areas around leaf.
- Affected areas are V or wedge shaped.
- Black veins in affected leaves or stems.
- Small heads of affected plants.

#### Management

- Make sure that seeds and transplants are disease free.
- Use tolerant varieties.
- Destroy infected plants and properly dispose them.
- Practice proper field sanitation.
- Hot water treatment of seed is suggested. Treat seed at 50°C for 25 minutes.
- Mulching will reduce splashes which can spread the infection.
- Avoid weeding during damp conditions
- Spray with copper oxy-chloride.

### Bacterial soft Rot



#### Symptoms

- Symptoms initially appear as water soaked areas on wounded leaves.
- As the disease progresses, leaves become soft and begin to liquefy with a characteristic bad smell.

#### Management

- Avoid wounding plants during cultivation and harvesting.
- Control insects.
- Bury crop residue and rotate with maize or small grain crops to reduce bacterial populations.



### Symptoms

- Black leg causes elongated, sunken, brown lesions to form on stems near the soil line. These lesions may girdle the stem, preventing proper growth of the plants. In severe infection, the stems weaken causing plants to fall over.

### Management

- Use disease-free seed and transplants.
- Bury (destroy) crop residue and rotate with a non-crucifer crop for at least 2 years.
- Avoid wounding plants
- Control weeds
- Apply fungicides when needed.

## Downy mildew of cabbage



### Symptoms

- A grayish mold forms in spots and on the undersurface of the leaf. Later, a slight yellowing shows on the upper surface.
- Infected spots enlarge as they turn tan in color and papery in texture. When the disease is severe, the entire leaf dies.
- Occasionally, affected leaves will show hundreds of very small, darkened specks.

### Management

- Use disease-free seed and transplants.
- Bury (destroy) crop residue and rotate with a non-crucifer crop for at least 2 years.
- Avoid wounding plants
- Control weeds
- Apply fungicides when needed.

## Harvesting

Cabbages are harvested by cutting through the stem, just above ground level with a knife, for high yields cut the cabbage head when still solid.