DIVISION OF VEGETABLE PROTECTION

Externally Funded Projects

28. AICRP on Biological Control of Crop Pests This All India Coordinated Research Project evaluates and promotes biological control agents and bio-intensive pest management modules for vegetable crops. Research validates efficacy of parasitoids, predators, and microbial pesticides under different agro-climatic conditions. Farmers gain access to validated biocontrol technologies supporting pesticide-free vegetable production and natural farming systems.

29. Strengthening and setting up of Nucleus Stock Development Centre in existing apiculture unit and development of Agri-Start-ups This mission-mode project promotes scientific beekeeping as an allied enterprise for vegetable farmers while enhancing pollination services in cucurbits and solanaceous crops. Activities include training, input distribution, and establishment of apiary units. Farmers benefit from additional income through honey production while crop yields improve through enhanced pollination, creating a mutually beneficial integration.

30. Resistance monitoring studies in tomato early blight (*Alternaria solani*) for azoxystrobin fungicide These industry-collaborative projects establish baseline sensitivity and monitor resistance development in vegetable pathogens against newer fungicide molecules including Azoxystrobin, Pydiflumetofen, and Adepidyn. Research generates data on discriminatory concentrations and resistance frequencies. The outcomes guide fungicide stewardship, preventing resistance development while ensuring continued efficacy of plant protection products.

31. Baseline study of tomato powdery mildew pathogen against a fungicide molecule (Adepidyn)

This industry-collaborative study establishes baseline sensitivity of tomato powdery mildew pathogen (*Leveillula taurica*) against the novel fungicide molecule Adepidyn through standardized bioassay protocols. Conidia collected from diverse field locations were subjected to discriminatory concentration testing to determine inherent sensitivity levels before widespread commercial use. The baseline data serves as a critical reference for future resistance monitoring, enabling early detection of sensitivity shifts and guiding fungicide stewardship strategies to prolong product efficacy for farmers.

33. AICRP on Nematodes in Agriculture This coordinated project screens vegetable germplasm for nematode resistance, evaluates management strategies, and monitors nematode distribution in vegetable-growing areas. Research identifies resistant sources and validates integrated management modules. Farmers gain access to resistant varieties and eco-friendly management options ensuring sustainable production without soil fumigation.

34. Establishment of Referral Laboratory for Pesticide Residue Analysis (RKVY) This Rashtriya Krishi Vikas Yojana-funded project establishes a state-of-the-art pesticide residue analysis laboratory equipped with LC-MS/MS for multi-residue testing in vegetables. The laboratory supports food safety monitoring, export certification, and research on residue dynamics. Farmers and exporters benefit from accessible residue testing services ensuring compliance with domestic and international MRL standards.

35. AICRP on Seeds This coordinated project addresses seed health management, storage pest control, and seed quality enhancement in vegetable crops. Research evaluates plant-based protectants and seed treatment effects on viability and vigour. Seed producers and farmers benefit from improved seed storage technologies ensuring planting material quality and reducing storage losses.