

University of Tennessee

Regional Bt Cotton Traits - Preventative Spray vs. Unsprayed - Madison Co.

Location: West TN Research and Education Center (Jackson)

Variety: (planted: 6-6-17)

Appl A 6-6-17 (at planting); Appl B 8-3-17; Appl C 8-29-17; High clearance sprayer (9.2 GPA, 40 PSI, 8001FF)

Plots: 4 Rows x 35 ft (RCBD, 4 Reps)

Investigators: Stewart, S.Steckel, Williams

Dam. Sq.= Damaged Squares; Dam. Bolls = Damaged bolls; Dam. Flo. = Damaged Flowers; Total Dam. = Total Damage; CEW = bollworm larvae

| Description | | | | Dam. Sq. | | Dam. Bolls | | Total Dam. | | CEW | | Dam. Sq. | | Dam. Bolls | | Total Dam. | | CEW | | Dam. Sq. | | Dam. Bolls | |
|----------------------------|-------------|------------|-----|-----------|---|------------|---|------------|---|-----------|---|-----------|---|------------|---|------------|---|-----------|----|-----------|---|------------|----|
| Pest Stage Majority | | | | Total | | Total | | Total | | Total | | Total | | Total | | Total | | Total | | Total | | Total | |
| Rating Date | | | | 8/10/2017 | | 8/10/2017 | | 8/10/2017 | | 8/10/2017 | | 8/16/2017 | | 8/16/2017 | | 8/16/2017 | | 8/16/2017 | | 8/21/2017 | | 8/21/2017 | |
| Sample Size, Unit | | | | 25 Square | | 25 Boll | | 50 Fruit | | 50 Fruit | | 25 Square | | 25 Boll | | 50 Fruit | | 50 Fruit | | 25 Square | | 25 Boll | |
| Trt-Eval Interval | | | | 7 DA-B | | 7 DA-B | | 7 DA-B | | 7 DA-B | | 13 DA-B | | 13 DA-B | | 13 DA-B | | 13 DA-B | | 18 DA-B | | 18 DA-B | |
| Treatment | Formulation | Rate | App | | | | | | | | | | | | | | | | | | | | |
| 1 Non-Bt DP1441RF | | | A | 5.5 | a | 1.8 | a | 7.3 | a | 2.5 | a | 14.0 | a | 5.3 | a | 19.3 | a | 3.8 | a | 4.8 | a | 5.0 | a |
| 2 Non-Bt DP1441RF | | | A | 0.0 | b | 0.0 | b | 0.0 | b | 0.0 | c | 0.8 | c | 0.0 | c | 0.8 | d | 0.0 | c | 0.0 | b | 0.0 | d |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | | | | | | | | | | | |
| 3 Widestrike PHY333 WRF | | | A | 0.0 | b | 0.5 | b | 0.5 | b | 0.8 | b | 2.3 | b | 2.3 | b | 4.5 | b | 1.3 | ab | 2.3 | a | 4.0 | ab |
| 4 Widestrike PHY333 WRF | | | A | 0.0 | b | 0.0 | b | 0.0 | b | 0.3 | c | 0.0 | c | 0.0 | c | 0.0 | d | 0.0 | c | 0.3 | b | 0.5 | cd |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | | | | | | | | | | | |
| 5 Widestrike 3 PHY330 W3FE | | | A | 0.0 | b | 0.0 | b | 0.0 | b | 0.0 | c | 0.0 | c | 0.0 | c | 0.0 | d | 0.0 | c | 0.0 | b | 0.0 | d |
| 6 Widestrike 3 PHY330 W3FE | | | A | 0.3 | b | 0.0 | b | 0.3 | b | 0.0 | c | 0.0 | c | 0.0 | c | 0.0 | d | 0.0 | c | 0.0 | b | 0.0 | d |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | | | | | | | | | | | |
| 7 Twinlink ST4949 GLT | | | A | 0.0 | b | 0.0 | b | 0.0 | b | 0.3 | c | 0.8 | c | 1.5 | b | 2.3 | c | 1.3 | b | 0.3 | b | 1.8 | bc |
| 8 Twinlink ST4949 GLT | | | A | 0.0 | b | 0.0 | b | 0.0 | b | 0.0 | c | 0.3 | c | 0.0 | c | 0.3 | d | 0.0 | c | 0.0 | b | 0.0 | d |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | | | | | | | | | | | |
| 9 Bollgard 2 ST4946 GLB2 | | | A | 0.5 | b | 0.0 | b | 0.5 | b | 0.0 | c | 0.3 | c | 0.3 | c | 0.5 | d | 0.3 | c | 0.3 | b | 0.5 | cd |
| 10 Bollgard 2 ST4946 GLB2 | | | A | 0.0 | b | 0.3 | b | 0.3 | b | 0.0 | c | 0.0 | c | 0.0 | c | 0.0 | d | 0.0 | c | 0.0 | b | 0.5 | cd |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | | | | | | | | | | | |

