

Efficacy of Bollgard II® Variety 06Z604D Containing cry1Ac and cry2Ab2 Genes on the African Bollworm (*H. Armigera*) in Confined Field Trials at KARI Mwea, Kenya

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Abstract

A Confined Field Trial (CFT) was set up at KARI-Mwea with the objective of testing efficacy of Bollgard II® variety, 06Z604D on the African bollworm and non-target pests including the cotton lygus, thrips, aphid and red spider mite. The experiment had nine treatments arranged in a randomized complete block design and replicated four times. The Bollgard II® variety, (06Z604D) compared with the isoline (99M03) and local variety (HART 89M) effectively controlled the populations of the African bollworm. The *Bt*-cotton variety had no effect on egg laying of African bollworms and achieved less damage of squares. However, the *Bt*-cotton variety had no significant effect on the populations of the non-target cotton pests. Plots sprayed 6 times for sucking pests on one hand and all pests on the other had lower counts of aphids than the unsprayed plots while the unsprayed plots had lower counts of mites, suggesting that reduced spraying in *Bt*-cotton could also reduce the populations of mites. The results agreed with the previous results obtained with Bollgard I® *Bt*-cotton varieties, DP 448B and DP 404BG. Other studies conducted elsewhere with transgenic *Bt*-cotton also supported the results obtained in the reported work.

Key words: Confined field trial, *Bt*-cotton, 06Z604D, Efficacy, *H. armigera*, Non-target pests