Training Workshop on

Genomic Selection for Dryland Crops

03-07 February 2025
ICRISAT, Hyderabad, India

The increasing effect of climate change and its likely impact on food production has enhanced global awareness on Dryland Crops (DCs) as a promising solution for ensuring food security under difficult environments. Beyond their potential as sources of resilience traits, DCs improve sustainability of food systems, are packed with desirable nutrients, and in some cases, have medicinal and/or cosmetic value.

Despite previous low research investments, recent advances in innovative technologies are promising to fast track the development of farmer-preferred varieties for these crops. In the last decade alone, high quality reference genomes have been generated for more than 30 DCs, making it possible to undertake Genomic Selection (GS).

Genomic selection is a powerful form of marker-assisted selection (MAS) that enables concurrent improvement of target traits using a large set of genome-wide markers. This training workshop is designed for those actively involved in breeding DCs and plan to integrate, or are in the process of integrating GS in their programs.

We will use sample, as well as user-generated datasets to facilitate the optimization of prediction models and demonstrate how to successfully implement GS for different DCs at various stages of breeding.

Purpose: To share knowledge on the implementation of GS; identify potential entry points for breeders of different dryland crops based on the various stages of breeding, and to use own datasets to streamline and optimise on-going GS programs.

Expected Output: Breeders of various DCs equipped with the relevant information to initiate and optimise routine GS in their breeding programs.

Course duration and venue: This will be a 5-day workshop to be held at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) headquarters, Patancheru, India.

No. of participants: Maximum 25 participants.

Types of training material: Powerpoint presentations; sample datasets; data analysis software; course content hand-outs; field visits; discussions and hands-on practical sessions etc.

Course Coordinator

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