

of attack of insect pests whereas the resistant varieties are least affected by them. At present we do not have any absolutely resistant variety of any crop but many varieties of crops have a comparative resistance against insect pests. The hairy cotton varieties are more resistant to the attack of sucking pests like cotton jassid, whitefly etc. than the non-hairy varieties. The cane varieties with hard skin or epidermis are more resistant to the attack of sugar cane borers than the varieties with soft skin. The Basmati variety of rice is highly susceptible to the attack of rice borers than the IRRI of rice. Similarly the rice Basmati variety is comparatively resistant against the attack of the leaf hopper.

10. Growing of trap crops: Growing of lady finger crop around outer border of cotton field attracts the cotton jassid and spotted boll worm. Thus cotton crop will be saved from the attack of these insects. Similarly, arhar crop can be sown along outer borders of the cotton crop to attract the cotton weevil and thus the crop can be saved from this insect pest. Cotton weevil may also be controlled easily by spraying on arhar crop.

2.5.2.2 PHYSICAL CONTROL

It is the control of insect pest by the manipulation of physical factors of the environment. The following physical factors are used for the control the insect pests:

1) Temperature:

The insects can carry out their development and activity at a particular level of temperature (optimum temp. of 30-35 °C). If the temperature is extremely increases or decreases, the insects can't perform their normal activities.

(i) Use of Solar Energy: In Pakistan, it is a common practice to spread the infested cereal grains in the sun light for killing stored grain insects.

(ii) Use of high temperature: All stored grain pests in the stores can be killed by maintaining a very high temperature of 54 - 55 °C with the help of heating pipes. By this method, all insect pests are quickly killed.

(iii) Use of low temperature: It is a common practice to keep the food products

(especially potatoes) in a cold storage to avoid the attack of insect pests. The temperature of cold storage is about 4°C - 0°C or below, insects do not attack the stored products.

2) Humidity:

There is an optimum level of humidity at which insects can carry out their growth and development. At very high or very low humidity level, the insects cannot carry out their normal activities and may be killed. High humidity can be obtained by heavy irrigations and low humidity can be obtained by P₂O₅ application or sun drying etc.

3) Light:

Light had been used for the control of many insect pests in the form of light traps. If we hang a bulb or a lamp in the field at night time, most of the insects like moths, will be attracted towards this light. A container of kerosene oil is placed below the source of light. When the insects are attracted towards this light, they first strike the source of light and then fall down in the container. Thus they are killed and the crop is saved from these insects. Light is also being used in the form of radiation energy or nuclear energy to kill or sterile the insects. When the insects are treated, they become sterile and are not capable of further reproduction.

2.5.2.3 MECHANICAL CONTROL

It is the control of insect pests by special devices, machinery and manual operations. The following practices are used to control the insects:

1. Hand Picking:

It is the picking of insects by hand and then killing them. In this case the eggs, sluggish larvae and adults of certain insects are picked up and then destroyed. For example egg pods and adults of mango mealy bug which are laid in the soil under the mango trees are collected by hands and destroyed. Large sized larvae (e.g. lemon butter fly) can be successfully controlled by this method.

2. Netting or Bagging:

Some insect pests are collected with aerial hand nets or with very large field bags e.g. rice