Section V Soil Arthropods

MAGGOT CONTROL IN CARROT AND ONION

Timothy D. Waters
Washington State University Extension
Benton Franklin Area
1016 N. 4th Ave.
Pasco, WA 99301
Phone: (509) 545-3511
Fax: (509) 545-2130
E-mail: twaters@wsu.edu

Douglas B. Walsh
Washington State University
Irrigated Agricultural Research and Extension Center
24106 N. Bunn Rd.
Prosser, WA 99350
Phone: (509) 786-9287
Fax: (509) 786-9370

Seedcorn maggot (SCM) *Delia platura* can significantly reduce field stand establishment in several crops in the Columbia Basin. Seed treatments were tested with several insecticides for control of SCM in carrot and onion.

The trial on carrots was established on 30 April 2007 near Alderdale, Washington State USA. For the carrot trial, seeds were planted by the grower in a complete random block design using a commercial vacuum planter. The number of carrot seedlings in ten 1 meter segments per plot was counted on 23 May and June 8 2007 to evaluate efficacy. A significant increase in seedling stand was achieved in the plots where the seed was treated with Entrust (spinosad) and in the plots where Diazinon was applied over the top compared to the untreated seeds (Figure 1).

Treatment	Rate	Seedlings per meter +/- SE	
		24 May	8 June
Entrust (spinosad)	50 g. ai/A	61.6 +/- 2.4*	63.3 +/- 1.6*
Diazinon	2 lbs. ai/A	60.3 +/- 2.8*	65.6 +/- 1.6*
Untreated Check	NA	50.5 +/- 3.9	50.0 +/- 2.4

Figure 1. Carrot seed stand establishment with different treatments. * Denotes treatments with significantly more seedlings per meter in a pair-wise t-test compared to the untreated check ($p<0.05$)

The trial on onions was established on 30 April 2007 near Alderdale, Washington State USA. For the onion trial, seeds were planted using a Graymore push planter in a complete random block design with four replications. Seeds from ten different seed pelleting companies with three different insecticide treatments including Entrust (spinosad), Mundial (fipronil), and Poncho (clothianidin) were evaluated. The number of onion seedlings in three 1 meter segments per plot was counted on 23 May and June 8 2007 to evaluate efficacy. Maggot pressure was extremely high at the test site and results provided no statistically significant differences comparing the untreated check to the different seed treatments.

Company	Treatment	Stand per meter ± SE 5/23/07	6/8/07
Agricoat	Entrust	8.75±0.48	9.00±0.82
Agricoat	Mundial	7.75±0.63	7.50±0.65
Agricoat	Poncho	9.25±1.44	8.75±3.01
Eastern Seed Services	Entrust	8.25±1.32	8.00±1.47
Eastern Seed Services	Mundial	6.25±2.14	9.75±1.38
Eastern Seed Services	Poncho	2.50±1.56	4.00±1.41
GTG	Entrust	9.75±0.95	8.75±0.25
GTG	Mundial	4.50±2.72	6.00±2.12
GTG	Poncho	7.25±2.29	7.25±1.65
Inotec	Entrust	10.25±1.80	9.75±1.44
Inotec	Mundial	14.75±1.32	13.25±1.25
Inotec	Non-treated	7.25±2.39	5.00±2.04
Inotec	Poncho	12.25±1.65	13.00±0.71
Inotec	Trigard	7.00±1.08	6.00±2.35
Kamterer	Entrust	5.75±1.80	5.00±1.73
Kamterer	Mundial	6.75±1.10	7.00±1.23
Kamterer	Poncho	9.25±2.46	9.25±2.84
Nunhems	Entrust	12.00±0.91	11.75±0.95
Nunhems	Mundial	11.50±1.56	7.75±1.44
Nunhems	Poncho	15.75±1.10	11.25±2.66
Seed Dynamics	Entrust	9.00±0.58	9.75±1.32
Seed Dynamics	Mundial	8.50±1.85	7.75±1.11
Seed Dynamics	Poncho	11.00±1.58	8.25±1.49
Seminis	Entrust	10.75±1.32	9.75±1.32
Seminis	Mundial	7.25±3.04	9.00±1.58
Seminis	Poncho	7.25±2.40	9.50±1.89
Seteco	Entrust	5.50±2.10	4.50±2.40
Seteco	Mundial	7.50±1.66	10.00±2.04
Seteco	Poncho	12.75±1.38	9.50±1.85
Skagit Seed Services	Entrust	5.50±2.66	4.75±1.97
Skagit Seed Services	Mundial	8.50±3.01	6.50±1.85
Skagit Seed Services	Poncho	9.50±2.02	7.25±2.56

Figure 2. Onion seed stand establishment with different treatments. * Denotes treatments with significantly more seedlings per meter in a pair-wise t-test compared to the untreated check ($p<0.05$)