

**EFFECT OF SUPPLEMENTAL INSECTICIDES  
AGAINST BOLLWORM AND BEET  
ARMYWORM ON BOLLGARD:  
ENHANCED EFFICACY??**

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**Abstract**

Studies were conducted in the Upper Gulf Coast Region of Texas to determine the effect of insecticide oversprays on bollworm and beet armyworm feeding on Bollgard and non-Bollgard cotton. From 1992 to 1995, studies were "open field choice" tests with Karate 1E (Zeneca Ag Company)(0.03 lb ai /ac) applied weekly to Bollgard and to non-Bollgard cotton after bloom initiation. In 1997 and 1998, caged studies were employed and three insecticides were evaluated: Karate 1E (0.03 lb ai / ac), Tracer 4F (Dow Agrosciences)(0.045 lb ai / ac), and Pirate 3F (American Cyanamid Company) (0.09 lb ai / ac) were applied weekly after bloom initiation. Bollworm efficacy evaluations were made weekly based on percent survival compared to an unsprayed check, while beet armyworm efficacy evaluations were made based on a reduction of damage compared to the check. Efficacy comparisons were then made between Bollgard and non-Bollgard cotton.

From 1992 to 1995, insecticide efficacy on bollworm feeding on Bollgard cotton was 54% higher compared to bollworm feeding on non-Bollgard cotton. A similar trend was observed in 1997 and 1998. Under more controlled caged conditions, insecticides averaged 40% greater efficacy against bollworm feeding on Bollgard cotton compared to non-Bollgard. Karate and Pirate exhibited the greatest "enhanced efficacy" effect followed by Tracer, which provided excellent control of bollworm in the non-Bollgard cotton. Against beet armyworm in 1997, Pirate and Tracer provided 24% greater control when insects were feeding on Bollgard compared to non-Bollgard. This study clearly indicates there is an enhanced efficacy of insecticides against bollworm feeding on Bollgard cotton. The beet armyworm test must be judged as preliminary and more studies are needed to quantify any enhanced efficacy.

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