



FACULTY OF AGRICULTURAL SCIENCES & ALLIED INDUSTRIES

Lecture 19

PESTS OF ORNAMENTAL PLANTS

Ornamental plants are attacked by insects, mites, nematodes, millipedes, molluscs, earth worms and rodents. Various species of thrips, aphids, leaf hoppers, scale insects, mealy bugs, leaf miners, caterpillars, cut worms and chaffer beetles attack the common ornamental plants including rose, chrysanthemum, hibiscus, holly hock, sunflower, iris, jasmine etc.,. Pests of other ornamentals viz., chrysanthemum, hibiscus, holly hock, sunflower, iris are detailed below

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|-----|--------------------------|-------------------------------|---------------------|--------------------|
| 1. | Dusky cotton bug | <i>Oxycarenus laetus</i> | Lygaeidae | Hemiptera |
| 2. | Hollyhock tinged bug | <i>Urentius euonymus</i> | Tingidae | Hemiptera |
| 3. | Sunflower lace wing bug | <i>Cadmilos retarius</i> | Tingidae | Hemiptera |
| 4. | Castor hairy caterpillar | <i>Euproctis lunata</i> | Lymantriidae | Lepidoptera |
| 5. | Ak butterfly | <i>Danais chrysippus</i> | Nymphalidae | Lepidoptera |
| 6. | Lily moth | <i>Polytela gloriosae</i> | Noctuidae | Lepidoptera |
| 7. | Banded blister beetle | <i>Mylabris phalerata</i> | Meloidae | Coleoptera |
| 8. | Gerbera leaf miner | <i>Liriomyza trifolii</i> | Agromyzidae | Diptera |
| 9. | Snails and Slugs | <i>Helix, Achatina fulica</i> | Class Gastropoda | Phylum Mollusca |
| 10. | Root-lesion Nematodes | <i>Pratylenchus spp</i> | Tylenchidae | Tylenchoidea |

1. Dusky cotton bug:

Oxycarenus laetus (Lygaeidae: Hemiptera)

Host range: *Hibiscus rosasinensis*, *Dombeya natalensis*, Bougainvillea, *Jasminum grandiflorum*, *J. multiflorum*, *J. humile*, Bauhinia, Plumeria.

Damage symptoms: Flower buds become pale as a result of its feeding and fall down without opening.

Adult usually feed on the terminal portions and hide in the clusters of dry leaves and flowers.

2. Hollyhock tinged bug:

Urentius euonymus (Tingidae: Hemiptera)

Host range: Holly hock, *Abutilon indicum*, *Sida cordifolia*

Damage symptoms: Adults and nymphs suck plant sap from the under surface of leaves. The infested leaves become pale yellow and turn brown. Ultimately they shrivel and dry up.

Bionomics: Bugs have densely reticulate body and wings. Nymphs are spiny in appearance. Adult lays eggs on the upper surface of leaves. Egg period 8-10 days, five nymphal instars completed in 15-27 days. Full development cycle is completed on a single leaf.

Management

Spray dimethoate 30 EC 500 ml or endosulfan 35 EC 1.0 L in 500 L of water / ha.

3. Sunflower lace wing bug:

Cadmilos retarius (Tingidae: Hemiptera)

Host range: Sunflower, gaillardia, chrysanthemum, marigold, vernonia, *Argemone Mexicana*

Damage symptoms: Nymphs and adults suck plant sap and the infested leaves turn yellowish brown and finally dry up.

Bionomics: Small bug, with transparent shiny reticulate wings and black body. Adult lays eggs mainly on the upper surface of leaves and are inserted slantingly into the plant tissue leaving the opercula exposed which appear like white or brown dots. Eggs hatch in 5-7 days and nymphal period is 2-3 weeks.

Management: Conserve egg parasitoid *Trichogramma* sp, and nymphal, adult parasitic mite *Leptus* sp Spray malathion 50 EC 500 ml in 500 L of water/ha.

4. Castor hairy caterpillar:

Euproctis lunata (Lymantriidae: Lepidoptera)

Host range: *Lagerstoemia india*, *Punica granatum*, *Hibiscus rosasinensis*.

Young larvae eat the leaf margins of the host plants. Full grown larvae feed on the entire leaf lamina.

5. Ak butterfly:

Danais chrysippus (Nymphalidae: Lepidoptera)

Caterpillar population is high during October - November. Larvae feed on leaves and flowers of *Asclepias curassavica* (Blood flower/Mexican butterfly weed) Spray methyl parathion 50 EC 1 L in 1000 L of water/ ha to control this pest.



