

EVALUATION OF SOIL APPLIED AND SEED TREATMENT INSECTICIDES ON CORN FOR CONTROL OF CORN ROOTWORM LARVAE, 2002.

Bruce Eisley
Dept. of Entomology, The Ohio State University
Columbus, OH 43210

Seven insecticide treatments were evaluated for their efficacy against corn rootworm larvae at the OARDC Western Branch Station near South Charleston, OH. The insecticides were applied at planting on 21 May to two rows (30 inch spacing) by 140 ft long plots arranged in a RCBD with four replicates per plot. The granular were applied as a T-band (TB) with a modified Noble applicator that was calibrated to deliver the desired rate. The liquid insecticide Capture was applied as a T-band (TB) with a CO₂ calibrated sprayer using a TeeJet 650067 nozzle calibrated to deliver 3 gal/ace. The liquid insecticide Regent was applied in-furrow (IF) through a CO₂ charged microtube calibrated to deliver 1 gal/acre. The insecticides (Poncho, Prescribe and ProShield) 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 Iowa 1-6 scale. Counts of total stand in 100 row ft and lodging counts, plants lodged in 100 row ft divided by total plants in 100 row ft, were taken on 3 Oct. Plots were machine harvested on 8 Oct.

All plants treated with an insecticide had a higher stand count, lower root rating and higher yield as compared to the untreated check. Significant differences in total stand, root rating and yield were observed among treatments.

Table 1. Stand counts, root rating, percent lodging and yield observed in continuous corn trial.

Treatment	Application Rate	Appl. ^a Method	Stand Count Plants/100 Row Feet	Root Rating (Iowa 1-6 Scale)	Percent Lodging ^c	Yield (Bu/Acre)
Aztec 2.1G	6.7 oz/1000'	NB TB	151.8 a	2.25 a	0.00 a	144.5 a
Capture 2EC	0.3 fl oz/1000'	NZ TB	151.5 a	3.25 bc	7.6 a	128.6 bc
Force 3G	4 oz/1000'	NB TB	148.0 ab	2.70 ab	0.5 a	141.5 ab
Poncho (clothianidin) ^b	1.25 mg/Kernel	ST	144.5 b	2.80 ab	4.5 a	135.2 abc
Prescribe	1.35 mg/Kernel	ST	146.0 ab	3.20 bc	10.8 a	133.6 abc
ProShield	16.9 fl oz/cwt seed	ST	147.3 ab	2.95 abc	6.5 a	137.8 abc
Regent 4SC	0.24 fl oz/1000'	MT IF	131.5 c	3.55 c	14.0 a	125.9 c
Untreated Check			124.3 d	4.55 d	30.6 a	106.6 d

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

^a NB TB = Noble T-band, ST = Seed Treatment, NZ TB = Nozzle T-Band, MT IF = Micro Tube In-furrow

^b Poncho (clothianidin) is not labeled on field corn

^c Percent lodging was calculated by dividing the number of plants lodged in 100 row feet by the number of plants in 100 row feet.