Soybean Field Evaluation for Resistance to Cotton Leaf Worm (Spodoptera Littoralis) Confirmed by SSR Markers

Insect resistant soybean {Glycine max (L.) Merr.} cultivars could reduce pesticide use in controlling insects, resulting in less risk to the environment. This study was conducted to develop an effective field and SSR analysis screening procedures to screen 15 soybean genotypes. A field experiment was conducted for their resistance, and showed that genotypesH105 andH153 recorded the highest insect resistance and low defoliation rating of 0.0 and 0.1 respectively, followed by H10L10A, L162, and H1L1. Genotype AGS-129 showed highest insect susceptibility and high defoliation rating of 4.0. Genotypes H10L10A, H 153, and H1L1 recorded the highest seed yield values due to the number of branches plant, number of pods plant, and 100-seed weight indicating that these genotypes could be recommended particularly with high resistance to cotton leaf worm. A total of 13 SSR primer pairs were used to generate 39 bands (alleles). Nearly 92% (12) of the primer pairs amplified SSR alleles of expected size and 11 SSR loci were polymorphic. The polymorphic SSRs were successfully used to differentiate among 15 genotypes. These markers could be particularly useful for genetic differentiation cotton leaf worm resistance.