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Investigators: Stewart, S.Steckel, Williams

Dam. Sq.= Damaged Squares; Dam. Bolls = Damaged bolls; Dam. Flo. = Damaged Flowers; Total Dam. = Total Damage; CEW = bollworm larvae

| Description | | | | Total Dam. | Total CEW | Dam. Sq. | Dam. Bolls | Total Dam. | Total CEW | Dam. Sq. | Dam. Bolls | Dam. Bolls | Seed Cotton |
|----------------------------|-------------|------------|------|------------|-----------|-----------|------------|------------|-----------|-----------|------------|------------|-------------|
| Pest Stage Majority | | | | Total | Total | Total | Total | Total | Total | Total | Total | Total | lbs/acre |
| Rating Date | | | | 8/21/2017 | 8/21/2017 | 8/25/2017 | 8/25/2017 | 8/25/2017 | 8/25/2017 | 8/30/2017 | 8/30/2017 | 9/5/2017 | 10/24/2017 |
| Sample Size, Unit | | | | 50 Fruit | 50 Fruit | 25 Square | 25 Boll | 50 Fruit | 50 Fruit | 25 Square | 25 Boll | 50 Boll | |
| Trt-Eval Interval | | | | 18 DA-B | 18 DA-B | 22 DA-B | 22 DA-B | 22 DA-B | 22 DA-B | 1 DA-C | 1 DA-C | 7 DA-C | |
| Treatment | Formulation | Rate | Appl | | | | | | | | | | |
| 1 Non-Bt DP1441RF | | | A | 9.8 a | 0.5 b | 4.8 a | 5.5 a | 10.3 a | 1.8 ab | 6.5 a | 4.0 ab | 9.5 a | 1709.6 e |
| 2 Non-Bt DP1441RF | | | A | 0.0 c | 0.0 b | 0.0 b | 0.5 c | 0.5 d | 0.0 d | 0.8 bc | 0.0 c | 0.8 cd | 3007.2 abc |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | |
| 3 Widestrike PHY333 WRF | | | A | 6.3 a | 3.0 a | 3.5 a | 4.5 ab | 8.0 a | 2.3 a | 4.3 a | 5.8 a | 9.5 a | 2771.3 cd |
| 4 Widestrike PHY333 WRF | | | A | 0.8 bc | 0.3 b | 0.3 b | 0.5 c | 0.8 cd | 0.3 d | 0.3 c | 0.3 c | 0.5 d | 3202.9 ab |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | |
| 5 Widestrike 3 PHY330 W3FE | | | A | 0.0 c | 0.0 b | 0.3 b | 0.0 c | 0.3 d | 0.0 d | 0.5 bc | 0.3 c | 0.0 d | 2885.3 bc |
| 6 Widestrike 3 PHY330 W3FE | | | A | 0.0 c | 0.0 b | 0.0 b | 0.0 c | 0.0 d | 0.0 d | 0.0 c | 0.0 c | 0.0 d | 3272.7 a |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | |
| 7 Twinlink ST4949 GLT | | | A | 2.0 b | 0.0 b | 1.3 b | 2.0 b | 3.3 b | 1.3 bc | 4.0 a | 3.5 ab | 2.3 bc | 1989.7 e |
| 8 Twinlink ST4949 GLT | | | A | 0.0 c | 0.0 b | 0.0 b | 0.0 c | 0.0 d | 0.0 d | 0.5 bc | 0.0 c | 0.5 d | 2694.6 cd |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | |
| 9 Bollgard 2 ST4946 GLB2 | | | A | 0.8 bc | 0.0 b | 1.5 b | 0.3 c | 1.8 bc | 0.5 cd | 1.8 b | 2.0 b | 2.8 b | 2511.8 d |
| 10 Bollgard 2 ST4946 GLB2 | | | A | 0.5 c | 0.3 b | 0.0 b | 0.0 c | 0.0 d | 0.0 d | 0.0 c | 0.0 c | 0.0 d | 2912.8 bc |
| Prevathon | 0.43 lb/gal | 20 fl oz/a | B | | | | | | | | | | |
| Prevathon | 0.43 lb/gal | 14 fl oz/a | C | | | | | | | | | | |

Means followed by same letter or symbol do not significantly differ (P=.05, LSD)

Seed Cotton (lbs/acre)

