Press Note

Presentations of the Post Graduate Students Research (PhD) in 63rd Convocation of ICAR-IARI, New Delhi 18.03.2025

The 63rd Convocation week (March 17-22, 2025) of ICAR–Indian Agricultural Research Institute, New Delhi continued on 18th March 2025. It started with the presentations of the Post Graduate Students Research (PhD) of various discipline (Agricultural Chemicals, Agricultural Economics, Agricultural Engineering, Agricultural Extension, Agricultural Physics, Agronomy, Biochemistry, Bioinformatics, Entomology, Environmental Sciences, Floriculture & Landscaping, Fruit Science, Genetics and Plant Breeding, Microbiology, Molecular Biology and Biotechnology, Plant Genetic Resources, Plant Pathology, Plant Pathology, Plant Physiology, Seed Science & Technology, Soil Science and Vegetable Science) showcasing their significant achievements to get IARI Merit Medals and Best student of the year Award.

The session was convened and co-convened by Dr. Anil Dahuja, Professor, Division of Biochemistry and Dr. Atul Kumar, Associate Dean (PG) ICAR-IARI, respectively.

Dr. B.M. Prasanna, Distinguished Scientist, CIMMYT and Regional Director, CIMMYT-Asia, NASC Complex, New Delhi chaired the session. Other esteemed jury members included Dr. J.P. Sharma, Former Vice Chancellor, SKUAST-J, Jammu & Former Joint Director (Ext.), ICAR-IARI, New Delhi; Dr. R.K. Jain, Former Dean & Joint Director (Edn.), ICAR-IARI, New Delhi; Dr. Bimlesh Mann, ADG (EP & HS), ICAR, New Delhi; Dr. V.B. Patel, ADG (Fruits & Plantation Crops), ICAR, New Delhi; Dr. S.K. Sharma, ADG (HRM), ICAR, New Delhi. In the session, shortlisted students from different divisions presented their research achievements and salient features. The major thematic areas of the research included Synthesis of prenylated chalcones and their evaluation against plant pathogenic nematodes and fungi in tomato; Design and development of crop canopy reflectance-based real-time variable rate fertilizer application system; A study on institutional interventions for agri-entrepreneurship development; Quantification and mapping of soil ecosystem services under conservation *vis-à-vis* conventional agriculture; Modeling agricultural price through deep learning techniques; Productivity and resource budgeting of rice-based production systems under different irrigation methods and nitrogen management; Development of processing methods to improve pigeonpea protein quality: by characterizing its effect on polyphenol protein

interaction, techno functionality and cytotoxic properties of protein isolates; A study on development of artificial intelligence-based methodology for identification of copy number variation in crops; Genome-wide analysis and identification, characterization, expression and functional analysis of odorant-binding proteins and chemosensory proteins in the whitefly, *Bemisia tabaci*; Standardization of *Dendrobium* orchid production under vertical farming structures and post-harvest handling protocols; Evaluation of interspecific citrus scion hybrids for fruit quality and health promoting compounds; Analysis of genetic variability, molecular characterization and marker-aided enrichment of methionine in maize; Developing synthetic microbials (SMs) based novel biostimulants for improved crop growth and nutrient use efficiency; Identification of key genes associated with seed protein content in chickpea by RNA-seq and small RNA analysis; Genes and pathways for parasitism and development of *Anguina tritici* on wheat; Genome and metabolome characterization of phyllosphere adapted *Pantoea* species for antimicrobial metabolites against blast and bacterial blight in rice; Stem reserve mobilization and stay-green traits for yield stability in wheat under combined heat and drought stress; Studies on production of Kamalam/Dragon fruit (Hylocereus polyrhizus) powder using tray drier and its value-added products; Solid-solution equilibria, fractions and availability of arsenic in soil as affected by amendments; Development of mapping population and identification of QTLs associated with extended shelf-life in cucumber (*Cucumis sativus* L.).

The Chairman and jury members complimented the quality of research work carried out by post-graduates and motivated to generate quality information for the advancement of agricultural sciences.

Courtesy
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