

Section IV.
Cereal Crop Pests

RATE OF ATTACK BY APHIDS IN WINTER WHEAT AND BARLEY COMPARED.

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An on-farm trial consisting of 3 replicates of 45 x 350 feet per treatment was seeded 9-10-99 at Central Ferry, 29-miles NW Pomeroy, WA. Seven treatments on Madsen wheat were made: 2 Warrior CST™ (Lambda-Cyhalothrin) foliar treatments of 0.24 and 0.16 pt/ac applied by ground sprayer on 10-10-99 after aphid appearance; 3 seed treatments; a NT check; and fall seeded Cold variety barley also NT. Precount, 7-DAT, and 135-DAE aphid counts were made; BYDV visual symptoms were evaluated 135-DAE (0 to 6 scale, where 6 = 100% plants expressing virus symptoms); and harvest data were collected using a 12 foot header plot combine with 2 strips cut per replicate.

Bird cherry-oat aphid (BCOA) numbers were 37.35% for Cold barley at PrCT and 12.33% for Madsen wheat. On 7-DAT BCOA were 37.33% in the barley, and still 12.33% in Madsen wheat. Russian wheat aphid (RWA) were 35.33% in the Madsen wheat and 11.67% in the barley, an almost complete reversal of BCOA and RWA numbers indicated host preferences for wheat by RWA and BCOA in the barley.

Barley yellow dwarf virus (BYDV) damage evaluation at 135-DAE indicated a score of 5/6 for the Cold Barley and 3.83/6 for the Madsen wheat check. Indeed, the Cold barley at 76% infected plants proceeded to die and no yield data from the barley were obtained.

No yield significant differences occurred (by ANOVA, LSD t Test ($p=0.05$), for the Madsen wheat due to late rains and apparent compensation by the virus damaged wheat for lost plants by extra tiller production following heavy late rains just prior to anthesis, and again at grain fill.

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See tables for complete data:

Precounts of Aphids = LSD t Test

Treatment	BCOA%	RWA%
Gaucha 1.5 oz	0.00a	0.00a
Adage 1.0 oz	0.00a	0.00a
Adage 0.87 OZ	5.00B	2.00a
Warrior 1.2 fl oz	12.33c	11.67b
Madsen check	12.33c	35.68c
Warrior 3.8 fl oz	13.33c	35.33c
Cold barley	37.35d	35.33c

7-DAT Post Foliar Treatments Aphid Counts = LSD t Test

Treatment	BCOA%	RWA%
Gaucha 1.5 oz	0.00a	0.00a
Adage 1.0 oz	0.00a	0.00a
Warrior 3.8 fl oz	0.00a	0.00a
Warrior 1.2 fl oz	0.00a	0.00a
Adage 0.87 oz	2.00b	5.00b
Madsen check	33.33d	12.33c
Cold barley	11.67c	37.33d

BYDV Damage rating – 135-DAE/Yield data at Harvest

Treatment	Scale 0 to 6	Bu/Ac
Warrior 3.8 fl oz	0.00a	72.4a
Gaucha 1.5 oz	0.00a	76.9a
Adage 1.0 oz	0.00a	70.3a
Warrior 1.2 fl oz	0.33a	76.7a
Adage 0.87 oz	1.50b	74.9a
Madsen check	3.83c	78.5a
Cold barley	5.00d	None "b"