

Principles of insect pest management on vegetables

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Integrated pest management (IPM)

A pest management system that in the socioeconomic context of farming systems, the associated environment and the population dynamics of the pest species, utilizes all suitable techniques in as compatible manner as possible and maintains the pest population levels below those causing economic injury



Components

- Threshold levels
- Seedling protection
- Resistant varieties
- Cultural control
- Biological control
- Behavioral control
- Need based application of pesticides





Time









- C is the cost of insect control
- V is the market value of the crop
- I is the injury unit per insect
- D is the damage (proportion of yield loss) per injury unit
- K is the proportional reduction in the insect population/injury



Economic Threshold Level (ETL)

Pest density = initiate control measure = prevent population increase

Economic Injury Level (EIL)

Cost of pest control = Cost of crop loss from the pest



Seedling Protection





Existing cabbage crop





Cabbage seedling production









Resistant Varieties







Cultural Control











A BALLER



Mulching



+ the

1 1111

Irrigation

1. 3 V. 10







Biological Control



Bio-pesticides



Nucleopolyhedrovirus (NPV)

Entomopathogenic fungi









Behavioral control









Pesticide Application

- Time of application
 - Early season application of broad spectrum (resurgence of aphids, leafminers, thrips, mites)
- Method of application
 - E.g., Spot application for CWW



- Pesticide rotation
 - Resistance development in TFW, CAW, BAW, DBM, T. ni, whitefly, thrips
- Proper waiting period