

**BOLLGARD® II COTTON EFFICACY
SUMMARY - SOUTHWEST**

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Abstract

Efficacy of Bollgard® II (DP50BII) was compared against Bollgard® (DP50B) and a conventional variety (DP50) for the suppression of the cotton bollworm, *Helicoverpa zea* (Boddie), tobacco budworm, *Heliothis virescens* (Fabricius), soybean looper, *Pseudoplusia includens* (Walker), beet armyworm, *Spodoptera exigua* (Hubner), and pink bollworm, *Pectinophora gossypiella* (Saunders) in Texas and Arizona. Trials included systems trials - demonstrated a commercial-type setting with insecticide applications prompted when insect populations exceeded economic thresholds; unsprayed trials - comparisons based on no insecticide applications, regardless of insect populations; and sprayed/unsprayed trials - which included the unsprayed comparisons as well as comparisons where all varieties were sprayed when the conventional variety exceeded the economic threshold. Relatively low tobacco budworm and cotton bollworm infestations caused significantly less damage and resulted in significantly higher yields in the Bollgard and Bollgard II plots as compared to the conventional cotton. No differences were observed between the Bollgard and Bollgard II plots. Beet armyworm per acre averaged across three sites were 389 for Bollgard II, 11,621 for Bollgard and 24,682 for conventional cotton. Bollgard II produced the highest yield at all three locations though the differences were not significantly higher in all cases. Soybean looper larvae numbers and foliage damage was significantly lower for Bollgard II compared to conventional and Bollgard varieties. Yields were significantly higher in Bollgard II versus conventional cotton, but were not significantly higher than Bollgard yields. Bollgard and Bollgard II both provided excellent control of pink bollworms compared to conventional cotton though there were fewer insect infected bolls overall for Bollgard II than for Bollgard. These results show that Bollgard II can provide increased efficacy and consistency of control across a broader spectrum of insects. Yield advantages depend on the insect species present and the level of infestation.