

PLANT PROTECTION

INTEGRATED PEST MANAGEMENT (IPM) FOR SELECTED CROPS

The intensive agriculture practiced during the last fifty years or so contributed to significant increase in production. However, the injudicious use of chemical pesticides as one of the intensive inputs, affected non-target and beneficial organisms. Over the period the residues grew as environmental threats and non-tariff barriers to export of agricultural commodities. The biggest challenge today is to sustain crop production along with conservation of natural resources like soil and water, and to conserve and maximize the abundance as well as the effectiveness of beneficial insects and microorganisms by adopting a systems approach with a holistic view. One of the conservative estimates is that around 18% loss in yield in different field crops is due to disease and insect infestation amounting to Rs. Forty five thousand crores. In order to keep the economic losses to the minimum, Integrated Pest Management (IPM) has been introduced since 1985.

The IPM approach includes all the components such as soil preparation, treatment of seed, optimum sowing time, maintenance of desirable plant population, balanced use of fertilizers, irrigation water, monitoring of insect pests, need based use of pesticides, and use of bio agents for sustainable and healthy crop production. Estimates show that in our country, approximately half of the total pesticide use is in cotton, 17% in rice, and 12% in vegetables and the remaining in other crops. The National Centre for Integrated Pest Management (NCIPM), New Delhi in association with several other institutions like State Agricultural Universities, State Departments of Agriculture and Horticulture, Non Governmental Organizations, and private industrial institutions has developed IPM modules for several important crops. These modules are environmentally sound, economically viable and socially accepted and have been validated in farmer's participatory mode at several locations. The IPM modules being location and crop specific require appropriate refinement as per location needs. Early warning system for aphids and bollworms has also been developed for rational decision making by the farmers.