PROJECT TITLE

Genetics bases of root growth in pearl millet

CONSORTIUM

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SUMMARY OF THE REPORT

Pearl millet is an important crop for food security in the semi-arid areas of the Sahel where other crops tend to fail because of low rainfall and poor soil conditions. However, it lags behind other cereals in its genetic improvement and its average yields are low. We target root traits in pearl millet to enhance water and nutrient acquisition, production stability in changing climates, and to increase global food security. We previously performed genetic association studies on a large panel of inbred lines to identify genome regions controlling primary root growth, a trait that is important for early drought tolerance. We identified 9 significant marker-phenotype associations that we mapped to the pearl millet genome.

We used the 2D-RSAT facility at the University of Nottingham UK to phenotype F2 plants from 2 bi-parental populations to perform bulk segregant analysis and validate some of these QTLs.