

PROCEEDINGS AND RECOMMENDATIONS

NATIONAL SYMPOSIUM ON “INTEGRATED PEST AND DISEASE MANAGEMENT IN ARID AND SEMI-ARID AREAS”

Inaugurated by His Highness Shri Gaj Singh Ji, Ex Maharaja of Marwar, Jodhpur. Dr K P R Vittal, Director Central Arid Zone Research Institute, Jodhpur was the Guest of Honour. Dr R L Srivastava, Director Arid Forest Research Institute, Jodhpur Presided over the function. The symposium was organized on a major themes of IPDM wherein an overview and Status of IPDM comprising Biopesticides, Botanicals, Chemical pesticides/ fungicides and other in Pest/ Disease Management, Insect Predators, Parasitoid and Nematodes, Entomopathogenic fungi, bacteria and viruses and Mycorrhizal symbiosis in management of soil-borne pathogens was presented. The symposium had six Technical Sessions and one Poster Session with Key note address – 1; Special lecture – 1; Lead lectures – 8 ; Oral – 30; Posters – 26 ; Participants – 90 from 13 different States (Orissa, Karnataka, T.N., Maharashtra, M.P., U.P., Uttrakhand, Haryana, Gujarat, Rajasthan, H.P, Delhi, Kerala). Highlights: Indiscriminate use of insecticides / fungicides have caused development of resistance in insect pest and pathogens. It was therefore felt that all the eco-friendly strategies should minimize use of target insecticides/ fungicides . Increasing mortality in Khejri and hollowness in Rohida was a matter of serious concern for all. A strong need was felt to coordinate research output with extension agencies so that the benefits of management strategies are quickly disseminated to end users.

General Recommendations:

Biological Control:

- Use of bio-control agents against Insects, pathogens and nematodes should be popularized among farmers as an integral component of IPDM
- Efforts should be made to improve purity, aggressiveness and shelf life of effective bio-control agents
- Native strains of bio-control agents should be explored

Botanicals:

- There exists good scope of use of certain botanicals of the region in IPDM such as *Calotropis*, Dhatura, Neem, Henna, Medicinal plants, etc
- More research efforts are required to analyze active component and to generate data on use of botanicals as extract, residues, etc in order to promote their use among farmers

General recommendations of IPDM

- Resistant varieties of crops and trees should be developed.
- Development of transgenics - Research efforts should be intensified to replicate success of Bt cotton in crops and tree species grown in arid and semi-arid regions.
- Crop and tree rotation fitting to different agro-climatic regions should be recommended
- Summer ploughing, time of planting, mixed or intercropping, etc should be a part of IPDM

- Use of bio-control agents
- Minimum use of pesticides

Significant findings:

- Mycoherbicide tactic for *lantana camara* management
- *Origanum majorana* oil extract possess insecticidal, antioxidant and antifungal activity to protect stored food crops
- Synthetic sex pheromone for trapping coffee white stem borer in coffee plantations has been found effective
- Application of neem cake has been found effective in reducing nematode disease in nursery and field
- Babul white fly *Acaudalyerodes rachipore* can be controlled by using 30 species of natural enemies

Policy issues:

- Coordination between different research organization of ICAR, ICFRE, State Agricultural and other universities should be strengthened in order to
 - (i) Share and generate location specific recommendations
 - (ii) To avoid duplications in research efforts
- NGO's in the region should be involved in dissemination and feed back of technologies
- Regular training programmes should be conducted at research organization for extension personnel of agriculture, forest , NGO's and other agencies
- IPDM should be promoted through Farmer's Field Schools , Van Vigyan Kendras and KVKs