

## EVALUATION OF VARIOUS BOLL OPENING PRODUCTS FOR USE IN NORTH CAROLINA

A.M. Stewart, K.L. Edmisten, and R. Wells  
Dept. of Crop Science, NCSU  
Raleigh, NC

### Abstract

Boll openers are often used when terminating a crop in order to open immature bolls and increase yields. A study was initiated in 1996 to test the effectiveness of four boll opening products for their capacity to open immature bolls. Two locations, Rocky Mount and Lewiston were used. Treatments were applied at Rocky Mount on Sept. 18 and at Lewiston on September 27. The treatments were Prep at 1.33 and 1.67 pints per acre, Starfire at 6, 11, 16, and 24 ounces per acre, CottonQuik at 2 and 3 quarts per acre, Finish at 1 and 1.5 quarts per acre, Def/Folex at 1.5 pints per acre, and an untreated control. At Rocky Mount, the four boll openers were tankmixed with 1.5 pints per acre of Def/Folex, and at Lewiston, they were tankmixed with 0.5 pints per acre of Def/Folex. Plots were four rows wide and 50 feet long. Hand harvests were taken every 3-4 days from 3 meters of one inside row of each plot. Data were analyzed as percent of total harvestable yield on each harvest date.

A comparison of the results from Rocky Mount indicates an advantage to using boll opening materials over the untreated control and Def/Folex treatments. With the exception of the two low rates of Starfire (6 and 11 oz/acre) the treatments with boll opening compounds all approached 100% of the harvestable yield within 14 DAT. An interesting rate response was observed within the Starfire treatments. The 11 oz/acre rate of Starfire seemed to delay boll opening compared with the other three rates. At 21 DAT there was still a significant difference in percent harvestable yield between Starfire at 11 oz/acre and all other Starfire treatments. This delay in boll opening may be due to some hardlocking of bolls in this treatment. The two CottonQuik rates and the two Finish rates all opened bolls at a consistently high rate compared with all other treatments. No significant differences were found between these four treatments after 7 DAT.

Overall response to boll opening compounds was slower at Lewiston than at Rocky Mount. The treatments were applied 9 days after Rocky Mount to later planted cotton. The slower overall response in boll opening at Lewiston may be due to cooler temperatures and higher rainfall that occurred at that site. As 100% harvestable yield was approached at 20 DAT, a significant response to the boll opening compounds over the Def treatment was seen only in the CottonQuik at 3 qt/acre and the Finish at 1.5 qt/acre

treatments. The rate response mentioned above to the 11 oz/acre rate of Starfire was only observed at 17 DAT at the Lewiston site. After 17 DAT, the 11 oz/acre rate of Starfire approached 100% harvestable yield at the same rate as the other Starfire treatments. Once again, the two CottonQuik rates and the two Finish rates opened bolls at a consistently high rate compared to all other treatments. These tests will be repeated in 1997, in order to gain more knowledge about the effectiveness of these boll opening compounds.