TRANSFERRING *STRIGA* RESISTANCE GENES INTO FARMER PREFERRED SORGHUM VARIETY IN RWANDA

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Abstract (C2119)
Striga hermonthica is one of the major constraints of sorghum production world-wide and particularly in eastern province of Rwanda. In this study, 5 *Striga* resistance Quantitative Trait Loci (QTLs) from a resistance donor N13 line and located on SBI-01, SBI-02, SBI-05 (with 2 QTLs) and SBI-06 were transferred into IS8193 line, a farmer preferred sorghum variety in the eastern province of the country. The transfer was performed using Simple Sequences Repeats (SSRs) molecular markers. Nine foreground polymorphic SSR markers were used to identify F1 progenies carrying *Striga* resistance QTLs. From a cross between IS8193 and N13, a total amount of 20 F1 progenies were genotyped and 16 of them were found to have one to three introgressed *Striga* resistance QTLs. The 16 selected genotypes were backcrossed to IS8193 to produce BC1F1 generation. After BC1F1 progenies genotyping, 12 BC1F1 lines were identified to carry one to three *Striga* resistance QTLs and were again backcrossed to IS8193 to produce BC2F1 genotypes. The BC_2F_1 generation with one to three QTL will be genotyped to produce BC_3F_1 and also selfed to BC_2S_1 to produce almost stable *Striga* resistant sorghum lines for adoption by farmers in Rwanda.

Keywords: Sorghum, *Striga hermonthica*, molecular markers, SSR markers