



**BIODALIA**  
Microbiological Technologie

## **Control of European Vine Moth (*Lobesia botrana*) in the Vineyard Trial**

Bio T Plus – Binyamina 1993

Ehud Yogev

Bio T Plus – a *Bacillus thuringiensis*-based product was tested in a trial in a vineyard for the control of European Vine Moth caterpillars.

The trial involved insecticide applications based on fixed time intervals of 10-14 days between applications, regardless of the findings of adult moths trapped in the pheromone traps, with the intent of examining the product in spray form, in the standard formula that the majority of growers use against the European Vine Moth. The product's action was compared to standard organic phosphorus products as well as to a Dipel product, a *Bacillus* product that has been authorized for use in the vineyard.

### **Materials and Methods**

Location: Binyamina; Grower: Barak Dahan

Crop: A vineyard of Carignan wine grapes

Pest: European Vine Moth (*Lobesia botrana*), upon initial application termination of 1<sup>st</sup> generation European Vine Moth caterpillars. A pheromone trap was placed in the field to trap males on May 25, 1993.

Trial format: Complete randomness, 4 repetitions for 6-10 vines along a row.

Spraying equipment: Wheelbarrow sprayer, 100 liters, equipped with two high volume pressure spray guns.

Spraying times: Spraying commenced upon pupation of first generation caterpillars, completion of spraying approximately two weeks prior to harvest.

Dates – May 27, 1993; June 7, 1993; June 21, 1993; July 8, 1993; July 22, 1993; August 5, 1993.

Results assessment method: Two assessments were conducted to assess the extent of European Vine Moth infection in the clusters.

The first assessment was on July 1, 1993, where 10 clusters were picked from each repetition and all the seeds were examined, each infected locus was counted as well as each infected seed.

The second evaluation was conducted the same way, a few days before the harvest, on August 9, 1993.

The products used in this trial:

1. Bio T Plus	B.T.	SC (16000)	Dalia
2. Dipel	B.T.	WP (16000)	CTS
3. Pyrinex	Chlorpyrifos	EC 479 g/l	Makhteshim
4. Fenitex	Fenitrothion	EC 500 g/l	Makhteshim



**BIODALIA**  
Microbiological Technologie

Treatments:

1. Bio T Plus 0.2%
2. Bio T Plus 0.3%
3. Bio T Plus 0.5%
4. Dipel 0.3%
5. Pyrinex 0.15%
6. Fenitex 0.2%
7. Control (Aplord for Mealybug control, Anvil and Ofir for Oidium control)

Anvil for Oidium control was incorporated for all the treatments, except for Dipel, which was combined with Ofir and Sekor. Aplord was combined for Mealybug control in all of the treatments, except for treatment no. 2.

Results

All the products resulted in effective control of the European Vine Moth. There were no significant differences between the various treatments, except when compared to the control.

Table no. 1

Results - Counting the European Vine Moth Infections, July 1, 1993

<u>Treatment</u>	<u>Burrowing foci per cluster</u>	<u>Damaged seeds per cluster</u>
Bio T Plus 0.2%	0.45 B	0.52 B
Bio T Plus 0.3%	0.62 B	1.07 B
Bio T Plus 0.5%	0.62 B	0.85 B
Dipel 0.3%	0.52 B	0.60 B
Pyrinex 0.15%	0.22 B	0.47 B
Fenitex 0.2%	0.45 B	1.12 B
Control	6.15 A	13.22 A

Numbers marked with the same letter do not differ from each other in the 0.05 level of significance.



**BIODALIA**  
Microbiological Technologie

Table no. 2

Results - Counting the European Vine Moth Infections, August 9, 1993

Treatment	Average damaged grains per cluster	Clean clusters out of 10	Percentage of clean c
Bio T Plus 0.2%	0.47 A	8.25 A*	84.7
Bio T Plus 0.3%	0.72 A	6.75 A	67.5
Bio T Plus 0.5%	0.30 A	8.75 A	87.5
Dipel 0.3%	0.32 A	8.25 A	82.5
Pyrinex 0.15%	0.55 A	7.25 A	72.5
Fenitex 0.2%	1.85 A	7.50 A	75.0
Control	21.55 B	0 B**	0

\* One repetition with nine clusters

\*\* Two repetitions with nine clusters

Newman-Keuls Test 0.05

### Summary and Discussion

The results of European Vine Moth insecticide application with all of the products in all of the dosages were good, and differed significantly from the control.

The Bio T Plus preparation that was sprayed in 0.2%, 0.3%, 0.5% concentrations showed good pest control activity in the above three concentrations without a significant difference between the treatments, and without differences from Dipel or organic phosphorus treatments.

The European Vine Moth infections in the control plots were the highest during the assessment time right before the harvest.

There were no clusters that were completely clean of European Vine Moths, a fact that caused the addition of secondary pests such as the Dried Fruit Beetle (*Carpophilus*) and Fruit Fly (*Drosophilidae*).

The combination of Aplord and Anvil with the Bio T Plus preparation did not result in reduced efficacy and did not cause causticity or other damage to the foliage or fruit.

Produced by: BIODALIA MICROBIOLOGICAL TECHNOLOGIES,

Rakuto Kasei House, 5 Carmel St., Yokneam 20692, ISRAEL. Phone. +972-4-9090909 Fax. +972-4-9594077

[www.biodalia.com](http://www.biodalia.com), [info@biodalia.com](mailto:info@biodalia.com)