

INSECTICIDE TREATMENT AND TIMING EFFICACY AGAINST HESSIAN FLY 2001-02

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Location: Edisto Research and Education Center, Barnwell Co. SC, Field D-13 A.

Design: RCB with five replicates; plot size 8 rows (8" spacing) x 40'

Soil Type: Varina sandy loam.

Rotation: 2001 fallow; 2000 strip-till corn; 1999 peanut, fallow; 1998 strip-till corn; 1997 wheat, fallow

Planting

Date: Dec 3, 2001

Seeding

Rate: 24 seed / row foot

General

Fertility: 30 lbs. /acre P + 90 lbs./acre K applied pre-plant. 30 lbs./acre N (11.3 gal S-25) was applied 4 Dec and 70 lbs./acre N (26.4 gal S-25) was applied 13 Feb (GS 23). Total N = 100 lbs./acre, total S = 14 lbs./acre.

Herbicide: 0.33 oz Express 75DF was applied 24 Jan.

Fungicide: 4.0 oz Tilt was applied for powdery mildew Mar 15.

Methods: Gaucho seed treatment was applied with a Hege seed treater by diluting appropriate amounts of pesticide with water and distributing 20 ml of solution onto 5 lbs of seed. Di-Syston was applied in-furrow as plots were seeded with two four-row Gandy applicators attached to the grain drill. Karate was applied with a tractor-mounted CO₂ pressurized sprayer delivering 20 gpa @ 30 psi through Tee Jet 11003 flat fan tips. The boom was shielded with Red Ball broadcast hoods to prevent drift. Hessian fly larvae and pupae were counted from ten randomly selected plants per experimental unit (eu) Mar 19 (50 plants/treatment). May 6 Hessian fly were counted from 10 culms / eu (50 culms/treatment). The inner six rows of each 8-row plot were harvested 21 May with an Almaco plot combine. Yield samples were weighed on an electronic balance. Test weight was taken by funneling a sub-sample of grain through a Seedburo No. 151 filling hopper and weighing one dry pint of grain on an electronic scale. Grain moisture content was measured with a Burrows DMC-700 moisture meter. All yields were adjusted to 13.5% moisture before analysis.

Analysis: ANOVA, using SAS PROC GLM.
Fisher's protected LSD was used for mean separation ($P=0.05$).

Table 1. Insecticide efficacy against Hessian fly and effects on yield and test weight, Blackville, SC 2001-02.

Treatment	Hessian fly						Yield bu/ac	Test weight lb/bu
	Mar 19				May 6			
	% tiller inf	HF per tiller	% plant inf	HF per plant	% culm inf	HF per culm		
Warrior T (broadcast, 14 Feb)	26 c	0.3 c	75 c	1.7 c	51 a	1.1 a	22.2 a	59.4 a
Di-Syston 15G (in-furrow)	17 c	0.2 c	58 d	1.1 d	50 a	1.1 a	21.4 ab	59.3 a
Gaicho 480 (seed treatment)	48 ab	0.7 b	100 a	3.6 b	55 a	1.6 a	21.2 abc	59.1 a
Untreated Check	57 a	1.0 a	98 ab	4.9 a	55 a	1.5 a	19.9 bc	59.1 a
Warrior T (broadcast, 19 Dec)	47 b	0.7 b	93 b	3.8 b	62 a	1.9 a	19.6 c	59.2 a

Yield LSD = 1.8 bu/ac ($P=0.05$);

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Means followed by the same letter are not significantly different, Fisher's protected LSD ($P=0.05$).

Coker 9704 planted 3 Dec 2001; harvested 21 May 2002.