



PEST, CAUSE FOR OUTBREAK AND CATEGORIES



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Does the pest status on a crop remains same all the time?.....

CATEGORIES OF PESTS

Based on occurrence, following are pest categories.....

1. Regular pest: Frequently occurs on crop - Close association

e.g. Rice stem borer, Brinjal (egg plant) fruit borer

2. Occasional pest: Infrequently occurs, no close association

e.g. Caseworm on rice, Mango stem borer



Rice stem borer



Brinjal (egg plant) fruit borer



Caseworm on rice

- 3. Seasonal pest: Occurs during a particular season every year**
e.g. Red hairy caterpillar on groundnut, Mango hoppers



- 4. Persistent pests: Occurs on the crop throughout the year and is difficult to control**
e.g. Chilli thrips, mealy bug on guava



- 5. Sporadic pests: Pest occurs in isolated localities during some period.**
e.g. Coconut slug caterpillar

Based on level of infestation

- 1. Epidemic Pest :** Sudden outbreak of a pest in a severe form in a region at a particular time
e.g. Whitefly outbreak in Punjab, Sugarcane wooly aphid in Karnataka



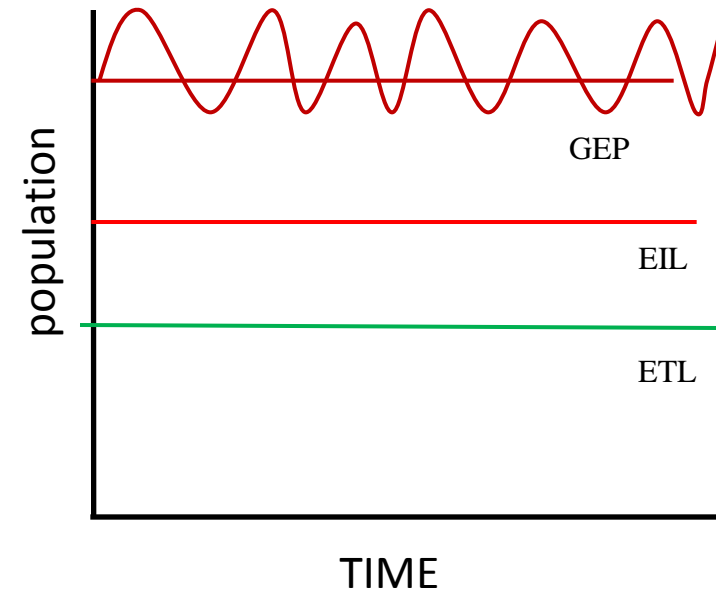
- 2. Endemic pest:** Occurrence of the pest in a low level in few pockets, regularly and confined to particular area
e.g. Rice gall midge infestation in coastal Karnataka, Red headed hairy caterpillar on groundnut (peanut) in Karnataka



PEST CATEGORIES ACCORDING TO EIL, GEP & DB

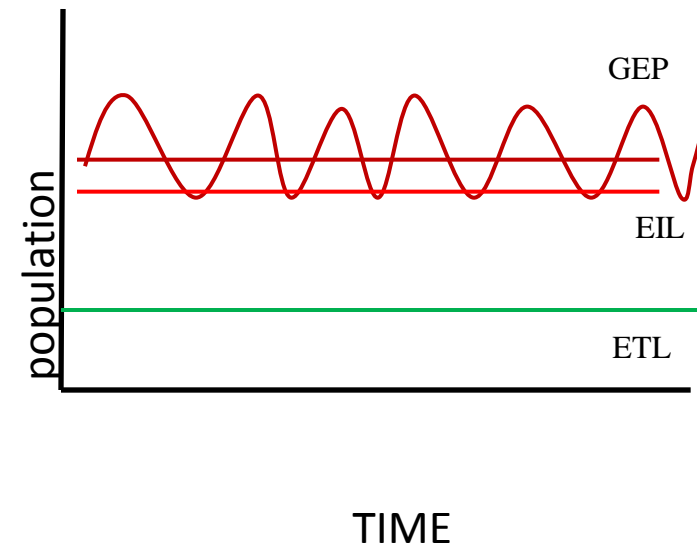
(i) Key pest

- Most severe and damaging pests
- GEP lies above EIL always
- Spray temporarily bring population below EIL
- These are persistent pests
- The environment must be changed to bring GEP below EIL e.g. Diamond back moth



