



## INTEGRATED COMBAT OF PESTS



### **The idea of the integrated combat of pests and the bases underlying it:**

For minimising the harm resulting from using chemical insecticides for combating pests that attack different kinds of crops, scientists began to seek for substitutes of these ticides. Thus, the concept of «integrated combat of pests» has recently come to existence».

Integrated combat of pests is based on the assumption that

both the crop and the pest are parts of a single agricultural and environmental system. To eliminate pests in this ecological system, we should depend on the biological factors that minimise the proliferation of pests.

This combat is also based on another assumption that effective protection of crops does not necessarily mean a complete elimination of pests. We only aim at decreasing damages in crops to an economically acceptable degree through using economically and environmentally controlled measures.

### **The importance of integrated combat of pests:**

When we use chemical insecticides for combating pests that attack crops, we harm our environment more than benefiting it. We pollute the environment, and these pesticides cause serious damage to land and plant life, to soil, and to the sea creatures. These insecticides either directly or indirectly affect land life. They poison bees and birds that pollinate crops and feed on poisonous seeds. They also poison the mammals as they feed on poisoned rodents. In fact, there are many cases which were recorded in this respect.

These insecticides also poison water and kill creatures living in the sea such as crustaceans and destroy the ecological system in one way or another. Chemical insecticides also destructively affect immunity systems in animals as they interact with these systems and decrease their effectiveness.

### **Using pesticides in developed and developing countries:**

Since 1941, when the D.D.T. was the dominant pesticide,

poor countries have become productive markets for pesticides. Poor countries used to buy chemicals for public health purposes such as combating malaria through combating mosquito's. These chemicals were also brought for agricultural purposes, especially in wide farms which produce export crops such as bananas, coffee, and sugar cane. In spite of this, developing countries represented a small quotient in the world consumption of pesticides between 1940 and 1950. In 1960s and the 1970s, seeking for productive crops which were called the green revolution at that time, caused excessive use of pesticides in developing countries.



In India for instance, areas treated by pesticides increased from 6 million hectare in 1960 to 80 million hectare in the mid of 1980. According to the World Bank statistics, selling pesticides in the south east of Asia markets increased to \$ 2,5, billion in the mid of the 1980s. Indonesia, Pakistan, Philippine and Sri Lanka witnessed an increase in consuming pesticides reaching more than 10 % annually in the period between 1980 and 1985.

### **Methods of integrated combat of pests:**

Nonchemical methods form the base of the integrated combat of pests. Some of these methods are crop rotation, growing more than one crop , early and late growing for protecting crops from pests at the critical stage, and growing hunting crops to which the pests are attracted and keep away from the main crops. An example of this is growing cotton in Nicaragua where some parts of the land are, usual-



ly grown cotton some months before growing the main crop, aiming at protecting cotton from boll weevil, which may be combated by hand or by using pesticides that do not affect the main crop.

Biological treatment is one of the most important methods of the integrated combat of pests. This method depends on using natural enemies and parasites that feed on pests. In China and India for instance, a great number of hornets are usually brought up and placed in fields for combating the pests of maize, cotton, rice, and sugar cane.

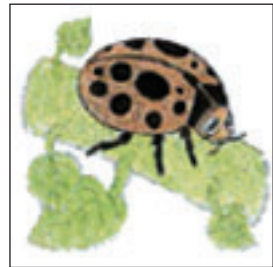
Nowadays scientists are seeking for other methods for expanding the integrated combat of pests for preserving different biological creatures.

## Do you know ?

Consuming pesticides in the United States of America began to be stable in recent years while it slightly increased in West Europe countries?

Developing countries buy nearly 31% of the world's pesticides exports.?

Selling pesticides to the developing countries exceeds \$ 21 billion annually.



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