

## **CURATIVE EFFICACY OF THREE DIFFERENT DYLOX FORMULATIONS AGAINST JAPANESE BEETLE LARVAE IN KENTUCKY BLUEGRASS TURF, 2007**

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### **OBJECTIVES**

The objective of this study was to describe the curative efficacy of various Dylox formulations against Japanese beetle larvae by:

- 1) Describing the influence of the materials on Japanese beetle larval populations at 7 and 14 days after treatment (DAT)
- 2) Comparing efficacy of the Dylox formulations against the selected reference compound

### **METHODS AND MATERIALS**

The experiment was located at the Purdue University Nursery located on the campus of Purdue University in West Lafayette, IN, on a lawn consisting primarily of Kentucky bluegrass maintained at 7.6 cm. Plots measuring 1.5 x 1.5 meters were arranged in a randomized complete-block design with 0.6 meter alleys between plots. Each treatment was replicated 4 times for each sampling date with the exclusion of untreated plots in which case only one set of four plots was used. Liquid formulations were applied using a hand-held CO<sub>2</sub> boom sprayer configured with four 8010 nozzles operating at 30 psi and calibrated to deliver a spray volume of 2 gal/1000ft<sup>2</sup>. Granular formulations were applied using a hand-held shaker jar. All treatments were applied on September 28, 2007 and plots were irrigated (0.25 inches) immediately following applications. Thatch at the site measured less than 1/8 inch.

An artificial infestation of Japanese beetle larvae was created at the site by caging groups of 30 adult beetles (sex ratio = 50:50) on plots using 8" diameter PVC pipes cut into 6" sections. Three cylinders were placed in each plot and one quarter of a large apple was placed inside each cage to provide a source of nutrition and moisture for the beetles. Beetles were caged during the first and third weeks of July using fresh beetles collected using Trecé traps and a floral lure.

Japanese beetle larval populations were assessed on October 5, 2007 (7 DAT) and October 12 (14 DAT) by examining the turf and soil core lying directly under each PVC cylinder to a depth of 5 inches (total area = 1.05 ft<sup>2</sup>) and counting the number of live larvae present.

## RESULTS

**Table 1.** Influence of three different Dylox formulations on Japanese beetle larval populations in Kentucky bluegrass turf.

TRT#	Treatment	Application Date	Japanese beetle larvae			
			JB/ft <sup>2</sup> 7 DAT	% Control 7 DAT	JB/ft <sup>2</sup> 14 DAT	% Control 14 DAT
1	Untreated	Control	6.67a	---	6.67a	---
2	Dylox 80 T&O SP @ 163 oz/A	28-Sep	0.48b	92.9	0.48b	92.9
3	Dylox 420EC @ 297 oz/A	28-Sep	0.95b	85.7	0.95b	85.7
4	Dylox 6.2G @ 131 lb/A	28-Sep	0.24b	96.4	0.24b	96.4
5	Arena 50WDG @ 10.67 oz/A	28-Sep	0.71b	89.3	0.48b	92.9

Numbers followed by same letters are not significantly different (Fisher LSD,  $\alpha=0.05$ )

\* There were no signs of phytotoxicity associated with any of the insecticide treatments.

Results of the current assessment indicate that all Dylox formulations provided excellent late season control of Japanese beetle larvae. Although there were some numerical differences in the level of control provided by the various Dylox formulations, there were no statistically significant differences between the formulations. There were no problems with the application methods and all formulations were easy to apply.