

Section VII
Foliage & Seed Feeding Pests

**MANAGEMENT OF THRIPS IN DRY BULB ONION
USING CONVENTIONAL SEED TREATMENTS IN 2008**

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This study was conducted to evaluate the efficacy of conventional seed-treatment to control onion thrips (*Thrips tabaci* Lindeman).

Materials and methods

Field plots were established on the Hermiston Agricultural Research and Extension Center (HAREC) to evaluate several products incorporated in the coating of pelleted dry bulb onion seed for efficacy controlling thrips. The soil was an Adkins fine sandy loam (coarse-loamy, mixed mesic Xerollic Camborthid), pH 6.8, 0.7% organic matter. The area was fumigated in the fall of 2007 with Sectagon applied at 40 gpa. 'Granero' onions were seeded with a Monosem vacuum planter on Apr 10 under center-pivot irrigation in 2 beds/30' plot with a 1' windbreak strip between plots. Beds were 34" apart, 4 seed rows/bed, 3-4" between rows, 4" in-row. Onions emerged on May 1. Normal commercial production practices were followed throughout the season.

Treatments include: (1) Poncho 600 (0.18 mg ai/seed), (2) Clothianidin+Imidacloprid (-L) (0.18 mg ai/seed), (3) Clothianidin+Imidacloprid (-H) (0.24 mg ai/seed), (4) Icon (fipronil) (25 g ai/kg) and (5) Check. Treated and untreated (check) pelletized seed were supplied by Bayer CropScience.

Beginning Jun 11 (Week 1), two plants per plot were removed weekly, bagged, and transferred to the entomology laboratory, leaves examined for damage, and thrips counted.

The experimental design was a randomized complete block, with 4 replications. The pre and post treatment counts were analyzed with SAS GLM procedures.

Results and discussion

Thrips counts increased linearly until week 5, at which point the threshold (1-2 thrips/plant) for additional control was exceeded. Treatment and sample time did not interact. Post treatment counts were not affected by treatment (Table 1).

Although the post-treatment differences were not statistically significant, thrips counts generally were lower than in the untreated control with the seed treatment series until week 5 (Table 2).

Application of conventional foliar control treatments began following the Jun 26 counts; those receiving seed treatments did not require additional control measures until after the Jul 17 sampling, a delay of three weeks.

Table 1. Onion plant thrips post-treatment counts and weekly differences as affected by seed treatment and time, HAREC, 2008.

Treatment	Weekly Count ¹	Difference ² <i>thrips/plant</i>
Poncho 600	5.3	2.4
Clothianidin+Imidacloprid-L	7.3	5.9
Clothianidin+Imidacloprid-H	3.7	0.7
Icon	4.0	2.2
Check	5.5	0.4
	NS	NS
Week		
1	1.3 c	-
2	5.2 b	4.0
3	5.4 b	0.5
4	5.6 b	0.2
5	9.5a	4.0
	**	NS
Week _{LINEAR}	**	NS
Treatment x Week	NS	NS

^{NS, **} Effect not significant or significant at P=0.01, respectively.

Means followed by different letters significantly different at P=0.05

(Duncans multiple range test).

¹ Count: average 2 plants/plot; ² Difference = (Weekly count) - (Previous weekly count).

Table 2. Weekly onion plant thrips counts as affected by seed treatment, HAREC, 2008.

Treatment	Week				
	1	2	3	4	5
	<i>thrips/plant</i> ¹				
Poncho 600	1.0	2.0	5.3	7.3	10.7
Clothianidin + Imidacloprid-L	1.3	3.9	6.3	4.2	20.8
Clothianidin+Imidacloprid-H	0.9	3.8	7.0	3.1	3.8
Icon	0.5	1.1	3.3	6.4	9.0
Check	1.7	7.7	5.8	7.0	3.4
	NS	NS	NS	NS	NS

^{NS} Treatment effect not significant; ¹ Average 2 plants/plot.