Day 2"Press Note"

Significant Research Achievements of PG Students

On second day of 58thICAR–IARI Convocation week , the significant research achievements of PG student'spresentation were presented under the chairmanship of Dr. R. B. Singh, Former Vice Chancellor, CAU, Imphal and convener Dr.Neera Singh, Professor, Agricultural Chemicals, Dr.A.K. Singh, Director, ICAR-IARI and Dr RashmiAggarwal, Dean & Joint Director (Education) .Dr. RashmiAggarwalwelcomed the chief guest of today's programme.

The presentation from School of Crop Improvement included the biotic stress tolerance by genetic analysis of leaf rust resistance of NP series in Dicoccum varieties of wheat and abiotic stress tolerance in different crops through the genetic dissection of drought tolerance traits in wheat, genetic mapping of root system for drought tolerance in rice and soybean crops.The nutritional quality traits of maize and lentil were also presented as a part of significant research achievements.From the Division of Plant Genetic Resources,significant research achievementspresented were the detection and identification of bean common mosaic virus resistance germplasm in mungbeam, which can be utilised in crop improvement programme for breeding of resistant cultivars. The presentation from the Division of Seed Science & Technology highlighted the heat tolerance indicator and its mitigation in wheat which revealed that spray of salicylic acid @200ppm was found to be most effective treatment followed by KCI@1% and brassinolides (0.1ppm).

The presentation from School of Crop Protection included the synthesis of halogen substituted benzylidene aryl amines and their pesticidal activities, these compounds can act as a lead for developing new antifungal compounds. The crop diversification for sustainable management of brinjal shoot and fruit borer help the farmers for taking accurate decision besides reducing their efforts, time and money thereby ensuring a better benefit: cost ratio to them. The influence of farmscaping on major insect pest and bio-control agent in okra can help in eco-friendly suppression of okra pests, reducing farmer's unwanted expenditure on pesticides, besides preventing environmental contamination.

The presentation from School of Natural Resource Management presented the design and development of check row planter for small farm mechanisation. It can save 84% of the cost of operation over manual check row planting of maize. The conservation tillage (zero tillage/permanent beds) alongwith nutrient expert enhancesproductivity, profitability and soil properties compared to other conventional based approaches. The phyto-remediation coupled with manures production from algal biomass is sustainable practice to reduce pollution, recycling of waste water, and improve soil quality. The promise of cynobacterialamendment, as a priming option can provide more than 25% N saving, besides reducing agrochemicals use in propagating chrysanthemum nurseries.

The presentation from School of Basic Sciences included the inhibition of lipase activity by microwave treatment of pearl millet flourwhich could be developed into an effective and efficient technology for enhancing the shelf life of pearl millet flour. Allantoate level correlated well with gene expression and enzyme activity in *O. coarctata* under salt stress condition, where as in IR-29 it decreased with the increasing time period of salt stress which was contrary to the level gene expression and enzyme activity of allantoinace. There was significant

correlation between NAR and stomatal ratio in the mutant. This high photosynthesis mutant will be helpful in improving the photosynthetic performance of rice.

The presentation from School of Horticultural Sciences included the resistance gene analogs in Gladiolus genotypes in response to *Fusarium*wilt disease that can be used as molecular markers in marker assisted selection for disease resistance breeding. The morphological, biochemical and molecular analysis showed a high degree of variation among the guava genotypes indicating them as important source of genetic diversity that can be used in the guava improvement programme. Hexanal on fresh produce and post storage holds promise in prolonging post harvest storage life and preserving quality of apple cv. Royal Delicious. The onion genotypes showing high activity of antioxidant enzymes can be utilised for the purple blotch disease resistance in onion.

School of Social Sciences presentation included the double bound contingent valuation method to calculate the consumer willingness to pay for bio-fortified mustard oil and it was found that urban and rural consumers are willing to pay 36 and 26 percent, respectively than the existing price. The validated e-learning module could be effectively used for enhancing the knowledge of the extension agents regarding contingency plans for climate change adaptation.

The session ended with vote of thanks to the chair, members of jury, faculty andstudents.