

Phyllom Curative Grub Control - 2009

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Materials and Methods

A study area was established on 24 August using treatment plots of 5 x 5 ft, arranged in a randomized complete-block design replicated four times. The experiment was located at the OSU Extension Facility in Lancaster, Ohio. The granular products were applied using shaker jars of material measured out for each plot. The site received no regular irrigation.

Field conditions during the 24 August applications were as follows:

Turf – 90% fine fescue, 10% perennial rye; thatch up to 1” in some locations.

Soil – moist; clay-loam; 79°F at 1 inch and 76°F at 3 inch deep.

Weather – clear; 78°F; 0-3 mph wind from the S.

Insects – this area had extensive white grub populations

Efficacy data were obtained 1 October (38DAT) by counting the number of live larvae in one 12 inch wide by 24 inch sod sample ($=2\text{ ft}^2$) cut from the center of each plot. The sod cutter was set at 1.5-inch depth and the sod was torn apart and underlying soil was raked with metal hand cultivators to expose grubs. ANOVA was calculated using raw totals and means separated by LSD test at $\alpha = 0.05$ when appropriate

Field conditions during the 1 October sampling were as follows:

Turf – same as above; turf was brown and thinning.

Soil – moist; 68°F at 1-inch and 66°F at 3-inch depth.

Weather – clear; 67°F (afternoon); wind 0-3 mph from the S.

Insects – checks had 151 northern masked chafer (second instars) and 20 Japanese beetle (first and second instars) grubs total.

Results

An average of 21.4 grubs per ft^2 (masked chafer plus Japanese beetle) were found in the check plots. This is considered to be a high infestation.

There were no signs of phytotoxicity from any of the treatments.

Table 1. Evaluation of SDS502 granular formulations & rates (38DAT) applied on 24 August as a curative treatment for masked chafer and Japanese beetle larvae at the OSU Extension Bldg, Lancaster, OH, October 1, 2009.

Treatment/ ^a		# per 12 24 in /plot ^b				Ave/ ^c		
		x						
Formulation	Rate	Rep 1	Rep 2	Rep 3	Rep 4	ft ²	% control	
PHY Granules-2-09	1.2 g/ft ²	2	2	10	4	2.3	89.5	b
PHY Granules-2-09	1.6 g/ft ²	0	25	5	4	4.3	80.1	b
PHY Granules-1-09	1.2 g/ft ²	5	38	20	37	12.5	29.1	ab
PHY Granules-1-09	1.6 g/ft ²	0	3	60	3	8.3	61.4	b
Merit .5G	.3 lb ai/A	0	1	1	1	0.4	98.2	b
Check	--	61	25	35	50	21.4	--	a

^a Treatments applied 24 August to 5 x 5 ft plots, replicated 4x.

^b Data taken on 1 October (38 DAT) from a 12 x 24 inch sample from the center of each plot.

^c Totals per plot analyzed by totals per plots ANOVA ($P=0.025$). LSD @ 0.05 = 24.961 ave # grub/sample. % Controls followed by the same letter are not significantly different.