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Major Pests of Okra and Their Life Cycle

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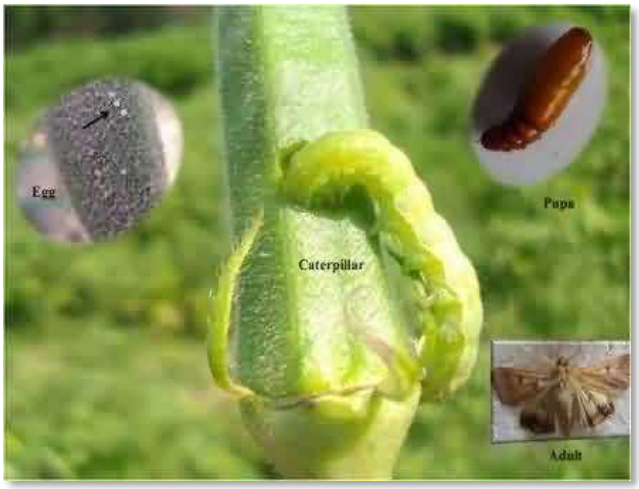
Okra (*Abelmoschus esculentus*), commonly known as lady's finger or bhindi, is one of the most important vegetable crops cultivated across tropical and subtropical regions of the world. It is valued for its tender green pods, which are rich in vitamins A, B, and C, calcium, and other essential nutrients. Okra plays a significant role in the income of small and marginal farmers.



However, its production is frequently affected by various insect pests that infest the crop at different growth stages, leading to severe yield losses and poor-quality fruits. More than seventy insect species have been recorded on okra, but only a few are considered major due to their frequent occurrence and destructive nature. Key pests include jassids, fruit and shoot borers, whiteflies, and aphids.

Understanding their life cycle, mode of damage, and effective management techniques is crucial for successful Integrated Pest Management (IPM).

1. Jassid (*Amrasca biguttula biguttula*)

Jassid is one of the most prevalent sucking pests of okra. Both nymphs and adults feed on the lower leaf surface, causing curling, yellowing, and drying of leaf margins. Severe attack results in "hopper burn," ultimately reducing photosynthesis and yield.

Life Cycle

- Eggs are laid along the veins on the underside of leaves.
- Eggs hatch in 5–10 days, releasing pale green nymphs.
- Nymphs pass through five instars before becoming adults.
- Entire life cycle completes in 2–3 weeks, favored by hot and dry weather.

Damage Symptoms

- Leaves turn pale and curl upward.
- Severe infestation gives the plant a scorched appearance and stunts growth.

2. Fruit and Shoot Borer (*Earias vittella* and *Earias insulana*)

This pest is the most destructive on okra, damaging both vegetative and reproductive stages. Larvae bore

into tender shoots and fruits, resulting in wilting and malformed fruits.

Life Cycle

- Eggs are laid singly on tender shoots, flower buds, or fruits.
- Eggs hatch in 3–4 days.
- Newly hatched larvae bore into shoots, later infesting fruits.
- Larval stage lasts 8–10 days, followed by pupation inside the fruit or soil.
- Adults emerge in 7–10 days, completing the cycle in 20–25 days.

Damage Symptoms

- Infested shoots wilt and droop (dead hearts).
- Fruits have small boreholes plugged with frass, making them unmarketable.

3. Whitefly (*Bemisia tabaci*)

Whitefly is a major pest and an important vector of Yellow Vein Mosaic Virus (YVMV). Both nymphs and adults suck sap from leaves, causing chlorosis and curling.

Life Cycle

- Females lay 80–100 eggs on the underside of leaves.
- Eggs hatch in 3–5 days.
- Nymphal period lasts 10–15 days, followed by a pupal stage.
- Adults emerge in 20–25 days.
- Warm, humid weather favors rapid buildup.

Damage Symptoms

- Leaves turn yellow and become sticky due to honeydew.
- Sooty mold develops, hindering photosynthesis.
- Virus-infected plants show characteristic yellow vein patterns with poor fruit development.

4. Aphid (*Aphis gossypii*)

Aphids are soft-bodied insects that form colonies on tender shoots, leaves, and flowers. They suck plant sap and transmit viral diseases.

Life Cycle

- Reproduce mainly parthenogenetically.
- Nymphs mature into adults in 7–10 days.
- Several overlapping generations occur during warm, humid conditions.

Damage Symptoms

- Leaves curl and become distorted.
- Honeydew leads to sooty mold development.
- Heavy infestation causes stunted plants and reduced fruiting.

Integrated Pest Management (IPM) Strategies

1. Cultural Control

- Remove infested plant residues and weeds.
- Follow crop rotation and use pest-tolerant varieties.

2. Mechanical Control

- Regularly collect and destroy infested shoots and fruits.

3. Biological Control

- Encourage beneficial insects such as:
  - *Trichogramma chilonis*
  - *Chrysoperla carnea*
  - *Coccinella septempunctata* (ladybird beetle)
  - Parasitoid wasps

4. Botanical Control

- Apply neem oil (3%) or azadirachtin-based formulations.

5. Chemical Control

- Apply insecticides only when pest populations exceed ETL.
- Recommended options include:
  - Imidacloprid @ 0.3 ml/L
  - Spinosad @ 0.5 ml/L
- Use chemicals judiciously to avoid resistance and residue issues.

Conclusion

Okra cultivation faces significant challenges due to major insect pests such as jassids, fruit and shoot borers, whiteflies, and aphids. Each pest has a unique life cycle that favors rapid multiplication under tropical conditions. Understanding their biology is essential for effective and timely management.

Adopting Integrated Pest Management (IPM) — combining cultural, biological, botanical, and minimal chemical methods — ensures sustainable pest control. This approach reduces pesticide dependence, protects beneficial insects, and enhances long-term okra productivity.

References

1. Alam, S. N., & Hossain, M. I. (2008). *Insect pests of okra and their management.* Bangladesh Agricultural Research Institute (BARI), Joydebpur, Gazipur.
2. Aslam, M. (2004). *Pest status of some insect species on okra (Abelmoschus esculentus L.) in Bahawalpur, Pakistan.* International Journal of Agriculture & Biology, 6(1), 145–147.
3. Butani, D. K., & Jotwani, M. G. (1984). *Insects in vegetables.* Periodical Expert Book Agency, New Delhi.
4. Dhaliwal, G. S., Jindal, V., & Mohindru, B. (2015). *Crop Pest Management.* Kalyani Publishers, New Delhi.