Germplasm/population development/ trait analysis in CIRAD and partners

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Assessment of genetic diversity structure is a key step to optimize genetic diversity management in the context of breeding programs. CIRAD in collaboration with international partners contributed to the development of reference populations for sorghum. Taking advantage of these efforts, genome wide association analyses are currently on-going to identify key genomic regions impacting biomass composition. In addition, marker assisted recurrent selection strategies are being developed based on a multi-parental crossing scheme involving elite lines and donors of biomass quality. Finally, with the objective to inject a wider diversity of biomass composition in breeding programs, a Back cross Nested population anchored on two elite recurrent varieties and 10 donor parents encompassing a large stem biochemical diversity of the aboveground biomass is being developed.

Keywords : sorghum, population development, Genetic diversity GWAS, Back Cross Nested Association Mapping