# BRINJAL

## CLIMATE AND SOILS

### Climate

Brinjal is grown during summer, monsoon and winter and it requires a growing period of 100- 140 days with high average day and night temperatures.

Along and warm growing season,with a mean temperature of 20–30$^{o}$C is most favourable for its cultivation.

The plants are more susceptible to injury by low temperatures than are tomatoes or peppers. Plants are killed by frosts

### Season

- Rainy Season : June-July
- Winter Season : October-November
- Summer Season : February-March

### Soil

- A hardy crop can be grown on different kinds of soils but does best on silt loams or clay loams.
- A well-drained and fertile soil with pH of 6.5 -7.5 is desirable
- For an early crops sandy loam soils are beneficial.

## SEED VARIETIES

Suitable recommended varieties of that specific area.

## SEED QUANTITY AND TREATMENT

### Seed

1. Varieties–250g per acre
2. Hybrids–125g per acre

Seed Treatment

- Treat the seed with Beejamrutham and *Trichoderma viride* @ 4g/kg or Pseudomonas fluorescens @10g/kg of seed.
- The treated seeds are dried in shade for 30minutes and then sown sparsely along the lines in ½cm depth and then covered by the top soil.

NURSERY MANAGEMENT

- Since the seeds are very small in size, they are normally sown in raised nursery bed sand the seedlings are planted in the main field later on.
- About 250g of seeds will be required to plant one acre..
- Avoid using same place for nursery bed preparation year after year.
- 20 kgs of Ghanajeevamrutham should be added as layer in the nursery bed
- The seedlings are ready for transplanting in about 25-30 days after sowing

LAND PREPARATION

- 2.5 tons of NADEP compost ( if available ) and 400 kgs of Ghanajeevamrutham should be broadcasted during last ploughing
- Ridges and furrows are formed at a spacing of 60cm.

TRANSPLANTATION

- A suitable brinjal plant for transplanting is 10cm to15cm in height and has a good sturdy stem.
- Immersion of seedlings in Beejamrutham at the time of transplanting will boost the growth of the seedlings
- Spacing
  - Varieties : 60x60cm
  - Hybrids : 90x60cm

SOIL FERTILITY MANAGEMENT

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- Apply 2kg/acre of Azospirillum and 2kg/acre of PSB by mixing with 50kg of Ghanajeevamrutham
- During transplantation apply 125 kg of Ghanajeevamrutham/acre at the base of the plant
- Apply 125 kg Ghanajeevamrutham 30 days after transplantation
- Application of ghanajeevamrutham @400 kg per acre at the time of land preparation

- After 45 days apply 200 liters of Dhravajeevamrutham
- After 60 days apply 200 liters of Dhravajeevamrutham
- After 80 days, again apply 200 liters of Dhravajeevamrutham either with irrigation water or with Spray.
- Apply Panchagavya at the time of flowering and continue at every 15 days interval to boost growth and flowering.

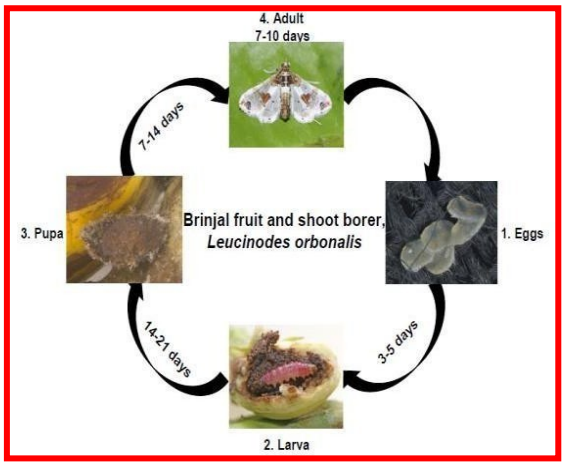
WATER MANAGEMENT

After establishment of seedlings, irrigate at weekly intervals.

