

Ephestia cautella (Walk.)

(Pyralidae : Lepidoptera) *Ephestia calidella* (Guenee)

(2002/10/1 2002/7/24)

Ephestia calidella (Guenee)

Ephestia cautella (Walk.)

Match

.Trigard Dimilin

% 650 100

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Effect of Host Kind and Egg Treatment by Sub-lethal Concentration of Some Insect Growth Inhibitors on Some Biological Characteristics of Fig Moth *Ephestia cautella* (Walk) and Currant Moth *Ephestia calidella* (Guenee) (Pyralidae : Lepidoptera)

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ABSTRACT

The results of this study revealed that the LC₅₀ values of Dimilin 10% E.C, Match 50% E.C and Trigard 75% W.P. on eggs of *Ephestia cautella* (Walk.) and *Ephestia*

calidella (Guenee) were varied according to the host kinds and insect species. Match has a superior value of toxicity ratio and relative efficiency on eggs of *E. cautella* reaches 100 and 650 % respectively. The eggs of both species treated with sub-lethal concentration of insect growth inhibitors showed an increasing in eggs incubation period and reduction in eggs hatching percentage comprised with the control. The effect of egg treatment expand to the larval stage and increase the larval period, reduce the pupation percentage, elongate the pupal period, reduce the eclosion percentage of the adult and reduce the adult stage period and the number of eggs laid by the female.

Ephestia calidella (Guenee)

Ephestia cautella (Walk.)

.(1988

Ahmed, 1985)

%19.86-7.58

(1987)

(Attia, 1976 Hashimoto, 1964)

(Schulten, 1970)

.(1987)

2001

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%10 ± 45

°3 ±25

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1

12

88

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(Trigard 75% W.P Match 50% E.C Dimilin 10% E.C.)

% 1 0.8 0.5 0.3

(48-24) 20

1 Potter Tower

.(Busvine, 1971) ² / 12

LC₅₀

(Abbott, 1925)

.(Litchfield and Wilcoxon, 1949)

.(Sun and Johnson, 1960)

$$100 \times \frac{LC50}{LC50} =$$

$$100 \times \frac{LC50}{LC50} =$$

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0.003

(

(Trigard Match Dimilin)

1 Potter Tower

30

(Busvine, 1971) ² / 12

9 (48-24)

5 (3×6)

%10

)

(

(1990) %5

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(Trigard Match Dimilin) (1)

Match

LC50

Trigard (0.0012)

(1) (0.0078) LC50

Charmillot et al. (2001) .(0.0047) (0.0078-0.0012)

C.pomonella(L.)

Diffubenzuron Hexaflumuron Teflubenzuron

15 1.3 0.6

(1)

%5

Match %100

Trigard %15.38

.....

%5

(1)

%650

%100

Match

Trigard

:1

%	%	-		LC50			
325	50	0.002-0.002	2.17	0.0024		Trigard	Trigard
210.80	32.43	0.007 -0.001	1.79	0.0037			
650	100	0.018-0.008	2.64	0.0012			
169.57	26.09	0.009-0.002	1.77	0.0046			
236.36	36.36	0.004-0.002	1.94	0.0033			
150	23.08	0.009-0.002	1.82	0.0052		Trigard	Trigard
173.30	26.67	0.004-0.004	2.41	0.0045			
144.40	22.22	0.008-0.003	2.02	0.0054			
190.24	29.27	0.006-0.002	1.90	0.0041			
125.81	19.35	0.01-0.003	2.85	0.0062			
173.30	26.67	0.004-0.004	2.41	0.0045		Trigard	Trigard
150	23.08	0.006-0.004	1.90	0.0052			
114.71	17.65	0.014-0.003	1.87	0.0068			
185.70	28.57	0.004-0.004	2.25	0.0042			
144.40	22.22	0.013-0.002	1.64	0.0054			
162.50	25	0.008-0.002	1.84	0.0048		Match	Match
100	15.38	0.003-0.001	2.74	0.0078			
139.26	21.42	0.009-0.003	1.95	0.0056			

.%5

:

:

(2)

%. 5

Match

5.25

Dimilin

Dimilin

Match

. 5

(2)

Match

Trigard

Dimilin

10 10.50 10.75

(2001)

(2)

Trigard

Carvalho (1994)

Triflumuron

Buprofezin

Trigard

(2)

