

# **Peripheral Insecticide Application as a Mean of Black Cutworm Control on Golf Course Putting Greens**

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## **INTRODUCTION**

The BCW is also a serious pest of golf course turf, especially putting greens and tees. Feeding by BCW larvae often results in small patches of dead turf and depressions or pockmarks that can reduce that aesthetic appearance, smoothness, and uniformity of the playing surface. Consequently, the economic or aesthetic injury threshold level is extremely low and makes repeated insecticide treatments each year for control of this pest.

## **MATERIALS AND METHODS**

Six golf course putting greens were randomly selected at the Country Club of Beloit (Beloit, WI). In late April 1999 and 2000, all putting green surfaces were treated with a short-residual insecticide (trichlorfon) at an application rate of 6 lb ai/A to eliminate existing populations of BCW larvae. Immediately thereafter, a 30 foot wide band of a long-residual, conventional insecticide (deltamethrin) was applied to the peripheral area of three putting greens at a rate of 0.10 lb ai/A. All putting greens were sampled weekly following the initial insecticide application to determine the BCW population for each green. Three samples (1 meter<sup>2</sup> per sample) were taken from each putting green using a soap disclosing solution of 1fl.oz. Ultra Joy dishwashing detergent per 2 gallons of water. The number of BCW larvae on non-treated and the peripherally treated greens were compared.

## **RESULTS**

In 1999, putting greens that received peripheral insecticide treatments had significantly fewer BCW larvae per m<sup>2</sup> than the non-peripherally treated greens (Figure 1 & Table 1). However, in 2000, no significant difference between peripheral and non-peripheral treated putting greens was observed (Figure 2 & Table 2).

## **DISCUSSION**

Because of the variability between the 1999 and 2000 data, it is difficult to infer the effectiveness of peripheral insecticide application around putting greens. However, the data do suggest a trend supporting peripheral insecticide applications as a viable black cutworm management strategy. To better understand the value of this management method, this study will be repeated in 2001 and 2002.

1. Effects of peripheral insecticide treatments on black cutworm larvae on golf course putting greens, 1999.

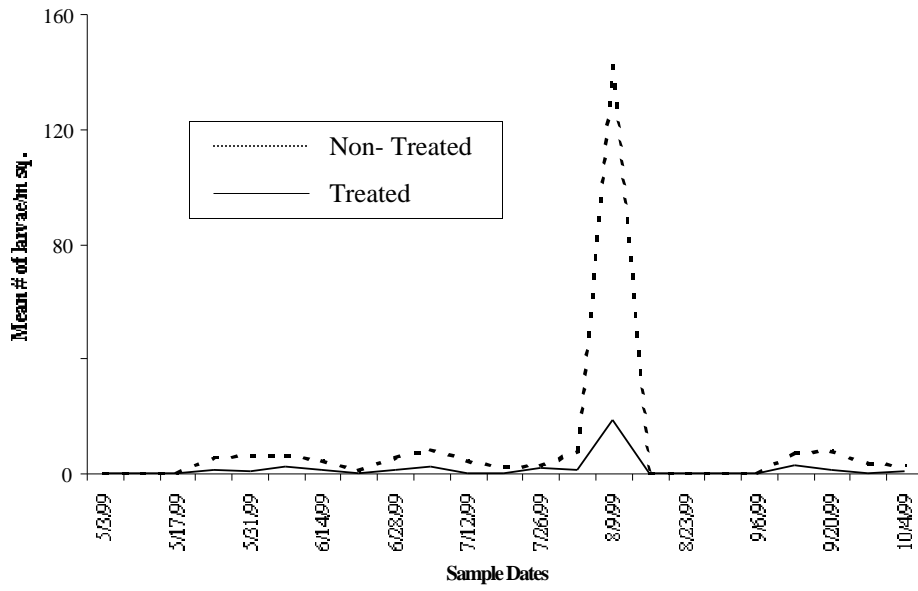


Figure 2. Effects of peripheral insecticide treatments on black cutworm larvae on golf course putting greens, 2000.

