

Soil Technologies Corp.
Research and Development Department



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Research Report

Title: Insecticides for Diamondback Moth, Cabbage Looper, and Yellow Striped Armyworm Control on Cabbage

Location: Homestead, FL

Principal Investigators: Dakshina R. Seal
University of Florida
Institute of Food and Agricultural Sciences

Crop: Cabbage

Date: 1998

Abstract:

The purpose of this study was to evaluate the efficacy of various insecticides for controlling the Diamondback moth, Cabbage looper, and Yellow-striped armyworm on cabbage plants. The following treatments were evaluated: Agree¹, Javelin² and Armorex³. Javelin had the lowest average pest count per plant while all three products provided biological or botanical control.

Methods:

Cabbage plants were treated with Agree, Javelin, and Armorex, and were observed for several days after the application of treatments. After treatments were applied, populations of Diamondback moths, Cabbage looper, and Yellow-striped armyworms were recorded.

Results:

The following tables demonstrate the number of Diamondback moths, Cabbage looper, and Yellow-striped armyworms per plant per treatment. Although all treatments demonstrated control for Diamondback moths, plants treated with Javelin followed by Agree had the lowest numbers.

¹Agree is a biological insecticide EPA Reg. No. 70051-47

²Javelin is a biological insecticide EPA Reg. No. 70051-66

³Armorex is a botanical OMRI listed pesticide manufactured by Soil Technologies Corp. in Fairfield, IA USA

Table 1. Number of Diamondback Moths Per Plant

Treatment	Rate	4/24/1998	4/28/1998	5/01/1998	5/08/1998	Average
Control		55.55	60.55	25.00	14.89	39.00
Agree	1 lb	31.33	21.11	13.22	2.00	16.92
Javelin	1 lb	25.88	17.11	10.33	3.22	14.14
Armorex	4cc/L	21.11	17.44	23.33	7.56	17.36

The table below shows the number of Cabbage loopers per plant by treatment. The lowest mean number of Cabbage loopers were seen in plants treated with Agree and Javelin followed by Armorex.

Table 2. Number of Cabbage Looper Per Plant

Treatment	Rate	4/24/1998	4/28/1998	5/01/1998	5/08/1998	Average
Control		6.77	5.22	2.77	1.11	3.97
Agree	1 lb	5.55	2.77	1.11	1.00	2.61
Javelin	1 lb	3.55	3.33	1.88	0.44	2.31
Armorex	4cc/L	6.33	2.44	1.88	0.78	2.86

Below are the results for the effectiveness of treatments in controlling Yellow striped armyworms. Cabbage plants treated with Javelin saw the lowest count of Yellow striped armyworms with a mean of 0.17 followed by Armorex treated plants with a mean count of 0.89 per plant.

Table 3. Number of Yellow-Striped Armyworm Per Plant

Treatment	Rate	4/24/1998	4/28/1998	5/01/1998	5/08/1998	Average
Control		6.77	8.77	7.00	2.22	6.19
Agree	1 lb	5.44	1.77	0.22	0.00	1.86
Javelin	1 lb	0.55	0.11	0.00	0.00	0.17
Armorex	4cc/L	0.77	0.11	1.77	0.89	0.89

Conclusions:

Results from this trial indicate that all treatments provided control for all pests compared to the control. Cabbage plants treated with Javelin saw the lowest mean counts of all pests. Plants treated with Agree had the second lowest mean counts of Diamondback moths and Cabbage loopers. For Yellow-striped armyworms, Armorex treated plants had the second lowest mean count after Javelin.