6. Lily moth:

Polytela gloriosae (Noctuidae: Lepidoptera)

Distribution and status: Sporadic and specific pest in India and Sri Lanka.

Host range: Lilies

Damage symptoms: Larvae feed on the green matter of leaves which may result in complete defoliation of lily plants.



Bionomics: Adult has red, yellow and black mosaic pattern on fore wings with a row of black and yellow dots on the apical margin. The hind wings are black. Adult lays 13-42 round, yellowish eggs in clusters on the apical portion of the undersurface of the leaves. Larvae emerge

in 3-6 days and they feed on leaves for 16-20 days. Larvae have chocolate brown head and possess black, white and red mosaic patterns on the body. They pupate in soil in earthen cocoon and adult emerge in 15 – 20 days. Insect has 2 generations per year and the pupae of second generation hibernate.

Management

Spray malathion 50 EC or endosulfan 35 EC 1.0 L in 500 L of water/ha.

7. Banded blister beetle:

Mylabris phalerata (Meloidae: Coleoptera) Adult beetles attacks the flowers of *Hibiscus rosasinensis* and *Ruellia indica* and devour them completely. In August, the population becomes high more prominent than flowers. Prominent large beetle has six alternating bright orange, black bands against the general dark back ground of the body.

8. Snails and Slugs (Class Gastropoda: Phylum Mollusca)

Distribution and status: All over India. Occasionally become major pest and warrant control measures.

Host range: Vanilla, celery, lettuce, cabbage and a number of ornamental plants.

Common snail: *Helix* spp. - They are found in Himachal Pradesh, Uttar Pradesh, Andhra Pradesh, Bihar, Maharashtra and Orissa



Giant African snail: *Achatina fulica* Found in coastal areas of Orissa, West Bengal, Assam, Tamil Nadu and Kerala.



Common garden slug: *Laevicantus alte* Found in Punjab and Himachal Pradesh feeds on number of ornamental plants like balsam, portulaca, pot- marigold, verbena, dahlia, cosmos, narcissus and lily.

Limax sp - Found all over India



Damage symptoms: Snails and slugs appear as sporadic pests in those places where damp conditions prevail. They may also appear in large number on roads and runways, creating problems during the taking- off or the landing of the aircraft. When their population in high, they may do serious damage.

Bionomics: Snails and slugs are soft-bodied, asymmetrical, spirally coiled and enclosed in a shell. They have a large flat foot used for creeping and do not have separate sexes. The common snail breeds in spring and summer. It makes a hole of 1.24 cm in diameter and 3 cm in depth in

damp soil and lays eggs in a loose mass of about 60. The eggs hatch within two weeks and the young snails start feeding upon tender plants. The shell increases in size with age and the snail is full-grown in about two years. Snails are seen at all hours, except during mid day when it is hot and dry. In winter, they stay in colonies and are found among rockeries, loose boards of fences, at the bottom of hedges, in rubbish heaps, etc.

Management

Low population can be collected and destroyed.

Dust 15 per cent metaldehyde dust or spray 20 per cent metaldehyde liquid or sprinkle 5 per cent metaldehyde pellets around infested fields.

9. Root-lesion Nematodes:

Pratylenchus spp. (Tylenchoidea: Tylenchidae)

Distribution and status: World wide. Of the various ornamental plants, roses are the most affected by parasitic nematodes. These root-lesion nematodes are vagrant parasites of plant roots. Occasionally become serious and warrant control measure.

Damage symptoms: Lesion nematodes feed on the parenchyma of the root and cause lesions, specially when a large number of them feed together. The root injury results in decreased growth of the aboveground portions. The plants bear small or no flowers at all. They inhabit the aboveground portions only in rare cases.

Bionomics: Both adults and larvae move in and out of the roots. The penetration usually occurs in the mature region of the rootlets and not from the root-tips. A female usually lays one egg per day. The egg stage lasts 16-20 days. The development and reproduction are rather slow in *P. pratensis* taking 54 days to complete the life-cycle. In other species, like *P. zeae*, the life cycle is completed in 35-40 days. During periods of drought, these nematodes lie quiescent, but they resume growth as soon as free moisture is available. The population of the root-lesion nematodes is high in October.

Management

Cultivate French marigold or American marigold or sesame in rotation or as an intercrop.

Mix phorate 10 G @ 10 kg/ha or carbofuran 3G @ 30 kg/ha in soil at the time of planting.