

# CABBAGE PRODUCTION IN THE EASTERN REGION



Cabbage is a cool season crop

The nursery sowing times are:

Early crop: August-September

Mid-season: September

Late season crop: September-January



# Climatic Requirements

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- Cabbage thrives in a relatively cool, moist climate.
- Cabbage tolerates frost and extreme cold.
- The optimum temperature for proper growth and heading is 15-20 OC



# Soils

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- Cabbage can be grown in almost all types of soil.
  - Sandy loam is for early cultivars
  - clay loam or silt loams are For higher yields
- The optimum pH for cabbage 5.5- 6.5



# Varieties

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- Cabbage cultivars are classified by maturity;
  - Early (55-60 days after transplanting)
  - Mid (80-90 days after transplanting)
  - Late (120 days or more after transplanting)
- Other characteristic
  - Head shape
  - Leaf texture
  - Color



# Varieties

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- Available cultivars in the E.R
  - Early maturity
    - Golden Cross
    - Charmant
    - Farao
    - Golden Acer
    - Ruby Ball
  - Mid Maturity
    - Brunswick
    - Cairo
    - Copenhagen Market
    - Ruby Queen



# Planting Techniques

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- Seeding rate 200-300g/jerib
- Seedling, Which have been hardened
- Transplanted into the main field 3-6 Weeks after sowing.
- Spacing depends on soil fertility, season, variety and market demand.



# Planting Techniques

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- Traditional distance for Early varieties between rows 45 cm With 45 cm between plants
- For late varieties traditional space between row 60 cm and 45 cm between plants.



# Planting Techniques

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- Transplanting onto raised beds will increase plant density in the field .
- The raised bed should be 1.1 m from bed center to bed center .
- Distance between plants to planted 40 cm.
- Distance between two rows 50 cm.





# Fertilization

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- For optimum yield, 3-4 tons/ jerib  
Animal manure.
- Urea 16-24 kg per/jerib.
- $P_2O_5$  12-20 per/jerib.
- $k_2O$  12-24 per/jerib.



# Irrigation

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- The seedlings should be irrigated immediately after transplanting.
- In the hills during the summer months, fields should be irrigated every 10 days.
- Light sandy soils need to be irrigated every 2-3 days during the hot days.



# Pest Management

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- Weeding 2- 3 times (by hand or using a hoe) will keep the field weed-free .
- Weeds can also be Controlled by pre – planting application of Trifluralin(0.1L/J)
- Basalin (0.1L/J).
- Mulching the surface of the raised beds with crop residues will also reduce weed pressure

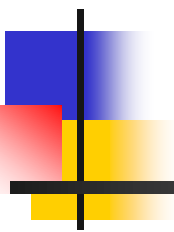


# Insect Pests

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- Organism: Cabbage Moth
- moth
- Symptoms: Larvae
- Heads, and drop greenish fecal pellets that may make the cabbage unfit for the market.
  
- Control: Pick larvae off plant and destroy; Spray with Marathon (0.1%) or dust with Carbonyl (0.15%) upon emergence of the pest.

# Insect Pests (Cont.)



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: Green caterpillars make a web on the leaf surface and live inside the knotted mass making the head unmarketable



# Organism: Leaf Webber

## *(Crocidolomia binotalis)*

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- Symptoms: Green caterpillars make a web on the leaf surface and live inside the knotted mass making the head unmarketable.
- Control: Remove and destroy webbed bunches of leaf; Dust the crop with Carbaryl (4%) or spray with Malathion (0.05%).



# Organism: Downy Mildew (*Perenospora parasitica*)

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- The first symptoms are small, light green-yellow lesions on the upper leaf surface, later showing on the undersurface. The spots turn yellow as they enlarge.
- Control: Plant resistant or tolerant varieties; rotate crops and remove crop residues after harvest. Irrigate carefully to avoid periods of high humidity. Use wide spacing to promote



# Organism: Yellows or Fusarium Wilt (*Fusarium oxysporum f*

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- Symptoms: The disease affects the seedlings in the nursery but plants exhibit symptoms 2 to 4 weeks after transplanting. A yellowish green color develops on one side of the plant.
- Control: Conventional control methods such as rotation, seed treatment, fungicide sprays, and destruction of crop debris are of little value once the fungus has established itself on a farm or in a specific field.





# Harvesting and Handling

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- Maturity is based on head compactness.
- At maturity a cabbage head should weigh 0.5-3Kg
- Cabbage is cut by hand and packed in the field for the fresh market.
- Cabbage should be harvested during the coolest part of the day



# Post Harvest Handling

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- Heads are graded by size and Heads are graded quality.
- Buyers demand uniformly sized heads, 18 to 22 heads in a carton.
- Cartons bring a premium price and help protect the heads from damage during transportation and distribution.