Marker-assisted backcrossing of stay-green QTLs into elite tropical sorghum genotypes. (C01-hash010357-Poster)

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Abstract:

ICRISAT has begun to operationalize SSR-based marker-assisted selection for the stay-green component of terminal drought tolerance in sorghum (Sorghum bicolor) to introduce QTLs contributing to this trait, from donors B 35 and E 36-1, into locally-adapted, farmer-preferred high-yielding OPVs, and parental lines of superior hybrid cultivars, that are cultivated in tropical regions of Africa, Asia and Latin America. Products of this marker-assisted backcrossing program will provide farmers - as well as plant breeders, physiologists, agronomists, and livestock nutritionists - in sorghum producing regions throughout the tropics with the opportunity to assess the potential utility of stay-green drought tolerance in genetic backgrounds more closely adapted to their local conditions than the original sources of this trait. The first of these products of marker-assisted backcrossing should be available for initial phenotypic comparisons with their recurrent parents less than one year from now. Additional operational funding would permit wider use of ICRISAT's facilities in this applied demonstration of marker-assisted breeding for sorghum drought tolerance improvement.

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