Section IV Cereal Crop Insects

WHEAT: *Triticum avenae* L. 'Alpowa'

SEED TREATMENT INSECT CONTROL IN SPRING WHEAT, 2004

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Pacific Coast Wireworm (WW): *Limonius canus* LeConte
Russian wheat aphid (RWA): *Diuraphis noxia* (Mordvilko)

An experiment consisting of a RCB of 6 seed treatments (4 replicates) was seeded using a small plot drill on 7 Apr (60 lb acre) at the USDA-ARS Western Regional Plant Materials Introduction Center at Central Ferry, WA. Seeding was into failed winter wheat which had been seeded on sweet corn ground to encourage wireworm presence. The crop emerged on 12 Apr. Wireworm damage was evaluated by mean plant stand counts per 18 inches of row at 10 DAPE. Mean grain heads per plant were counted prior to harvest as a measure of plant vigor. Differences in plant stand varied between treatments with the two rates of Poncho and Gaucho 480 0.32 fl/oz cwt being significantly higher than the other treatments and UTC.
Heads per plant were significantly higher for the two rates of Poncho compared to the other treatments and the UTC. Since RWA appeared after plant stand and head counts were established, differences in plant stand are attributed to wireworm attack on the seedling plants. RWA appeared at just prior to anthesis, and at 48 DAPE counts of mean percent RWA infested tillers were made. Yield data in bu per acre were collected by small plot combine 22 Jul.
All 5 seed treatments provided better control of RWA compared to the UTC. Poncho™ 600 provided slightly better yields compared to the 0.32 fl oz/cwt Gaucho 480 treatment. These 3 treatments were better than the other treatments, and the UTC.

		Mean percent RWA infested tillers 48 DAPE
Treatment/formulation	Rate fl/oz cwt	
Poncho 600 (5 lb/gal)	0.20	0.25c
Poncho 600	0.10	0.50c
Gaucho 480	0.32	1.00c
Cruiser	0.19	2.50b
Gaucho 480	0.16	2.50b
UTC	-------	18.50a

Means followed by same letter are NSD. ANOVA; LSD $p = 0.05$.

		Bu wheat per acre yield
Treatment/formulation	Rate fl/oz cwt	
Poncho 600	0.20	79.75a
Poncho 600	0.10	79.70a
Gaucho 480	0.32	75.83b
Cruiser	0.19	69.73c
Gaucho 480	0.16	67.88c
UTC	-------	67.40d

Means followed by same letter are NSD. ANOVA; LSD p= 0.05.

		Mean plants/18 inches of row 10 DAPE
Treatment/formulation	Rate fl/oz cwt	
Poncho 600	0.20	16.00a
Poncho 600	0.10	15.50a
Gaucho 480	0.32	14.00a
Gaucho 480	0.16	11.00c
Cruiser	0.19	10.75c
UTC	------	9.00d

Means followed by same letter are NSD. ANOVA; LSD p = 0.05.

		Mean mature grain heads/plant at harvest
Treatment/formulation	Rate fl/oz cwt	
Poncho 600	0.20	4.96a
Poncho 600	0.10	4.27ab
Cruiser	0.19	3.86b
Gaucho 480	0.32	3.86b
Gaucho 480	0.16	3.65b
UTC	------	3.81b

Means followed by same letter are NSD. ANOVA; LSD $p = 0.05$.