

**EVALUATION OF SOIL APPLIED AND SEED TREATMENT INSECTICIDES AND YIELDGARD®
CORN ROOTWORM TECHNOLOGY FOR CONTROL OF CORN ROOTWORM LARVAE, 2004.**

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Twelve insecticide treatments and a YieldGard® Rootworm Hybrid (Dekalb DKC60-05) were evaluated for their efficacy against corn rootworm larvae at the OARDC Western Agricultural Research Station near South Charleston, OH. The plots were planted in an area that was planted to field corn in late June in 2003. The insecticides were applied at planting on 7 May to two rows (30 inch spacing) by 100 ft long plots arranged in a RCBD with four replicates per plot. All of the insecticide treatments were applied to the corn hybrid Dekalb DKC59-08, an isolate of Dekalb DKC60-05. Four granular insecticides (Aztec 2.1G, Force 3G, Fortress 2.5G and Lorsban 15G) were applied either in-furrow (IF) or T-banded (TB) with a modified Noble applicator that was calibrated to deliver the desired rate. Two granular insecticides (Aztec 4.67G and Fortress 5G) were placed either in-furrow (IF) or T-banded (TB) with a SmartBox metering system calibrated to deliver the desired rate. The liquid insecticide Capture 2EC was applied as a T-band (TB) with a CO₂ calibrated sprayer using a TeeJet 650067 nozzle calibrated to deliver 5 gal/acre. The liquid insecticide Regent 4S was applied in-furrow (IF) through a CO₂ charged microtube calibrated to deliver 1 gal/acre. The seed treatment insecticides, Cruiser and Poncho, were commercially applied to the seed before planting. Rootworm feeding injury was evaluated on 8 July by randomly digging 5 roots per replicate for each treatment. Roots were washed, examined for corn rootworm larval feeding injury and rated in accordance with the 1-6 “Traditional” scale and the Node Injury Scale (0-3).

All of the treatments were had significantly less root injury than the untreated check. There were significant differences among the treatments under the 1-6 Traditional Scale. There were significant differences in stand and yield among the treatments.

Table 1. Root rating, stand and yield observed in continuous corn trial.

| Treatment | Rate | 0-3 Node-Injury Scale | 1-6 “Traditional” Scale | Stand Plants/50 Row Feet | Yield (bu/A) |
|----------------------|---------------------|-----------------------|-------------------------|--------------------------|--------------|
| Aztec 2.1G | 6.7 oz/1000’ TB NB | 0.08 a | 2.10 abc | 79.00 abc | 192.2 abcd |
| Aztec 4.67 | 3 oz/1000’ TB SB | 0.11 a | 2.65 e | 77.25 bcd | 194.5 abcd |
| Capture 2EC | 0.37 oz/1000’ TB NZ | 0.11 a | 2.35 cd | 80.50 ab | 201.8 ab |
| Cruiser 5FS | 1.25 mg ai/kernel | 0.14 a | 2.30 bcd | 75.00 d | 198.9 abc |
| Empower ² | 8 oz/1000’ TB NB | 0.12 a | 2.45 de | 77.75 abcd | 192.3 abcd |
| Empower ² | 8 oz/1000’ IF NB | 0.15 a | 2.40 de | 75.25 d | 185.1 cde |
| Force 3G | 4 oz/1000’ TB NB | 0.08 a | 2.05 ab | 81.25 a | 192.8 abcd |
| Fortress 2.5G | 7.4 oz/1000’ IF NB | 0.10 a | 2.25 bcd | 77.25 bcd | 200.2 ab |
| Fortress 5G | 3.7 oz/1000’ IF SB | 0.08 a | 2.25 bcd | 78.25 abcd | 184.4 de |
| Lorsban 15G | 8 oz/1000’ TB NB | 0.08 a | 2.30 bcd | 76.00 cd | 187.8 bcde |
| Poncho 1250 | 1.25 mg ai/kernel | 0.09 a | 2.35 cd | 76.25 cd | 201.6 ab |
| Regent 4SC | 0.24 oz/1000’ IF MT | 0.12 a | 2.40 de | 77.00 bcd | 190.3 abcd |
| YieldGard Rootworm | Dekalb DKC60-05 | 0.07 a | 1.95 a | 76.50 cd | 203.3 a |
| Untreated | | 0.48 b | 3.05 f | 79.25 abc | 175.8 e |

TB SB = T-band through SmartBox, IF SB = In-furrow through SmartBox, TB NZ = T-band through Nozzle, TB NB = T-band through Noble Unit, IF NB = In-furrow through Noble Unit, IF NZ = In-furrow through Nozzle, IF MT = In-furrow through MicroTube.

Means in a column followed by the same letter are not significantly different (P = 0.05).