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CORN: *Zea mays* L. 'Unknown'

**SEED-APPLIED INSECTICIDE TREATMENT COMBINATIONS FOR LARVAL
CORN ROOTWORM CONTROL, 2008**

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Western corn rootworm (WCR): *Diabrotica virgifera virgifera* LeConte

Northern corn rootworm (NCR): *Diabrotica barberi* Smith and Lawrence

Planting time seed-applied insecticide screening trials were conducted near Clay Center, NE to evaluate their effectiveness for larval corn rootworm control in field corn. Local population consists predominately of WCR (>95% of total). Trial site was late-planted corn (insecticide free) during 2007. Experimental design was a RCB with 4 replicates. Plot size was 4 rows x 30 ft length (N-S orientation) in 30-inch row spacing. Soil type was a Crete silt loam. An unknown field corn hybrid was planted on 05 May 2008 with a 4-row Kinze planter with finger pickup seed units. A south wind @ 8-12 mph occurred at planting. All seed treatments (ST) were applied commercially. Plant populations were evaluated at emergence (21 May), at V1 growth stage, (29 May) and 1 week after reaching V1 growth stage (4 Jun). The total number of plants per plot was recorded and converted to plants per acre. Corn rootworm egg hatch was first observed on 02 Jun. Extended leaf heights (inches) of 20 randomly selected plants per plot were recorded on 19 Jun. The total number of lodged plants per plot was recorded on 09 Jul and converted to % root lodging. Larval feeding damage was evaluated on 17 Jul. Five randomly selected plants were dug from each plot, washed, and rated using the Iowa State 0-3 scale (0 = no feeding, 1 = one node of roots pruned to within 1.5 inches of the stalk, 2 = two nodes of roots pruned to within 1.5 inches of the stalk, 3 = 3 or more nodes of roots pruned to within 1.5 inches of the stalk). The total number of lodged plants per plot was also recorded on 24 Sept and converted to % root lodging. Plots were machine harvested on 29 Oct. Percent moisture and lbs of grain were recorded and corrected to 56 lbs/bu @ 15% moisture. Data were analyzed by ANOVA with mean separation using differences of least square means (P = 0.05).

From planting (05 May) to larval feeding damage evaluation (17 Jul), precipitation totaled 13.91 inches. Larval rootworm densities were high, with mean root injury ratings in the untreated check averaging 1.70. All of the seed treatment insecticide combinations performed statistically similar based on plant populations, extended leaf heights, % root lodging, root injury ratings and yield levels. In addition, none of the seed treatment insecticide combinations performed statistically better than the untreated check.

Part II. Materials Tested for Arthropod Management

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Brand Name	Formulation	Common Name	Composition	Manufacturer
Regent	500TS	fipronil	5-amino-1-(2,6-dichloro- α,α,α -trifluoro- <i>p</i> -tolyl)-4-trifluoromethylsulfinyl pyrazole-3-carbonitrile	BASF Corporation Agricultural Products Regional Headquarters BASF Agricultural Products Center Research Triangle Park, NC 27709 USA
Poncho	600	clothianidin	(<i>E</i>)-1-(2-chloro-1,3-thiazol-5-ylmethyl)-3-methyl-2-nitroguanidine	Bayer CropScience Crop Protection Division 2 T.W. Alexander Drive RTP, North Carolina, 27709
Gaucho	600 FS	imidacloprid	(<i>E</i>)-1-(6-chloro-3-pyridylmethyl)- <i>N</i> -nitroimidazolidin-2-ylideneamine	Bayer CropScience Crop Protection Division 2 T.W. Alexander Drive RTP, North Carolina, 27709

