

Unit-5-6<sup>th</sup> semester-05/07/21

PEST - Derived from French word 'Peste' and Latin term 'Pestis' meaning plague or contagious disease - Pest is any animal which is noxious, destructive or troublesome to man or his interests

– A pest is any organism which occurs in large numbers and conflict with man's welfare, convenience and profit.

–A pest is an organism which harms man or his property significantly or is likely to do so (Woods, 1976). –

Insects are pests when they are sufficiently numerous to cause economic damage (Debacli, 1964)

– Pests are organisms which impose burdens on human population by causing (i) Injury to crop plants, forests and ornamentals (ii) Annoyance, injury and death to humans and domesticated animals (iii) Destruction or value depreciation of stored products. - Pests include insects, nematodes, mites, snails, slugs, etc. and vertebrates like rats, birds, etc. Depending upon the importance, pests may be agricultural forest, household, medical, aesthetic and veterinary pests.

### **Types of pest**

Pest can be categorised on the basis of three important terms

A. **Gross equilibrium position(GEP)**- The main value of pest density around which the pest population tends to fluctuate as changes occur on the the biotic and abiotic components of the environment

B.**Economic injury level (EIL)**- The lowest number of insects that will cause economic damage is referred to as economic injury level.

C.**Damage boundary (Db)**- the lowest level of injury where the damage can be measured is called damage boundary.

### **Categories of pest**

1. **Key pest**- These are the most severe and damaging pest. The gross equilibrium position (GEP) lies well above the damage boundary (DB) and economic injury level(EIL). Human intervention in the form of control measures may bring the population below the economic injury level. But it rises back rapidly and repeated interventions (sprays) may be required to minimize damage.

This pest presents a perennial threat to our crops, not being satisfactorily controlled with the available technology.

Example cotton ball worms, sugarcane borers and some vectors are frequently occurring key pest.

2. **Major pest**- In case of major pest, gross equilibrium position (GEP) is close to economic injury level, the populations' crosses economic injury level (EIL) quite frequently and

repeatedly control measures are necessary but economic damage is avoided by timely intervention. For example- rice stem borer, leaf folder etc.

3. **Minor pest**- In this case gross equilibrium position (GEP) lies below economic injury level and damage boundary(DB). Under favourable conditions, the population may cross for EIL and DB usually a short interval. A single application of insecticides is usually enough to prevent economic damage.

Example- rice hispa, Grey weevil, root weevil, sugarcane mealy bug etc.

3. **Sporadic pest**- Population of the pest is usually negligible but in certain years under favourable conditions there appears in a virtually epidemic pest crossing many times over damage boundary and economic level injury. Under this condition the pest has to be controlled by undertaking suitable management strategies. For example grasshoppers, white grubs, hairy caterpillars.

4. **Potential pest**- These insects are presently not causing any economic damage and therefore as such should not be levels as a pest. Their GEP lies below DB and does not cross EIL even under favourable conditions. Any change in the cropping pattern, culture practice ecosystem may however push their gross economic product position higher and there is a danger from this pest if controlled measures are undertaken in an indiscriminate manner.

Example Army worms from wheat under North Indian conditions.

### **Importance of pest control-**

“Pest control” refers to the regulation or management of species defined as pest usually because it is perceived to be detrimental to a person's health, the ecology or economy, in a more straightforward approach “pest control” simply refers to proper management of a certain area to keep pests away.

pest control may be applied to bigger areas like those of agriculture and food industries and even to the smaller areas like one's home or garden. The prevention of pests has been known to date back several years as old as agriculture. Pest control plays a crucial role in farming for without it, plants will die or not bear fruit.

There are many types of pest, hence farmers have to use different methods of controlling pest, common forms of pest control involve traps, field burning, hunting poison, bait, destructions of infected plants, poison spray, sterilization and eliminating breeding grounds via drainage of water or proper management of waste by doing this farmers can fully maintained the sound health of the their farms and agricultural products.