

International Conference on  
**CLINICAL PHARMACY**

&amp;

International Conference on  
**BIOCONTROL, BIOSTIMULANTS & MICROBIOME**

September 06-07, 2018 | Zurich, Switzerland

**Success story of utilization of biocontrol agents: Nematode disease complex management, effect on microbiome and plant resistance****M S Rao**

Indian Institute of Horticultural Research, India

**B**iopesticides are promising alternatives which have overwhelming advantages of high selectivity to target pests; safety to humans and non-target organism; amenability to integrated pest management; renewability and sustainability. We standardized mass production protocols of talc and liquid formulations of several biopesticides viz., *Paecilomyces lilacinus*, *Pochonia chlamydosporia*, *Trichoderma viride*, *T. harzianum*, *Pseudomonas fluorescens*, *Bacillus subtilis* and *Bacillus pumilus*. We also generated data on their bio-efficacy, toxicity etc. required for their registration by Central Insecticide Board and Registration Committee (CIBRC), Faridabad, Ministry of Agriculture, India and transferred the mass production technology of these bio-pesticides to more than 500 industries all over India. Strategies for stage-wise application throughout the cropping period and cost-effective methodologies for large scale application in open fields and polyhouses have been standardised

which are economically feasible, socially acceptable and environmentally sustainable. This drastically reduced damage due to root knot nematodes in guava, pomegranate, tomato, okra, gherkins, cucumber, capsicum, tuberose, gladioli, gerbera and carnations grown under open field and polyhouse conditions. Following all these biopesticide interventions regularly, farmers are able to reduce the use of chemical pesticides to the tune of 30 – 40% with the increased yields from 20 – 30%. Millions of farmers are using these technologies in India. We also generated the data on effect of these bio-agents on Induced Systemic Resistance (ISR) in crops. We investigated the effect of these bio-agents on soil- microbiome and on general resistance in plants against fungal, viral, bacterial pathogens and sucking pests. The highlights and breakthroughs made in this area of research will be presented in the conference.

msrao@ihr.res.in