(ii) Major pest

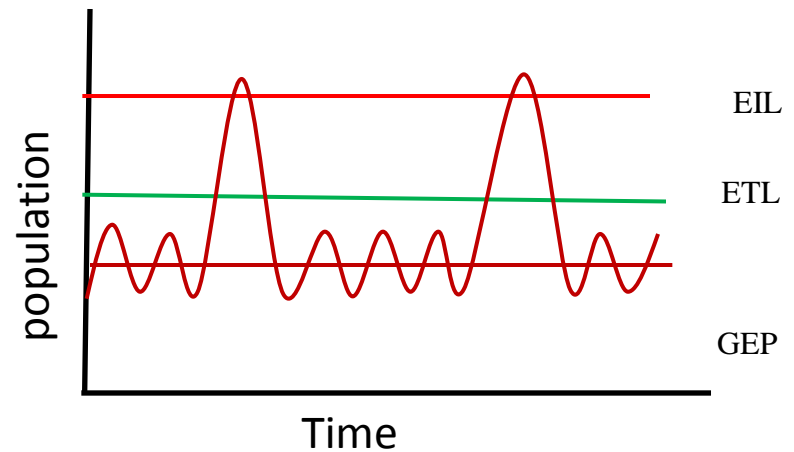
- GEP lies very close to EIL or coincides with EIL
- Economic damage can be prevented by timely and repeated sprays e.g. Cotton jassid, Rice stem borer



(iii) Minor pest/Occasional pest

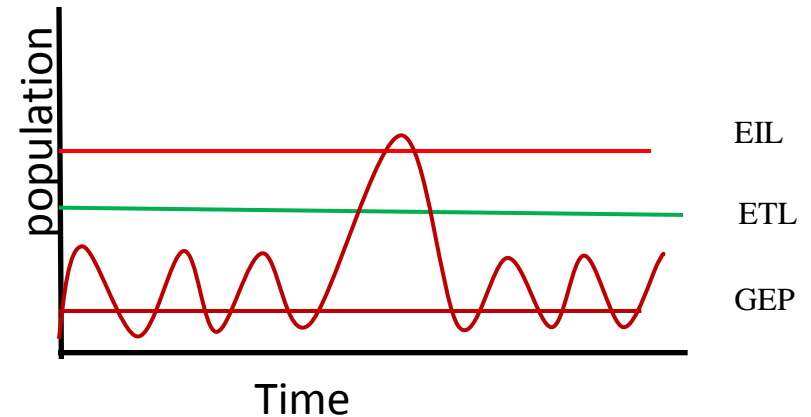
- GEP is below the EIL usually
- Rarely they cross EIL
- Can be controlled

e.g. Cotton stainers, Rice hispa, Ash weevils



(iv) Sporadic pests

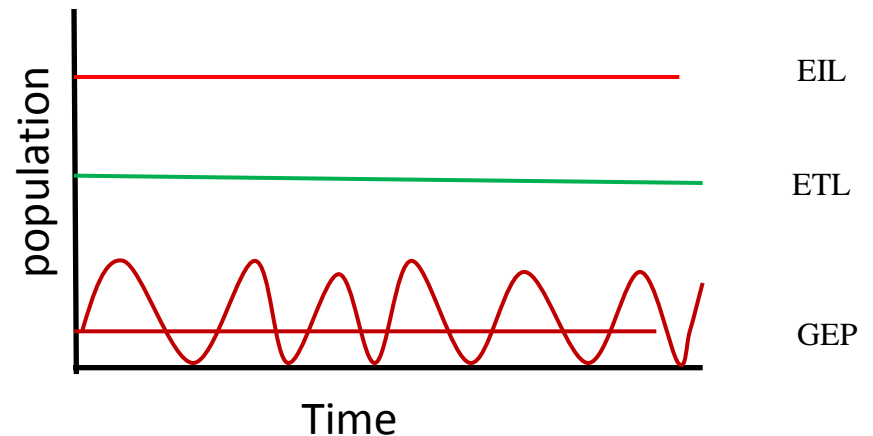
- GEP generally below EIL
 - Sometimes it crosses EIL and cause severe loss in some places/periods
- e.g. Sugarcane pyrilla, White grub, Hairy caterpillar



(v) Potential pests

- They are not pests at present
- GEP always less than EIL
- If environment changed may cause economic loss

e.g. *H. armigera* is potential pest on alfalfa



Methods of Insect Control

1. NATURAL CONTROL

2. APPLIED CONTROL

1. NATURAL PEST CONTROL

A. Climatic factors: Temperature humidity photoperiod directly influence the population of pest as well as their host plants. The seasonal development of their host plant is closely related and the seasonal development of phytophagous insects.