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				/				
75	- 60	- 80	- 85	7.50	5.00	5.25	4.75	Dimilin
	- 80	- 75	- 70		10.50	10.75	8.75	
61.66	50	- 75	- 65	7.29	5.25	5.00	4.75	Match
	55	- 60	- 65		- 10.00	- 10.00	8.75	
9.16	- 60	- 80	- 70	6.62	4.50	4.25	4.50	Trigard
	- 75	- 70	- 60		- 9.50	10.50	6.50	
91.66	- 85	90	95	6.50	4.50	4.25	4.25	Control
	95	95	90		9.25	- 9.75	7.00	
				* 70	* 78.12	* 75		
					74.58		4.68	
					74.16		9.27	

%5

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%5

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Match
 . % 55 50
 (1998)
 Match (2)
 100
 (1999)
 %69.4
Sesamia cretica (Led.) Match
 . 200
 (3)
 %5
 55.5 (3)
 Match
 52 54.25 Dimilin
 Match
 Trigard
 Match (1998)
 (2001)
 Trigard
 Trigard
 ()
 Match (3)
 Dimilin . %45 40
 %80

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				/				
65.83	- 50	- 65	- 80	49.29	- 49.75	- 47.5	- 47.5	Dimilin
	- 60	- 60	- 80		- 49.5	54.25	- 47.75	
52.5	40	- 55	- 60	51.45	- 50.0	- 49.25	- 50.5	Match
	- 45	- 55	- 60		- 52.0	55.5	- 51.5	
65	- 45	- 75	- 70	47.29	- 47.0	- 45.25	- 48.75	Trigard
	- 65	- 65	- 70		- 47.25	- 52.0	- 43.5	
87.5	- 80	90	90	37.70	33.5	38.25	30.5	Control
	85	90	90		40.5	- 49.25	34.25	
	* 58.75	* 69.37	* 75		* 46.18	* 48.90	* 44.21	
			66.66			44.81		
			68.75			48.06		

%5

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%5

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	15.5	(4)	
	13.75	Match	
		Match	
	15.5-8.25		%5
		(4)	
	(1997)		
	Match		
		(2001)	
(4)		5	7.2 Trigard
		% 5	
			Match
Trigard			%40 30
	%45	% 40	
			Dimilin %70
%80-30			
)	(1997)		
		(
	%30.20	97.6	
<i>Pectinophora</i>		Flint et al. (1987)	
	Diflubenzuron		<i>gossypiella</i>

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60.83	45	- 55	- 60	11.12	9.75	9.75	- 11	Dimilin
	- 70	- 65	- 70		- 10.75	- 13	- 13	
45.83	30	- 50	45	13.08	- 12	- 12.75	- 11.5	Match
	40	- 60	- 50		- 13	15.5	13.75	
61.66	40	- 65	- 70	10.41	9.75	- 8.25	- 10.5	Trigard
	45	- 80	- 70		- 11.5	- 10.5	- 12	
85.83	- 80	85	85	8.45	6.75	6.75	7	Control
	90	90	85		- 9.50	- 10	- 10.75	
	* 55	* 68.75	* 66.87		* 10.37	* 10.81	* 11.12	
			59.16			9.60		
			67.91			11.93		

%5

()*

%5

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(5)

%50

3.75 3.5

Match

Dimilin Trigard

%5

(1997)

Match

Match

(1998)

(5)

/

%5

/

89 85

Dimilin

Match

/ 90

(1997)

-

Match

98.5

128

(1988)

Hofmeister

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96.08	- 99.5	- 97.75	91.5	5.12	- 5.25	- 5.75	- 4.5	Dimilin
	93.5	- 104.25	90		- 5.25	- 5.25	- 4.75	
95.16	- 98.75	- 98.75	- 10.2	4.2	- 4.25	3.50	3.75	Match
	85	- 97.5	89		- 5	- 4.25	- 4.5	
105.58	- 108.25	- 180.25	- 97.5	5.25	- 5.25	- 4.75	- 4.75	Trigard
	- 107.5	- 112	- 100		- 5.75	- 5.25	- 5.75	
130.66	137.5	- 122.25	152.25	6.66	- 6	- 6	- 6.5	Control
	- 110.25	- 130.25	- 131.5		7.5	7	7	
	* 105.03	* 108.87	* 106.71		* 5.53	* 5.21	* 5.18	
			109.52			5.02		
			104.22			5.6		

%5

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%5

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	.1998	
<i>Ephestia cautella</i> (Walk.)		Lufenuron (Match)
16.		(Pyralidae:Lepidoptera)
		.85-81 2
<i>Musca</i>	.2001	
		.(Muscidae : Diptera) <i>domestica</i> (L.)
	.1990	
		544
<i>Ephestia cautella</i> (Walk.)		.1987
	Match	.1997
	.1999	
Lepidoptera :) <i>Sesamia cretica</i> (Led.)		(Phalaenidae
1 17		.8-1
	Alsystin	.1988

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