

## Major Insect-Pest of Mustard and their Management

(\*Amar Singh)

M. Sc. (Ag.), Entomology, Agriculture University, Jodhpur (Rajasthan)

\*Corresponding Author's email: [amarchahar15@gmail.com](mailto:amarchahar15@gmail.com)

Mustard is a most important oil seed crop which is cultivated as Rabi crop. It is globally used as vegetable, oilseed and condiments. Mustard seed incorporates about 38 to 43 percent oil which is yellow in colour, fragrant and is the healthiest and nutritious cooking medium. Its seeds are highly nutritive in nature having carbohydrates (4.51g), sugar (1.41g), dietary fiber (2g), fat (0.47g) and protein (2.56 per 100g). Mustard seeds are crushed for edible oil, which is the cheapest source of oil in our daily diet. One of the major concerns in stabilizing the yield of mustard is incidence of insects which are causing damage to crop at different stages and responsible for huge yield losses. For the protection of crop, proper identification and management of crop should be adopted.

### 1. Mustard aphid, *Lipaphis erysimi* (Hemiptera: Aphididae)

**Damaging Symptoms:** Mustard aphid is serious pest of mustard. It is small, pear shaped, delicate insect with soft and fragile body. Both nymphs and adults suck the cell sap from different parts of inflorescence, and pods as a leaves acquire a curly appearance. In infestation plant resulting no pod formation.



Fig. Aphid attack on siliqua

the plant *i. e.* leaf, stem, twig result of which curly heavy stunted, dries up and seed Aphids secrete honeydew, which is responsible to the growth of black fungus known as “sooty mould” that hinders the photosynthesis.

### 2. Mustard sawfly, *Athalia lugens* (Hymenoptera: Tenthredinidae)

**Damaging Symptoms:** The grubs alone are destructive. They bite holes into leaves preferring the young growth and skeletonize the leaves. Sometimes, even the epidermis of the shoot is eaten up. When attacked, do not bear seed.



Fig. Severe damage of Grub

### 3. Painted bug, *Bagrada hilaris* (Hemiptera: Pentatomidae)

**Damaging Symptoms:** Both nymph and adult suck cell sap from the leaves and developing pods, which gradually wilt and dry up. The nymph and adult bug also excrete a sort of resinous material which spoils the pods.



Fig. Attack of Painted Bug

### Integrated insect pest management

- Timely sowing of the crop before 15<sup>th</sup> October helps to escape the infestation of mustard aphid.
- Apply balanced dosages of fertilizer *i.e.* NPK 100:40:40.
- Seed treatment with imidacloprid 70 WS @ 5.0g/kg of seed should be done for the management of painted bug.
- Plough the field in summer season and follow the clean cultivation by weeding, hoeing and burning of debris in and around the field.
- Give first irrigation 3-4 weeks after sowing as it reduces the painted bug population significantly.
- Spray one liter of malathion 50EC or quinalphos 25EC in 150-200 liters of water per ha.
- Apply irrigation in seedling stage is very crucial for sawfly management because most of the larvae die due to drowning effect.
- Use of bitter gourd seed oil emulsion as an anti-feedant for sawfly.
- Set up yellow sticky trap to monitor aphid population.
- Conserve the following natural enemies: Ladybird beetle *viz.* *Coccinella septempunctata*, *Menochilus sexmaculata* most efficient predators of the mustard aphid.
- Conserve bio-control agent like *Alophara spp.* For painted bug.
- Quick threshing of the harvested crop should be done for management of painted bug.