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Keynote

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Title: Plant Genetic Resources for Food and Nutritional Security

Abstract:

Plant Genetic Resources (PGR) contributes enormously towards achieving the Millennium Development Goals of food security, poverty alleviation, environmental protection and sustainable development. Globally over 7.4 million germplasm accessions conserved in about 1750 genebanks. ICRISAT Genebank conserves over 128,000 germplasm accessions of six mandate crops (sorghum, pearl millet, finger millet, chickpea, groundnut, pigeonpea) and five small millets (foxtail millet, proso millet, barnyard millet, little millet, kodo millet). Greater variability exists in the germplasm collection for important traits including for yield, adaptation and for grain nutrients density. For example, in sorghum, evaluation of mini core accessions resulted in identification of 70 accessions as resistant to biotic stress, 12 to abiotic stress, and 13 for bioenergy traits and 27 for nutritional traits. Multiple trait specific sources include: IS 23684 (nutrition traits, diseases, insect pests), IS 1212 (earliness, nutrition traits, drought, seedling vigor, diseases), IS 5094 (yield, drought, diseases, insect pests), IS 473 (earliness, diseases), IS 4698 (yield, Brix, insect pests) and IS 23891 (large seeds, yield, Brix, drought, diseases). ICRISAT genebank has been the major source of germplasm of its mandate crops and small millets, supplying them worldwide for use in crop improvement programmes. Since 1974, the ICRISAT genebank has distributed over 148,8000 germplasm accessions to 148 countries (as on Dec 2018). Over 1000 varieties/hybrids have been released in different countries from ICRISAT-supplied germplasm and breeding materials, including 100 accessions that were directly released as 137 cultivars in 51 countries. Utilization of untapped potential of germplasm could potentially support in enhancing crop productivity, and reducing malnutrition and hunger in a changing climate scenario.

Biography:

Dr M Vetriventhan is a Senior Scientist (Genetic Resources), in the Genebank, at ICRISAT-Hyderabad. He obtained his PhD in Plant Breeding and Genetics from Tamil Nadu Agricultural University (TNAU), Tamil Nadu, India. Prior to joining ICRISAT, he worked as Scientist (Plant Breeding) for about two years at the Directorate of Seed Research, Indian Council of Agricultural Research (ICAR), Uttar Pradesh, India. He has over 60 publications, including 22 research articles, 1 review and 6 chapters in books, and he has also edited one book and four training manuals.

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