

# Enhancing Plant Defense for Pest and Disease Management

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# Mojo Plantation



# Cardamom



# Cardamom Stem Borer



## Plant Extracts for Pest Control

- *Pongamia pinnata*
- *Annona reticulata*
- *Ocimum tenuiflora*
- *Nicotiana plumbaginifolia*
- *Lantana camara*
- *Vitex negundo*



## Traditional Pest Management

- *Adathoda vasica*
- *Acorus calamus*
- *Alpina galanga*
- *Azadirachta indica*
- *Calotropis procera*
- *Cassia fistula*
- *Crotolaria retusa*

# Mustard Magic

Mustard



Indian Mustard Flower (*Brassica juncea* L. Czern)

Mustard Plant



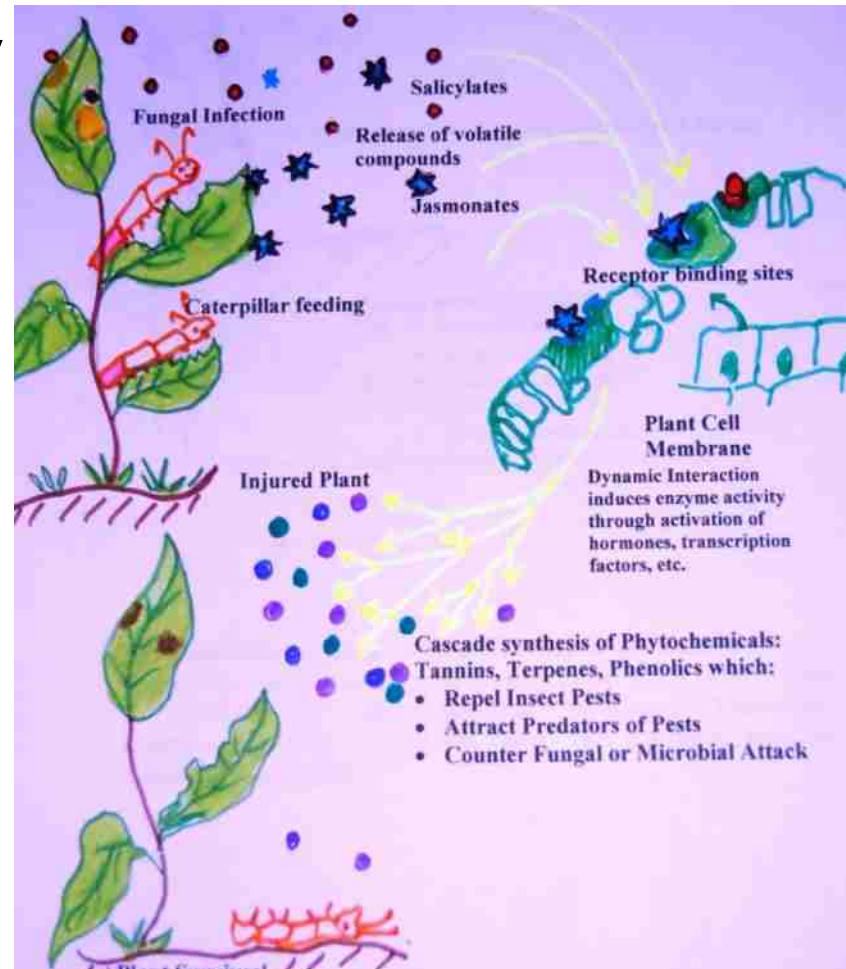
Post Harvest Mulch Residues into Soil



Soil Microbes Act upon Brassica tissues to Release Isothiocyanates Which acts as a "Biological Fumigant" and suppresses fungal pathogens like Rhizoctonia, Pythium, Sclerotinia. Soils stay healthy and disease-free.

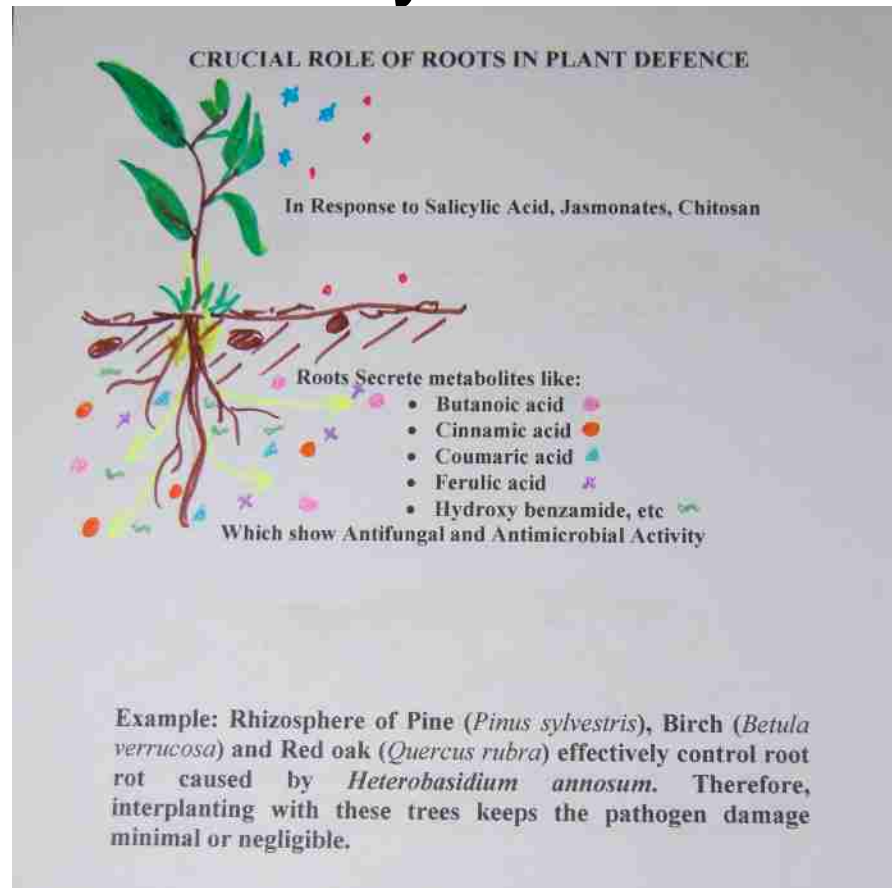
# Induction of Defense Pathways

## Jasmonate Pathway



# Significance of Rhizosphere

## Root Diversity is Protective



# Biodiversity Creates a Foundation



# Wasps and Spiders as Predators



# Dragonflies and Fly



# Logical Conclusions



- Multi-crop at all levels
- Keep cropped areas surrounded by fallow lands
- Encourage weed diversity. These are primary habitats for predators
- Encourage biodiversity through resource management
- Minimize sprays to nutritional and liquid manure applications
- ENABLE Nature to create a balance in your fields.