INTERCROPPING: Brinjal with cowpea,maize,marigold ,onion and garlic

PEST AND DISEASE MANAGEMENT

FRUIT AND SHOOT BORER




Damage-It is mostly monophagous, some times also feeds on brinjal Upon hatching ,the larva starts boring near the growing point or into the flower buds or fruits. During the early vegetative phase of the crop growth ,it feeds on the tender shoots. Soon after boring into the shoot and fruits, the larva seals the entry hole with excreta. The larva tunnels in side the shoot and feeds on the inner contents. It also fills the feeding tunnels with excreta. This results in wilting of young shoots, followed by drying and drop off, which slows plant growth. In addition ,it produces new shoots, delaying crop maturity.

During the early reproductive phase, the larva occasionally may feed on flower buds and flowers. However ,it prefers to feed on the fruit rather than other plant parts during the fruiting stage of the crop.

Damaged fruit exhibits boreholes on the surface, which often are sealed with excreta .The larva feeding inside the fruit creates tunnels filled with frass and fecal pellets .Hence ,the fruit becomes unfit for marketing and consumption. Under heavy infestation ,more than one larva will feed inside the samefruit.

Shoot Damage

Fruit Damage

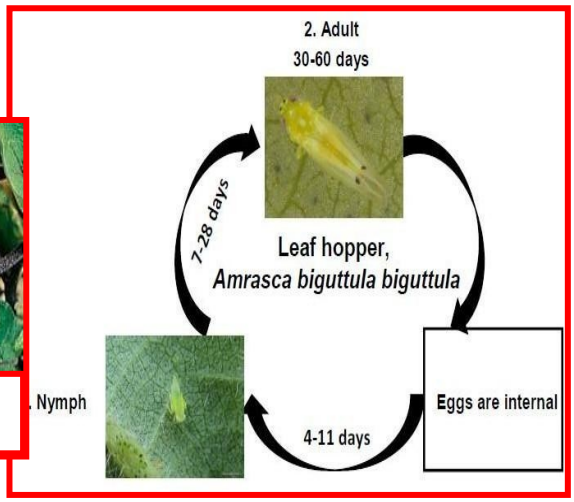
Control Measures

- Raise 4 rows of Maize/ Jowar / Bajra as a border crop
- Transplant 200 to 300 plants of Marigold per acre as trap crop Transplant 5 to 6 castor plant as trap crop
- Install pheromone traps @4-5/acre for monitoring Place the traps either at canopy level or at slightly above the canopy level for effective attraction
- Promptly remove and destroy infested shoots and fruit at regular intervals until final harvest
- Spray NSKE 5% at the time of flowering and continue at 10days interval and Spray Agniastram if infestation is more.

JASSIDS

Both nymphs and adults suck the sap from the lower leaf surfaces through their piercing and sucking mouth parts. While sucking the plant sap, they also inject toxic saliva into the plant tissues, which leads to yellowing. When several insects suck the sap from the same leaf, yellow spots appear on the leaves, followed by crinkling, curling, bronzing, and drying, or —hopper burn. Leaf hoppers also damage in okra, cotton, and potato.

Leaf Damage



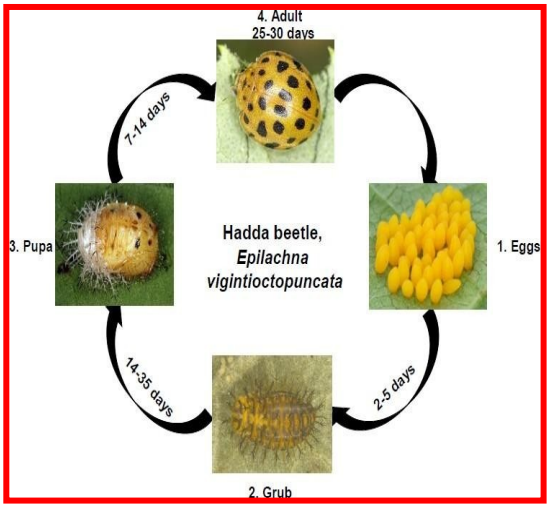

Control Measures

- Arrange 25 to 30 yellow sticky traps per acre
- Raise Maize or Jowar as border crop
- 200 Marigold plant per acre as trap crop
- Spray 5% NSKE or Neemasthram
- nirgundi botanical extract

