Section III
Field Crop Pests

BARLEY WIREWORM MANAGEMENT - NIPSIT™

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Protocol. Valent USA desired experimental design to test their new Clothianidin seed treatment (Nipsit TM) against insect pests that reduce yield in spring barley. Treatments included and untreated check (UTC)(Treatment A); a Raxil Allegiance fungicide only (B); RA + Gaucho 600FS (C)at 31 gmai/hkg; Cruiser 5FS + Dividend Apron(D)at 0.29 gmai/hkg;V-10256 at 3.25 gmai/hkg (E); V-10257 (F)at 13.250 gmai/hkg; V-10256 (G)at 4.875 gmai/hkg; V-10257(H)at 19.875 gmai/hkg; V-10256 (I)at 6.5 gmai/hkg; V-10257 (J) at 26.500 gmai/hkg; V-10251 (K) at 14.500 gmai/hkg; and V-10257+V-10212 (L)at 13.250 and 22.00 gmai/hkg.

A RCB Plot Design with 4 replications of each treatment was used with 4 x 20 feet per replicate. Seeding was done with a Hegi Cone Seeder on May 21, 2009. Variety was Baronesse. Data was collected for insect damage and numbers three times during the season up to soft dough. Wire worm damage was collected by stand count at 10 DPE. Cereal Leaf Beetle Larvae(*Oulema melanoplus*)were counted at early jointing on June 4. Also present at jointing were Russian Wheat Aphid (*Diuraphis noxia*) and the native predatory Ladybird Beetle *Hippodamia convergens*. *H. convergens* is a major predator of CLB, reducing larval populations by 40%. *H. convergens* remained on the barley through anthesis as did CLB larvae and adults.
Statistics were run for each experiment using AOV and LSD tests for SD. Grain was harvested August 17, 2009 using a plot combine.

Experiment I. LSD All-Pairwise Comparisons Test for Stand at 10 DPE (May 13, 2090)

Treatments	GMAI/HKG	Mean Barley Stand per ¼ meter sq.	
G V-10256	4.875	31.000	A
F V-10257	13.25	31.000	A
J V-10257	26.50	30.000	A
K V-10257/V-10212	13.25/22.00	29.500	A
E V-10256	3.25	29.000	A
I V-10256	6.50	29.000	A
D Cruiser FS/Dividend/Apron XL	29.00/12.00/3.00	28.500	B
C Gaucho 600 + RA	30.00/1.50/2.00	28.500	B
H V-10257	19.875	26.000	C
K V-10251	14.50	25.500	C
B Raxil + Allegiance	1.50/2.00	21.000	D
A UTC	----	15.750	E

Comments. These data show equal barley stand density for Group A, with very similar stand density compared between Group B. Groups C, D, and E are all NSD A & B. Wire worm plus *Pythium* fungus reduced these groups. They are consistent with wire worm stand reduction in other trials. Treatments in Groups A & B are NSD for stand compared to Groups CDE. Barley stand was increased over the UTC by 5.25 plants by the fungicide treatment B. Treatments H & K et al increased stand over the UTC by 14.25 plants indicating the presence of wire worm. Plant stand is a critical factor for spring barley yield as barley does not tiller like wheat. V-10256 at the 3.25 GMAI/HKG low rate, continues to be in Group A for wire worm management.