

**EFFECT OF TRANSGENIC COTTON ON  
DEVELOPMENT OF THE BOLL WEEVIL**

**G. H. McKibben and E. J. Villavaso**

**Integrated Pest Management**

**J. C. McCarty**

**Crop Science Research Unit**

**U.S. Department of Agriculture,**

**Agricultural Research Service,**

**Mississippi State, MS**

**Abstract**

Approximately 725,000 hectares were planted to NuCOTN cultivars in the U.S. in 1996. This cultivar contains the Bollgard™ gene which produces the CryIA(c) protein toxin.

The effect of transgenic cotton, on both total pest management and on boll weevil eradication efforts, is an important factor because of this transgenic cultivar's potential share of the cotton acreage in the SE in the future. We tested the effects of the *Bt* gene in NuCOTN 33B® on the development and fecundity of boll weevils reared on plants growing in the greenhouse. Seventy-five plants each of NuCOTN 33B® and DP 5415 were used in the study. Percent emergence from squares from the two cultivars was measured by confining groups of from 15 to 25 female boll weevils on squares of plants of each cultivar for 1 hour for oviposition. After falling from the plant, infested squares were held at 27°C in the laboratory for emergence. Egg-laying was measured by placing eight fresh cotton squares daily into a group of 10 female and 5 male weevils chosen at random from the collection of individuals that emerged from the squares. The test was conducted during the period 4/26/96 - 10/10/96. There was a slight, statistically non-significant, reduction in percent emergence of boll weevils from the *Bt* cotton compared with the DP 5415. The same trend was evident in egg production and individual insect weights.