- Seed treatment with carbendazim @ 2gm/kg seed or Imidacloprid 70 WS @ 5-10g/kg seed or thiomethoxam @ 5gm/kg seed to control soil and seed borne disease and early sucking pest.
- Soaking sprouted seeds in 0.27 chlorpyriphas afford protection against gall midge, stem borer and whorl maggot.
- Root zone application of carbofuran granules @ 1 kg ai/ha
- Application of flunbendiamide/ indoxacarb/spinosad/diflubenzuron /buprofezin etc at low dosages of 10-100 gm ai/ha are efficient in management of stem borer, gall midge, GLH, BPH etc.

Rodent Pest Management :

- Deep ploughing of the field at the time of land preparation to destruct rodent burrows and exposes the young ones to the predators.
- Clean cultivation of the field and surroundings to avoid alternate food and shelter to rodents.
- The bund size should be kept at minimum possible level since high bunds creater favourable harbourages for rodents.
- Planting of non-preferred crops like ginger, *Opuntia* Spp. or low preferred crops like castor or cluster bean may be grown in 6 – 10 m strip around main crop.
- Construct rodent proof ware houses and timely inspection of the house to assess damage and repair.
- Install indigenous traps or empty tins unfilled water trap in rodent runways.
- Place Roban(Bromadiolone) rodenticides in rodent runway on bait station like cut bamboo pieces or banana bract.

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Pest management in Rice (*Oryza satina*)

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Rice is a staple food for over 65% of India's population. More than 100 insect species are associated with the rice crop at one stage or other and 20 of these are pest of major economic significant causing considerable losses of 10-51% grain yield. Integration of different management practices judiciously play a crucial role in suppressing pest damage.

Cultural Method :

- Rabbing (burning of nursery area) destroy soil-borne disease and pest to a considerable extent.
- Repeated deep summer ploughing exposes pest like white grubs, cut worms and pupal stages of lepidopterans to adverse climatic conditions and predators.
- Grow resistant/tolerant varieties suitable to the local conditions.
- Synchronise transplanting/ sowing reduce the length of crop period and escape the crop from attack of multiple pest generation.
- Avoid close spacing and late planting.
- Judicious use of nitrogenous fertilizer in split doses.
- Flooding and draining of the field.
- Suitable crop rotation interrupt the relationship between pest and host plant.
- Interplanting trap crop and subsequently destroying the trap crop save the main crop.

Mechanical method :

- Collection and destruction of different stages of pest throughout the crop growth period.
- Clipping the tips of seedlings at the time of transplanting removes the egg masses of pests.
- Installation of light and pheromone trap suppress many adult pest population.
- Mass trapping of numphs and adults of gundhi bug by using rotten crabs or frogs or mixed with insecticide as poison bait during milking stages.

Biological Method :

- Releasing irrigation channel with sliced pumelo or smashed *Poinsettia pulcherema* flowers and leaves to reduce stem borer infestation.
- Spray tobacco waste decoction with 250 gm of soap solution in 200 litres of water to control stem borer.
- Garlic extract can also be sprayed to control various pests.
- Neem paste solution @ 10 kg in 2 litres of water is effective for control of leaf folder pest.
- Spray neem oil @ 3-5 ml/lit of water.
- Seed treatment with *Pseudomonas fluorescens* or *trichoderma* spp @ 10 gm/ kg seed or its foliar spray @ 1.25 kg/ha.
- Release *trichogramma* spp @ 1 lakh/ha (5 cards) after 30 days of transplanting. Release 6-8 times depending on the severity of the pest incidence

Chemical Method :

Chemical control measures must be judiciously integrated and followed. Spraying of insecticides must be avoided at least one week before or after release of bio-control agents.