B. Natural barriers: The natural topographic barriers like mountain range and large water bodies and deserts prevent pest migration. Apart from checking insect pest migration they affect climate itself and the ability of pest to live in changed weather conditions.

C. Natural enemies: there is not a single group of vertebrate starting from first up to mammal which do not feed on insects. They keep the insect population under check to a greater extent. Along the insect themselves are a large number of entomophagous species that where capture or devour other insect species(i.e., predators) or may the eggs on or in the body of other insects



D. Diseases: Entomophagous pathogen which produce fatal diseases in insect and keep a check on insect population.



Objectives of pest management

1. To reduce pest status below economic injury level.

Complete elimination of pest is not the objective.....

2. To manage insects by not only killing them but by preventing feeding, multiplication and dispersal.

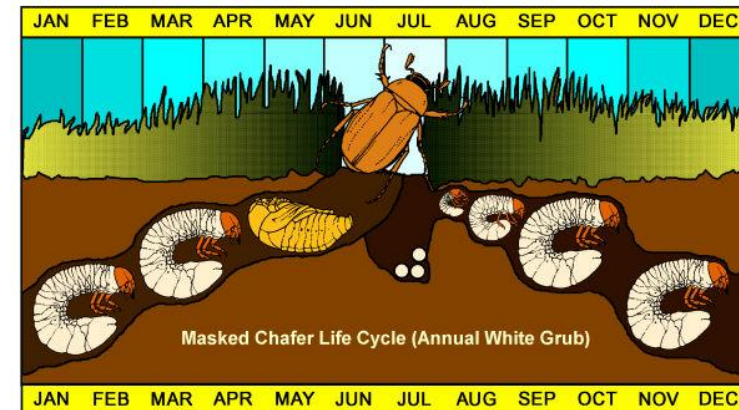
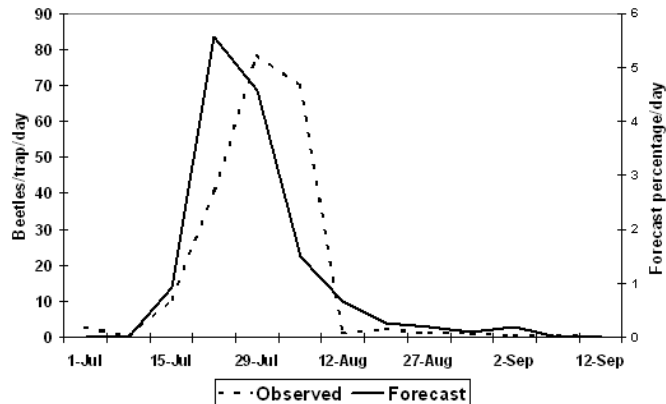
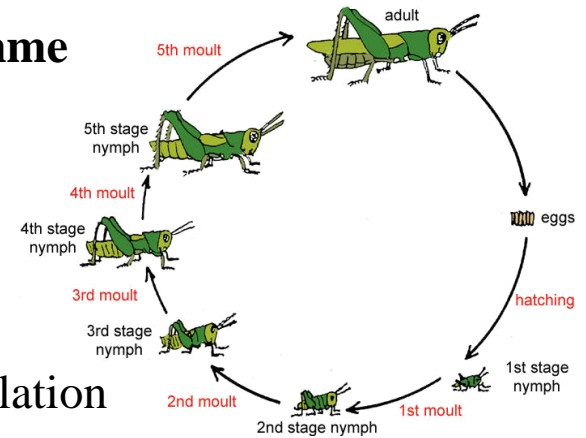
3. To use eco-friendly methods, which will maintain quality of environment (air, water, wild life and plant life)

4. To make maximum use of natural mortality factors, apply control measures only when needed.

5. To use component in sustainable crop production.

Requirements for successful pest management programme

1. Correct identification of insect pests
2. Understanding the life history and behavior of the pest
3. Natural enemies and weather factors affecting pest population
4. Pest surveillance will provide above data
5. Pest forecasting and predicting pest outbreak
6. Finding out ETL for each pest in a crop



7. Need and timing of control measure – Decision making



8. Selection of suitable methods of control

9. Analysis of cost/benefit and benefit/risk of each control measure



10. Farmer's awareness and participation



11. Government support



12. Consumer awareness on use of pesticides free products



- Organic
- Pesticide Safe
- Pesticide Residue Free
- Hydroponics
- General

5 Colour Coded Vegetables

Make a safer choice with Rimping