

Section VI. Soil Arthropods

GRAY GARDEN SLUG: RESPONSE TO VARIOUS COMMERCIAL BAITS

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Effective slug baits are very attractive to slugs, weather well, and should provide substantial mortality over a number of days. We tested these traits in a variety of commercial baits including: Deadline Bullets & Granules, Wilbur Ellis- 4% metaldehyde, Alco Slug, Snail & Sowbug killer, RCO- slug & snail bait, First Choice- 4% carbaryl & 2% metaldehyde, Wilbur Ellis- 5% carbaryl, and an experimental carbaryl bait. All experiments were conducted in separate locations on a third year perennial ryegrass seed field in Linn Co., Or in the fall, 1995.

The first experiments included 7.5lb and 15lb per acre applications of bait. The eight products and an untreated check were set out in plots 21ft² (equaling 1/100th of an acre) and replicated four times using a randomized block design. Plots were evaluated 10 DAT using bait stations to establish relative numbers of slugs in treated plots compared to the UTC (See Table 1).

The same baits were also evaluated for their attractiveness to the Gray Garden Slug after weathering. In the first trial, weathering consisted of exposing the equivalent of three pellets of bait to 0.10 & 0.25 inches of water by sprinkler. Each bait and water level were replicated five times in a randomized block design. The baits were then placed in the field and the numbers of slugs attracted to each bait the next morning were recorded (See Table 2). A second weathering experiment, consisted of placing the equivalent of three pellets of bait in the same location at a later date and allowing the local weather to have its affect. Five replications of each bait were placed in a randomized block design. Numbers of slugs visiting the baits over a period of six days were recorded (See Table 3). Table 3 shows the average number of slugs recorded at each bait station over the six day period. The raw data however shows that all of the baits lost attractiveness over the six day period (See Figure 1). Most baits attracted few slugs after the first three or four days.

In 1994 we observed the best time to bait for slugs was in the fall (October) in the Willamete Valley. Sexually mature Gray Garden Slugs began frequenting the soil surface with regularity as dew points were reached in the late afternoon. They readily accepted Bran and/or Metaldehyde baits, traveling up to ten feet across bare soil to feed. Little precipitation at this time extends bait longevity. Often cool damp nights are followed by sunny warm days, greatly enhancing mortality of slugs having fed on baits through desiccation. Slug control is particularly important at this time in dryland agriculture as it occurs at the beginning of the reproductive cycle. Our research suggests that bran baits containing metaldehyde are superior to carbaryl baits. Deadline baits are particularly attractive, weather well and result in the greatest control. The metaldehyde baits have

minimal impact on other organisms in the grass fields. Lastly, the best rate for these baits is the 7.5lbs per acre. Both the 15 & 7.5lb rates had about the same affect on the slug populations at the 10 day after treatment time.

Table 1. Efficacy of baits applied at 7.5 & 15lbs. formulated product per acre. Average number of Gray Garden Slugs attracted to a bait station 10 DAT.

Bait	Totals for 15lb. rate	Totals for 7.5lb. rate
Wilbur Ellis (Met 4%)	3.1	1.5
Deadline Granules (Met 4%)	1.3	1.7
Alco Slug, Snail, & Sowbug killer (Car 5%, Met 3%)	4.0	1.8
Deadline Bullets (Met 4%)	4.0	2.1
RCO Slug & Snail Bait (Met 3.25%)	4.5	3
Western Farm Service First Choice (Car 4%, Met 2%)	14	3.3
Experimental Carbaryl	15.7	8.4
Wilbur Ellis (Car 5%)	18.3	9.0
Untreated Check	32.4	13.9

Table 2. Effect of precipitation followed by 48 hours of weathering on attractiveness of baits to the Gray Garden Slug. Total number of slugs recorded at baits the morning following placement in the field. Large numbers of slug coming to the more attractive baits.

Bait	Totals for 0.25"	Totals for 0.10"
Deadline Bullets (Met 4%)	50	73
Wilbur Ellis (Met 4%)	26	38
Deadline Granules (Met 4%)	34	33
RCO Slug & Snail Bait (Met 3.25%)	8	20
Western Farm Service First Choice (Car 4%, Met 2%)	35	17
Alco Slug, Snail, & Sowbug killer (Car 5%, Met 3%)	4	7
Experimental Carbaryl	1	7
Wilbur Ellis (Car 5%)	0	3

Table 3. Total number of Gray Garden Slugs attracted to baits over a six day period.

Bait	Totals
Deadline Granules	114
Deadline Bullets	111
Wilbur Ellis 5% metaldehyde	90
First Choice (4%car & 2%)	78
RCO Slug& Snail bait	56
Alco Slug, Snail & Sowbug killer (Car 5%, Met 3%)	49
Neilsen 5%carbaryl	17
Wilbur Ellis 5%carbaryl	13

Figure 1. Number of Gray Garden Slugs attracted to baits over a six day period.