EPILACHNA BEETLES

Damage-The grub and adult have chewing mouth parts. Hence ,they scrape the chlorophyll from the epidermal layers of the leaves .The feeding results in a typical ladder-like window. The windows will dry and drop off, leaving holes in the leaves . In severe infestations, several windows coalesce together and lead to skeletonization

Leaf Damage



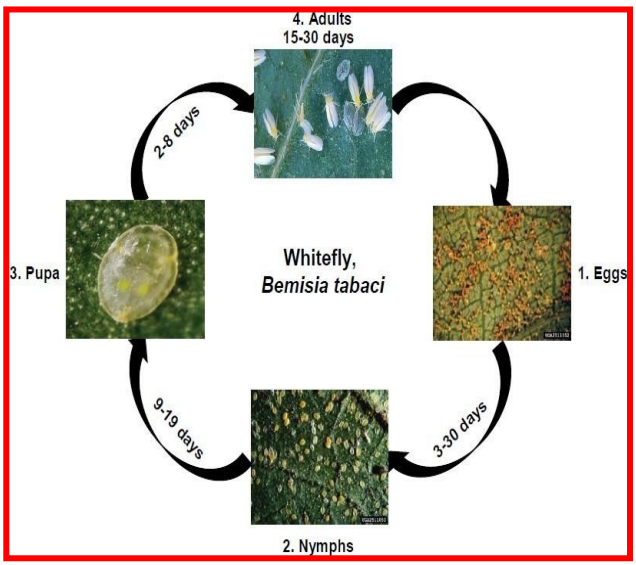

Control Measure

- Spray NSKE 5% or Neemasthram for every 5 days for 3 times.
- Spray Brahmasthram if infestation is high.

Crowding on lower surface of leaf

WHITEFLY

Damage-Both the adults and nymphs suck the plant sap and reduce the vigor of the plant. In severe infestations, the leaves turn yellow and drop off .When the populations are high they secrete large quantities of honeydew, which favors the growth of sooty mould on leaf surfaces and reduces the photosynthetic efficiency of the plants.



Control Measures

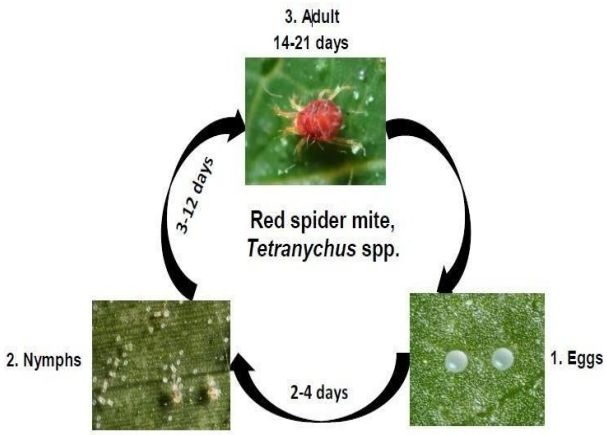
- Plant 200 to 300 Marigold plants per acre as trap crop
- 20 to 30 Yellow Sticky traps per acre
- Spray Neemasthram or 5% NSKE
- nirgundi botanical extract.

SPIDER MITE

Spider mites usually extract the cell contents from the leaves using their long, needle-like mouth parts. This results in reduced chlorophyll content in the leaves, leading to the formation of white or yellow speckles on the leaves. In severe infestations, leaves will completely desiccate and drop off. The mites also produce webbing on the leaf surfaces in severe conditions .Under high population densities, the mites move to using strands of silk to form a ball-like mass, which will be blown by wind stone leaves or plants, in a process known as —ballooning.

White and Yellow Speckles

Webbling of Leaves




Control Measures

- Plant 200 Marigold plants per acre
- Spray Dung+Urine+ asafoetida extract and
- NSKE 5% or Neemasthram
- Care should be taken to spray extract on the lower side of the leaf

**Extracted from:**

**Manual Prepared by Rythu Sadhikara Samstha (RySS), Andhra Pradesh**