

**IMPACT OF FOLIAR INSECTICIDE APPLICATION ON DUAL GENE COTTON****Gus Lorenz****University of Arkansas Division of Agriculture, Cooperative Extension Service****Lonoke, AR****S. D. Stewart****University of Tennessee****Jackson, TN****B. R. Leonard****Louisiana State University, LSU Ag Ctr.****Winnsboro, LA****A. Catchot****J. Gore****D. Cook****Mississippi State University****Mississippi State, MS****Abstract**

During 2010 and 2011, several trials were conducted across Arkansas, Tennessee, Mississippi and Louisiana, to evaluate the efficacy of foliar insecticides for control of Heliiothines, primarily cotton bollworm on WideStrike and Bollgard II varieties. In most of the trials the foliar insecticide used was Prevathon (rynaxapyr or chlorantraniliprole). Some trials also included Belt (flubendiamide) or a pyrethroid. In all trials applications were made by ground with a tractor mounted sprayer at about 10 GPA. One location was conducted in 2010 in Arkansas and infestation by bollworms was extremely high. Two applications of Prevathon at 20 oz/ A were made on 16 July and 4 August. Boll damage in unsprayed Bollgard II in this trial averaged less than 5%; however, Widesrike unsprayed boll damage averaged 35% boll damage over a three week period from late July thru the first two weeks of August. Resulting yields showed a significant difference of 313 lbs of lint per acre between unsprayed and sprayed WideStrike. While a numerical advantage for sprayed varieties of BG II compared to unsprayed was observed there were no significant differences. In 2011 several trials were conducted across the Mid-south and in the Arkansas and Mississippi locations infestations were very high. The Tennessee location experienced a moderate infestation while the Louisiana location had very low heliothines numbers. In the Arkansas location in 2011, two applications of Prevathon on 5 and 23 July resulted in a 317 lb and 316 lb lint increase compared to the untreated for Phytogen 375 WRF and DPL 0912 B2RF, respectively. In Mississippi, plots sprayed with Prevathon increased yields just over 200 lbs of lint per acre compared to untreated plots for Phytogen 375 WRF, DPL 1050 B2RF and DPL 0912 B2RF, although no significant increase was observed with Phytogen 499 WRF. In Louisiana, a 240 lb yield increase was observed on Prevathon treated Phytogen 375 WRF compared to unsprayed plots and a 405 lb increase was seen with DPL 1050 B2RF sprayed plot over the unsprayed. This data suggests that supplemental foliar applications of insecticides such as Prevathon may increase yield in dual gene cotton in moderate to heavy infestations and may even increase yield in situations where Heliiothine numbers and associated damage are low. The impact of Prevathon on dual gene cotton needs further investigation.