APBAConf2025 ICRISAT Side Event

Theme: Accelerating genetic gain for food and nutrition security in the drylands

Event Date and Time: 7th October, 2025; 11.00 am – 3.30 pm

Venue: Gwayi Room, Elephant Hills Resort, Victoria Falls, Zimbabwe

Background: Drylands cover about 60% of Africa's total land mass and consist mainly of smallholder farmers. Millets (including sorghum), and resilient legumes have been produced by the majority smallholder farmers in the drylands for centuries but are often low yielding. The major challenges limiting productivity include erratic rainfall, degraded soils and several fast-evolving biotic stresses. Ensuring that farmers sustainably depend on dryland crops for subsistence and income requires substantial increase in the yields of millets and pulses. There are several reports claiming high nutritional value of millets and legumes, but how would the desirable nutrient content be affected by an increase in yield? Is there a limit to yield increase in dryland crops beyond which some level of irrigation must be introduced? What are some of the research and innovations available for improving productivity, nutrient quality, climate resilience, and delivery of seeds on-farm? What partnership engagement are required to enable scientific innovations in the drylands?

This workshop brings together a multidisciplinary team of scientists working on diverse dryland crops and technologies working together to address these questions. Advances made in improving yield, nutrient content, various resilience traits, and upscaling technologies will be presented by different scientists working across the continent and beyond. Specific breakthroughs addressing continent specific challenges will be highlighted.

Objectives: To share knowledge on innovations and technologies contributing towards genetic gain in Dryland Legumes and Cereals (DLC) in Africa.

Topics:

1. Allele mining of genebank accessions to improve resilience and nutrition quality of dryland crops
2. Optimising breeding pipelines for better yields in dryland legumes and cereals
3. Enhancing heterosis in dryland cereals and legumes through optimum selection and characterization of inbred lines
4. G x E x M and crop modelling for impact
5. Gene editing of dryland crops: What are the priority traits?
6. Digital agriculture and its applications in improving genetic gains
7. Positioning seed systems to deliver improved cultivars on farm