

CABBAGE LOOPER CONTROL AT HASTINGS AND SANFORD FLORIDA DURING 1970

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ABSTRACT

Insecticide tests for the control of *Trichoplusia ni* (Hbn) on cabbage were conducted under similar experimental conditions. Monitor® O, S-dimethyl phosphoramidothioate and formulations of *Bacillus thuringiensis* Berliner gave the best average control. Phosvel® O-(2, 5-dichloro-4-bromophenyl) O-methyl phenylthiophosphonate and monocrotophos gave commercial control. Mevinphos, naled, and parathion appeared ineffective.

INTRODUCTION

The cabbage looper, *Trichoplusia ni* (Hbn), is 1 on the most damaging and difficult to control insects on crucifers in Florida. The insect has also been reported to be a serious problem on tobacco (3) and watermelons (1) and a minor pest on beans, beets, and lettuce (4). Cooperative control tests have been conducted on the cabbage looper at different locations in Florida since 1968 (2). This paper reports the results of insecticide tests conducted on cabbage at 2 locations during 1970.

INTRODUCTION

For uniformity, test conditions were standardized as much as practical between the 2 locations. King Cole cabbage from the same seed source were transplanted to field plots at the Central Florida Experiment Station, Sanford and the Potato Investigations Laboratory, Hastings. Plots were 50 ft. long by 4 rows wide with data collected from the center rows. Pesticides, of the same batch number where possible, were applied at 250-300 psi and 100 gpa. Six nozzles per row directed the spray to the tops, sides,

and undersurfaces of the leaves. Five weekly applications beginning 3-31-1970 were made at Hastings. Nine weekly applications were made at Sanford beginning 4-8-1970. Treatments were replicated 4 times in a randomized block design. Six treatments included in the Sanford test and 1 at Hastings were not duplicated at the other station but are listed in the results section. Data were collected 7 days following the last treatment by a damage rating system from 1-6 as follows: 1=0 worm injury, 2=0-1% of leaf area eaten, 3=2-5% of leaf area eaten with no head damage, 4=6-10% of leaf area eaten with minor head damage, 5=11-30% worm injury to leaves with moderate feeding on the head, 6=over 30% of leaf area consumed with numerous holes in the head. Inspection at midseason and at time of rating showed that damage was caused almost entirely by the cabbage looper.

Chemical definitions of the proprietary compounds used in the test are as follows:

Biotrol®, Dipel®, and Thuricide®, formulations of *Bacillus thuringiensis* Berliner

ER-6624, (Not available at time of writing)

Fundal®, N-(4-chloro-o-tolyl)-N, N-dimethylformamidine hydrochloride

Monitor®, O, S-dimethyl phosphoramidothioate

N-2596, S-(p-chlorophenyl) O-ethyl ethane-phosphonodithioate

Phosvel®, O-(2, 5-dichloro-4-bromophenyl) O-methyl phenylthiophosphonate

SBP-1382, (5-benzyl-3-furyl) methyl 2, 2-dimethyl-3-(2-methyl=propenyl) cyclopropane=carboxylate

RESULTS AND DISCUSSION

Results listed in Table 1 show that Monitor and Dipel gave the best average control. Thuricide, Phosvel, and monocrotophos gave commercial control (rating of about 2.50 or below). Differences between treatments, locations, and locations times treatments were highly significant. Differences between replications were not significant at the 5% level. The higher ratings recorded at Sanford may have been related to the longer period of insecticide application when plants were full grown and cabbage loopers most

Table 1. Cabbage looper damage ratings at 2 locations in Florida during 1970.

Treatment and AI/acre*	Cabbage -- King Cole**		Average
	Hastings	Sanford	
Monitor 0.75	1.33 a-c	1.45 a	1.39 a
Dipel 1.0	1.45 a-d	1.45 a	1.45 ab
Monitor 0.5	1.23 a	2.23 b	1.73 a-c
Dipel 0.5	1.28 ab	2.40 bc	1.84 c
Thuricide 90TS 2 qts.	1.83 de	2.90 c	2.36 d
Phosvel 1.0	2.03 ef	2.93 c	2.48 de
Monocrotophos 1.0	1.45 a-d	3.68 d	2.56 d-f
Methomyl W 0.5	1.68 b-e	3.98 de	2.83 e-g
Methomyl L 0.5	1.78 c-e	3.98 de	2.88 e-g
Fundal 0.5	1.73 c-e	4.23 d-f	2.98 fg
Thuricide HP 0.25	2.63 g	3.70 d	3.16 gh
Parathion 0.5 + Thuricide 1 qt.	2.33 fg	4.65 ef	3.49 hi
N-2596 1.0	2.35 fg	4.88 fg	3.61 i
Parathion 0.5	3.28 h	5.45 gh	4.36 j
Check	5.48 i	5.88 h	5.68 k
<u>Nonduplicated treatments</u>			
Thuricide HP 0.5		2.65	
Biotrol 2.0	3.00		
SBP-1382 0.5		3.50	
ER-6624 1.5		3.78	
Naled 2.0		4.75	
Trichlorfon 3.0		5.00	
Mevinphos 0.5		5.02	

* Pounds unless otherwise stated.

** Means followed by the same letter are not significantly different at the 5% level (Duncan's MRT).

numerous. Worm control is very difficult at this time due to insecticide coverage problems. The results of this test and that of Greene et al (2) show that mevinphos, naled, and parathion, once highly effective against the cabbage looper, will no longer give adequate control in Florida. These compounds, thus, join DDT, endrin, and toxaphene in being lost to the grower for cabbage looper control in recent years.

LITERATURE CITED

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