## Budworm on Colour pepper

**Heliothis assulta Guenee**

### Prevention
- Plough the field in autumn to destroy pupas and decrease overwintering pupas.
- Enhance field management and prune in time to reduce egg masses.
- Set up insect nets at the gate and vent of protected areas (i.e. green houses).

### Monitoring
- Monitor the dynamics of budworm moths using Jiaduo automatic pest forecast light trap; the monitoring should be started from April onwards and moths are collected every 5 days.
- Use sex pheromone traps to monitor the dynamics of budworm moths (from 10th April to August).
- Monitoring based on 5 sampling points method should be carried out every 5 days during colour pepper growing season; 10 pepper plants to be examined. Once egg masses are found, direct control should be carried out.

### Direct Control
- **Light traps:** high-pressure mercury lamp set up during adult stage (1 lamp/mu)
- **Alamo branch traps:** Alamo branches can attract adult budworms, collect and kill the adult at early morning (before sunrise)
- **Hand pick fruits:** that have been attacked by budworms, reducing pest population
- **Biological control:** release *Trichogramma* in the field every 15 days; 8000~10000 *Trichogramma* per mu (6~8 release sites)

### Direct Control
- Chemical pesticides must be applied strictly according to the prescribed dosages to avoid residue problems
- Rotational application of pesticides to avoid resistance
- Use PPEs while using chemical pesticides

### Restrictions
- **Chlorbenzuron**
  - WHO classification unclear, Apply before the second instar stage, Cannot be mixed with alkaline substance, Maximum two sprays per growing season

- **Abamectin**
  - WHO classification unclear, Highly toxic, PAN bad actor chemical and Developmental or reproductive toxicin, PHI: 20 days, Maximum two sprays per growing season

- **Emamectin benzoate**
  - WHO classification unclear, Acute toxicity and PAN bad actor chemical, Maximum two sprays per growing season

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### China

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