

KISSAN VIKAS CHAMBER PUNJAB (Regd.)

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To

The Chief Minister, Punjab
Chandigarh.

Subject: Implementation of Integrated pest Management in Punjab.

Respected Maharaja Sahib,

Integrated pest management is a system where many methods are combined or integrated to keep the population of the pests below a specific level the crossing of which will cause an economic injury. This level is called economic thresh hold level. The purpose is to control the population of the pests and not its eradication. If we just eradicate almost whole of the population, then the pests remaining alive will have very strong resistant genes which will be passed to the next growing population of the pests and this generation will require much stronger pesticides to control it due to its strong resistant inherited genes. This vicious circle has been going on for a long time in the country especially in Punjab. Innocence of farmers, lack of adequate extension services and ill advice merely for the sack of profit by pesticide dealers are the main factors responsible for this process. This is the reason that we will have to adopt IPM to save the farmers from rapid reoccurrence of pest attacks and economic burden to combat them. Most of the developed countries have already adopted this system. In United States the IPM was formulated in to the national policy in February 1972 by President Nixon and all the federal agencies were directed to advance it and in 1979 President Jimmy Carter formed interagency coordinating committee to to ensue IPM's development and implementation. In a Congressional hearing on September 1993 U.S department of agriculture(USDA), Environment Protection Agency(EPA) and FDA pledged to have 75 percent US agricultural acreage under IPM by the year 2000 and reduce the use of pesticides. In Israel 65 percent citrus grooves use integrated pest management (IPM) programmes which was pioneered by Kibbutz Sde Eliyahu. Food and Agriculture Organisation (FAO) of the United Nations promotes IPM as preferred approach to crop protection and regards it as pillar of both sustainable intensification of crop production and pesticide risk reduction. FAO has also been providing assistance in Asia especially in Vegetables.

Many methods other than the use of chemical insecticides are first used to control the pest population up to the thresh hold level. But if such methods are unable to control the pest population and it crosses the thresh hold level, only then the chemical insecticides are used. The following methods are applied first

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(1) Preventive Cultural Practices- They include the following measures.
a) Selecting varieties which are the best for local conditions and maintaining healthy crops and plants is the first line of defence.

b) Removal of diseased plants, cleaning and pruning of dead wood to prevent infection. This is a sort of plant Quarantine.

c) Keeping a preventive distance from host crops as the cotton should be planted at least half a mile from the the crops of Melons, cole crops and tomatoes. Host weeds should be destroyed.

2) Monitoring -Regular observation is critically important. Visual inspection and other methods are necessary to determine pest level and for this the pest behaviour and reproductive cycle must be known. Since insects are cold blooded so their physical development depend on area temperatures which can be determined by degree-days.

3) Mechanical Control-Should the pests reach an unacceptable level, the methods like hand picking ,traps and tillage to disrupt breeding should be adopted.

4) Biological Controls-Natural biological processes and materials can provide control with acceptable environmental impact and often at a lower cost. This process promotes beneficial insects that eat or parasitise target pests. Cotton Whitefly(*Bemisia Tabaci*) can be controlled by several wasps species in genera 'Encarsia Eretmocerus' which parasitise whitefly. Nymphs of Whitefly can also be preyed upon by 'bogeyed bugs, Lacewing larvae and lady beetals. Similarly Thrip in citrus can be controlled by its natural enemies *Euseius Tularensis*, spiders and minute pirate bugs and citrus mites by certain viruses.. Pheromones secreted by insects are isolated and are used to disrupt pest mating. Sterile Insect technique is adopted by introducing sterile male pests in to the pest population to trick females into unsuccessful breeding encounters providing a form of birth control and thus reducing the reproduction rate.

If the pest population crosses the thresh hold level in spite of the application of the above measures, then only the chemical pesticides are used. Here too the pesticides derived from natural occurring substances like nicotine and pyrethrum are used in the first place and synthetic chemical pesticides are used as the last resort..

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This is the high time that this system of IPM is adopted in the country and especially in Punjab where reckless use of more and more poisonous pesticides are making different pests more and more resistant and immune to the prevalent pesticides and making human beings victims of many dreaded diseases. This continuing process has been adding more and more economic burden on the farmers for plant protection measures.

Punjab Agriculture University has initiated and has done some work on IPM. Pheromone traps to catch male fruit fly in citrus have been created and they have shown very good results. Some work has also been done on Sugarcane. But much more is needed to be done. I suggest you to create a committee of experts to make a comprehensive plan and implement it with specially created efficient extension system. Insectaries which breed beneficial insects and mites for biological pest control should be found out to bring such insects. Although a national policy for IPM is still to be formed by the Central Government, but it has established a National Centre for Integrated pest Management at the campus of Indian Agriculture Research Institute in New Delhi. With a view to provide technical knowledge to extension functionaries and farmers in the states, a national workshop on IPM for harmonisation of package of practices was organised at this centre in February 2013. Department of both Agriculture and Horticulture should be directed to keep liaison with the said Centre to keep abreast of the latest techniques in IPM. Punjab Agriculture University should also initiate a vigorous research and impart latest knowledge through its Krishi Vigyan Kendras (KVK) and its own extension services.

It will also be advisable and pragmatic if some understanding is reached with the neighbouring states, of Rajasthan, Haryana and Himachal Pradesh to combat the pest attacks like yellow rust in wheat, white fly in cotton and pests like thrip, mites, psylla and scales in citrus and so on.

I request you to take a proper action in the matter which may go a long way to boost the development of Agriculture in Punjab.

Thanking you

Yours Sincerely


(Kulwant Singh)

Dated: 01-03-2019

President Kissan Vikas Chamber Punjab