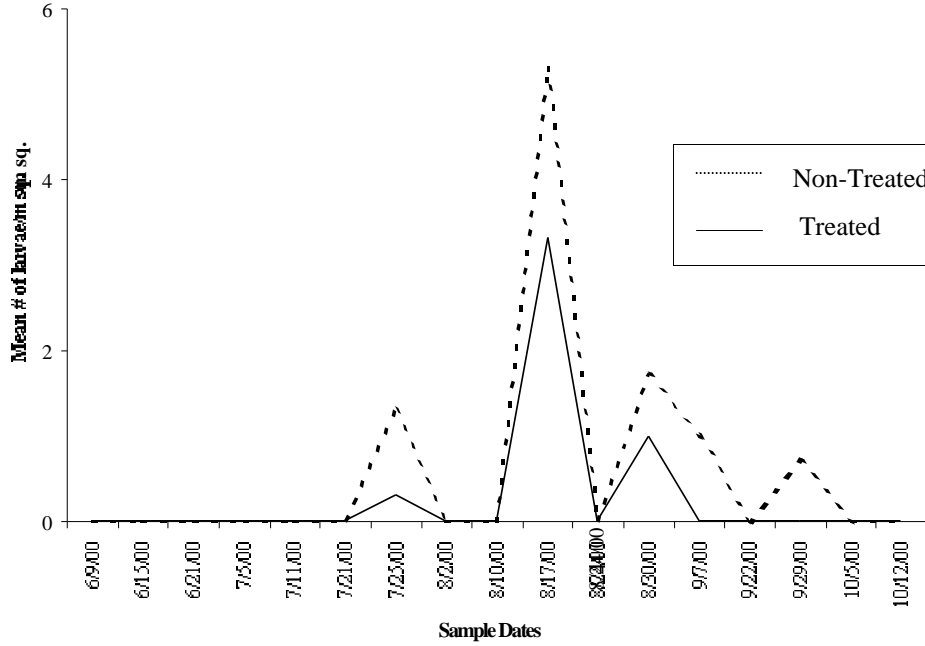


Table 1. Effects of peripheral insecticide treatments on black cutworm larvae on golf course putting greens, 1999. T=Treated; NT=Non-treated.

Date	Treatment	Mean	P
5/3/99	T	0	-
	NT	0	-
5/10/99	T	0	-
	NT	0	-
5/17/99	T	0	-
	NT	0	-
5/24/99	T	1.0	0.0263
	NT	5.3	-
5/31/99	T	0.67	0.0091
	NT	6.0	-
6/7/99	T	2.0	0.0342
	NT	6.3	-
6/14/99	T	1.0	0.0198
	NT	4.7	-
6/21/99	T	0	0.2254
	NT	1.0	-
6/28/99	T	1.3	0.0039
	NT	5.3	-
7/5/99	T	2.3	0.0063
	NT	8.3	-
7/12/99	T	0	0.0390
	NT	4.3	-
7/19/99	T	0	0.0742
	NT	2.0	-
7/26/99	T	1.7	0.0572
	NT	2.7	-
8/2/99	T	1.0	0.0019
	NT	7.7	-
8/9/99	T	18.3	0.0210
	NT	142.3	-
8/16/99	T	0	-
	NT	0	-
8/23/99	T	0	-
	NT	0	-
8/30/99	T	0	-
	NT	0	-
9/6/99	T	0	-
	NT	0	-
9/13/99	T	2.7	0.0021
	NT	7.3	-
9/20/99	T	1.3	0.0237
	NT	7.7	-
9/27/99	T	0	0.0377
	NT	3.3	-
10/4/99	T	0.3	0.0942
	NT	2.7	-

Table 2. Effects of peripheral insecticide treatments on black cutworm larvae on golf course putting greens, 2000. T=Treated; NT=Non-treated

Date	Treatment	Mean	P
6/9/00	T	0	-
	NT	0	-
6/15/00	T	0	-
	NT	0	-
6/21/00	T	0	-
	NT	0	-
7/5/00	T	0	-
	NT	0	-
7/11/00	T	0	-
	NT	0	-
7/21/00	T	0	-
	NT	0	-
7/25/00	T	0.3	0.1835
	NT	1.3	-
8/2/00	T	0	-
	NT	0	-
8/10/00	T	0	-
	NT	0	-
8/17/00	T	3.3	0.1898
	NT	5.3	-
8/24/00	T	0	-
	NT	0	-
8/30/00	T	1.0	0.1994
	NT	1.7	-
9/7/00	T	0	-
	NT	1.0	-
9/22/00	T	0	-
	NT	0	-
9/29/00	T	0	0.1835
	NT	0.7	-
10/5/00	T	0	-
	NT	0	-
10/12/00	T	0	-
	NT	0	-