

EFFICACY OF TOPSIN M FOR CONTROL OF HARDLOCK**J. K. Croft****Clemson University****Blackville, SC****W. W. Bonnette Jr.****Clemson University****Blackville, SC****J. D. Mueller****Clemson University****Blackville, SC****Abstract Only**

Researchers in some areas of the southeastern U.S. have reported that foliar fungicide applications during flowering reduce the incidence of hardlock and increase cotton yields. The objective of this study was to determine whether Topsin M applications at various timings could reduce hardlock and/or increase yields in South Carolina cotton production systems. The effects of foliar applications of Topsin M on yield and incidence of hardlock were evaluated in the field on Stoneville 5599 BR cotton during the 2005 cotton production season. Three fungicide regimes and a nontreated check were applied to plots which were planted on May 12th in 4 randomized complete blocks. Plots consisted of 8 rows 50-ft long on 38-inch centers. Standard agronomic practices along with a strict insecticide program were utilized. Treatments were initiated on July 29th at first bloom and were applied with a tractor mounted sprayer utilizing 11004 Turbo Tee Jet tips delivering 20 gal/acre at 40 p.s.i. at 5 mph. Treatments were: 1) Untreated control; 2) 16 oz/acre Topsin M 4.5 F for two applications on a 14-day interval; 3) 16 oz/acre Topsin M 4.5 F for 3 applications on a 14-day interval; 4) 16 oz/acre Topsin M 4.5 F for 4 applications on a 14-day interval. Plant growth, leaf area, and yield were recorded. Leaf area was determined by harvesting ½ meter row of plants two-weeks-after the last fungicide application. Leaves were run through a LI-Cor 3100 Area Meter for a two plant subsample. Dry weights of the subsample and the main sample were recorded and used to calculate the total leaf area. Insect damage and seed abnormalities were determined by cutting 10 bolls per plot. The bolls were cut transversely and visually inspected for insect damage and seed rot. Modified plant mapping was done at harvest to rate the incidence and severity of hardlock. Topsin M, at various timings, did not significantly effect plant growth. Plant growth parameters measured included: height, which ranged from 98.6 cm to 106.5 cm; number of main stem nodes, which ranged from 20 to 18; and the location of the first fruiting branch, which averaged the ninth node. There were no differences among leaf area indices which ranged from 1.23 to 0.83. There were no significant effects on % lint (42.3 to 42.5%) or yield (1,236.8 to 1,159.4 lbs lint/acre). There was no significant effect on the percentages of rotten bolls (2.45 to 3.98%), green bolls (Category 1) (3.34 to 6.47%), healthy bolls (Category 2) (60.8 to 66.2%), bolls with less than half of the locules hardlocked (Category 3) (13.3 to 14.1%), or bolls with more than half of the locules hardlocked (Category 4) (13.3 to 17.3%). There was no significant effect on the percentage of locules that exhibited damage from piercing and sucking insects (4.17 to 7.14%). Treatments with Topsin M 4.5 F did not significantly effect the percentage of locs that exhibited seed rot (2.35 to 3.62%). In 2005 the application of Topsin M, at various timings, had no significant effect on any of the measured parameters. In South Carolina there are no fungicides labeled for use on cotton.