



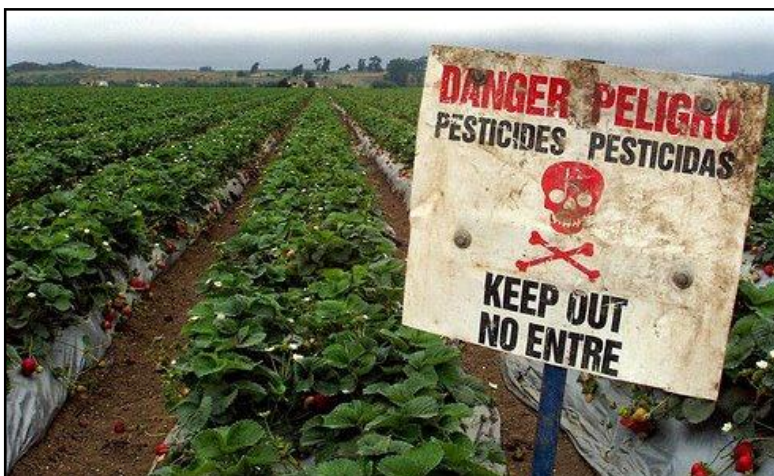
How to avoid pesticides

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All the compounds of environment including water, air and soil etc, are today in the graim grip of pollution that invites a big damage to civilization. Among various pollutants, sulphur dioxide, cloroflorocarbons-11 and 12, methane etc., are most prominent. These noxious elements move to environment by fossil fuel burning, automobile exhaust, seepage material and the applied pesticides which are utilized presently at mass level to protect crops, human and animal health. The indiscriminate use of pesticide has been giving serious blows to the environment and the worst days are unavoidable, if adequate measures are not done in this matter. In the present agriculture scenario of crop production and productivity of agricultural products the used insecticides/pesticides has become investable. It is needless to say that the luxurically grown crop attracts the number of insect-pests and no economic return from such fields is possible without offering adequate pesticide coverage. The pesticide applied on crops against pests create health hazards and pollution to environment and also induce resistance in insect-pests that become the cause of toxicity hazards, biological magnification, resurgence of insect-pests and secondary pest problems etc.

Some compounds, particularly the organochlorines (DDT, BHC and Aldine etc.) are transferred to compounds of injurious through food chain and get accumulated within the body in alarming population in due course of time. The amount of such organochlorins is certainly more in adipose tissues than other body tissues. According to the various estimates, the presence of DDT in human milk in Indian has 26-31ppm against the acceptable tolerance limit of 0.51 ppm which may be viewed seriously. In spite the dreadful chemical action of DDT, which has been banned



from use in many countries, is still being recommended.

Use of pesticides disturbs the natural balance as most of the chemicals have lack of selectivity. Being broad spectrum of action they kill not only the pests but also their natural enemies alike. As we know a group or insects offering immense service to humanity, silently. They are the killers of our enemies and hence they are certainly confirmed friends of the farmers. In the majority of cases insecticides when sprayed on crop are reported to reduce the population of phytophagus insects; however several insecticides used on orchard and field crops bring about tremendous increase of insects after a lapse of time against which they have been applied on other *Phytophagous* spp. Which present only in small number at the time of treatment? These increases are called resurgence of insect.

It is known fact that the application of the ecological principles of crop protection is a sound strategy; prior to any insecticidal control measure, it is very essential to determine the degree of selectivity of an insecticide against the pest as well as its predators and parasites. So that prior choice of insecticide with the least disturbance to the food chain can be made.

The Govt. of India is much conscious for the protection of environment from the adverse effect of pesticides. Some rules and regulations are also imposed under the insecticide act, 1971 to regulate the import, manufacture, sale, transport, distribution and use of pesticides with a view to prevent the risk of pesticide hazards.

Looking to the present scenario of pest problems, the use of pesticides has become a necessary evil for pest management programme and occupy the position of master kea when almost all pest control strategy fail to

enable the pest population to reach ETL. To keep the pest population below economic injury level and also avoid the indiscriminate use of pesticides following points should be kept in mind.

To grow insect-pest resistant, varieties: To evolve a pest resistant variety a cumbersome and time taking process but once success.

Is achieved it become a dependable and economical method for pest control. In this process the breeders needs to take plenty of interest to find the variety with requisite requirement.

To change the cropping pattern: A biotic factor such as temperature, humidity and weather conditions also effect the insect-pest population. By rescheduling the time of sowing and crop rotation, the peak period of infestation is avoided. Summer ploughing is also the good practice for the management of the population of insect-pest and diseases. As the pest and diseases spores hidden in the soil are exposed to hot sun rays and get killed. Parasites and predators also play a major role in reducing the pest population hence their conservation is necessary for the effective management of pest population. In case the use of pesticides under an ecological situation is necessary we need to the technical person in this regard to choose safer and harmless insecticide for this purpose. The use of plant originated materials such as nicotine, pyrethrum etc. Which are being outdated by the farmers, need their reintroduction and farmers may be educated regarding

their merits and values in the field of crop protection. Use of attractant, repellent, antipant and bio-pesticides such as *Bacillus thuringiensis*, NPV (nuclear polyhedrosis virus) etc. May be used as substitute to chemicals to avoid the risk due to pesticides, Not only this, the effort shoals be make to increase their production through private and public sector in different region of the country. Use of pheromone traps for the assessing pest population and also forecasting peak period of infestation should be popularised among farmers.

Today much emphasis is being laid on Integrated Pest Management that can be defined as “utilization of all suitable technique and method as compatible in a manner as possible and maintain the pest population at low level to avoid economic injury” the main objective of the IPM is to reduce the use of pesticides by integrating the pest control approaches to reduce the seriousness of the pest problem.

Lastly we can say, pesticides should be applied only when necessary, pest management should go hand in hand with pesticide management. The involvement of community with health and agricultural services to insure that pesticides are used safely and efficiently. This also means following adequate safety provisions during manufacture and formulation of these chemicals and risk management in case of accident.

Received : 26.02.2019

Revised : 15.04.2019

Accepted : 29.04.2019

INTERNATIONAL JOURNAL
OF COMMERCE AND
BUSINESS MANAGEMENT

AN
International
Research
Journal

Accredited By NAAS : NAAS Rating : 4.14

For More detail contact www.hindagrihorticulturalsociety.co.in

RN : LPBIL/2008/24389
ISSN: 0874-2646