

Section V
Soil Arthropods

CONTROL OF THE GREY GARDEN SLUG WITH BAITS

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Two trials were established in commercial fields of perennial ryegrass near Corvallis, Oregon, to determine the effectiveness of molluscidal baits in controlling the gray garden slug (*Deroceras reticulatum*, Mueller). Bait treatments consisted of Mesurol (2% methiocarb) and Deadline Mini-pellets (4% metaldehyde).

Field Trial #1:

Treatments included Mesurol bait at three different rates: 5.0 lbs/Ac, 7.5 lbs/Ac and 10.0 lbs/Ac, and Deadline Mini-pellets at 10.0 lbs/Ac. Treatments were arranged in a randomized complete block design with four replications; each plot measured 75 x 75 ft. Treatments were applied with a hand-held dispenser on 16 Dec 98 and 15 Jan 99. An untreated control was included for comparison.

Treatments were evaluated on 19 Dec 98, 27 Dec 98, 12 Jan 99, 19 Jan 99 and 26 Jan 99. Slug populations were determined using open bait stations consisting of three metaldehyde bait pellets per station, with five bait stations within each treatment in each replicate. Number of slugs visiting each bait station was recorded 24 hours after each baiting episode. Due to unfavorable weather conditions (very wet or freezing temperatures) reliable slug population data could be collected only on 12 Jan 99 and 26 Jan 99, which corresponds to 27 days after first treatment and 11 days after second treatment, respectively.

Results of Field Trial #1:

At 27 days after initial treatment application, all molluscide treatments had statistically significant fewer slugs when compared to the untreated control (Table 1). All rates of Mesurol Bait provided a comparable amount of control. A similar trend occurred on 26 Jan 99, 11 days after the second application of the molluscide treatments.

Table 1. Effect of baits and rates on slug mortality, Field Trial #1, perennial ryegrass, Corvallis, 1999.

Treatment	1/12/99 (27 DAT)		1/26/99 (11 DAT)	
	No. slugs	% Control	No. slugs	% Control
Mesurool @ 5 lbs/Ac	10.4 a *	63.4	2.8 a *	83.7
Mesurool @ 7.5 lbs/Ac	11.8 a	58.4	4.0 a	76.7
Mesurool @ 10 lbs/Ac	9.1 a	68.0	3.9 a	77.3
Deadline Mini-pellets @ 10 lbs/Ac	14.1 a	50.4	5.6 a	67.4
Untreated Control	28.4 b	---	17.2 b	---

* Means followed by the same letter within a column do not differ significantly at $P \leq 0.05$

Field Trial #2:

Treatments included Mesurool bait at 10.0 lbs/Ac and Deadline Mini-pellets at 10.0 lbs/Ac. Treatments were arranged in a randomized complete block design with four replications; each plot measured 100 x 100 ft. Treatments were applied with a hand-held dispenser on 17 Dec 98. An untreated control was included for comparison.

Treatments were evaluated on 19 Dec 98, 27 Dec 98, 12 Jan 99, 19 Jan 99 and 26 Jan 99. Slug populations were determined using open bait stations consisting of three metaldehyde bait pellets per station, with five bait stations within each treatment in each replicate. Number of slugs visiting each bait station was recorded 24 hours after each baiting episode. Due to unfavorable weather conditions (very wet or freezing temperatures) reliable slug population data could be collected only on 12 Jan 99 and 26 Jan 99, which corresponds to 26 and 40 days after treatment, respectively.

Results of Field Trial #2:

At 26 days after initial treatment application, both Mesurool and Deadline Mini-pellet plots had statistically significant fewer slugs when compared to the untreated control (Table 2). At 40 days after treatment, only the Mesurool-treated plots had statistically significant fewer slugs than the untreated control.

Table 2. Effect of baits on slug mortality, Field Trial #2, perennial ryegrass, Corvallis, 1999.

Treatment	1/12/99 (26 DAT)		1/26/99 (40 DAT)	
	No. slugs	% Control	No. slugs	% Control
Mesurool @ 10 lbs/Ac	0.8 a	99.3	0.9 a	80.4
Deadline Mini-pellets @ 10 lbs/Ac	2.3 a	80.5	2.7 ab	41.3
Untreated Control	11.8 b	---	4.6 b	---

* Means followed by the same letter within a column do not differ significantly at $P \leq 0.05$