



National Symposium on

**Entomology 2022: Innovation & Entrepreneurship**  
8-10 December 2022, Hyderabad

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## Invited Speakers and abstracts of their Talk

### I. Agricultural & Forest Entomology

**Dr. Ch. Padmavathi and Dr. P.G. Padmaja**

Principal Scientists, ICAR-IIRR and ICAR-IIMR  
Hyderabad, Telangana, India

Title of the talk

**"Insect Resistance in Field Crops: Advances and Prospects"**

#### ABSTRACT

**Insect resistant crop plants form the core component of Integrated Pest Management (IPM) due to their ability to reduce the crop losses and associated insecticide costs in addition to protecting the environment. In this review, various types of resistance being cited, resistance mechanisms and causal factors responsible with examples were discussed. Traits associated with resistance, genetics and inheritance patterns were listed. Several sources of resistance including crop varieties, wild relatives, QTLs identified and mapped for major insect pests so far were elaborated along with steps in the development of a resistant variety. Advantages and limitations of insect resistance was also discussed with emphasis on the development of insect biotypes. Novel strategies in molecular approaches like marker assisted selection, gene pyramiding, RNAi approach along with genome editing strategies were emphasized. The development of insect resistant crops is a sustainable way to manage pests and hence emphasis need to be given to breed trait specific insect resistant cultivars utilizing the novel approaches in the future breeding programs.**