

Quantitative trait loci mapping for drought tolerance in an Andean recombinant inbred population of common bean (*Phaseolus vulgaris*)

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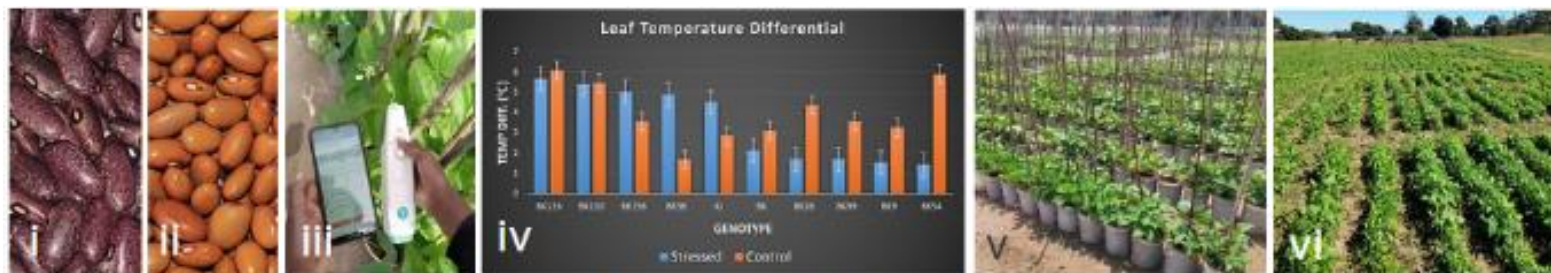
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Project objectives

Drought is an increasingly important constraint to production and can result in the complete loss of a harvest. Most widely used sources of drought tolerance are from the Meso-American gene pool. Andean bean genotypes tolerant to drought have been identified. This projects aims to establish phenotypic correlations between various drought-related traits and their genetic basis using a set of 158 Recombinant Inbred Lines (RILs) bred from a cross between Bukoba amd Kijivu. Experiments include two pot trials and two seasons of field trials.

Progress to date

1. A 12K(12000) single nucleotide polymorphisms (SNP) chip was used to screen the parents for polymorphisms (genetic diversity).
2. 1840 markers were used to build the linkage map on the 11 common bean chromosomes.
3. Two field trials and one pot trial have been completed.



Parental lines for the genetic mapping population: Kijivu (i) and Bukoba (ii); Ms Swivia measuring leaf temperature of different bean varieties under water stressed conditions and non stressed conditions (control); results of the leaf temperature measurements (iv); pot trials (v) and field trials (vi).