Date: 10/2017

Field experiment no. 089

**The effectiveness of the Bio T Plus preparation in controlling carob moth in citrus, Yifat, October 2017**

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**Aim:**

To test the effectiveness of the Bio T Plus preparation in controlling carob moth (*Ectomyelois ceratoniae*) in citrus.

**Methods and materials:**

**The crop:** The experiment was conducted in an orchard of the “Orr” clementine variety in Yifat.

**Irrigation:** drip

**Soil:** heavy

**Phenological stage**: fruit

**Weather conditions:**

3/10/2017: temperature: 26.8°C, relative humidity: 71%

**Experiment design:** The experiment was conducted in randomised blocks, with four repeats for each treatment.

**Application method and spraying volume:** Backpack sprayer, to dripping

**Application date:**

* 3/10/2017, morning

**Evaluation date:** 8/10/2017

**Evaluation method:** On 1/10/2017, cracked fruit were picked from the Orr clementine orchard. Evaluation of the fruit one week before picking showed a 6% carob moth larvae infestation. Picked fruit were placed in carton trays and sprayed until dripping. The number of live larvae was determined on the evaluation date.

**Sample size:** 30 fruit/repeat (120 fruit/treatment).

**Analysis:** The JMP (version 5.1) software was used for statistical analysis**.** Results were analysed by ANOVA with a post hoc Tukey-Kramer test to determine statistically significant differences between treatments.

**Preparation:**

* Bio T Plus, SC containing Bacillus thuringiensis subsp. Kurstaki at 16,000 international units (ITU)/mg per litre

**Treatments:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Preparation** | **cm3/dunam or %** |
| 1 | Bio T Plus | 0.4% |
| 2 | Wet control—water only |  |

**Results:**

On the evaluation date, Bio T Plus treatment differed from the control, although the difference was not statistically significant. Treated fruit were completely free of carob moth larvae, whereas the control fruit were infested.

No signs of phytotoxicity were observed with any of the treatments.

Although the elimination of sap beetle larvae was not an aim of the experiment, we noticed a substantial decrease in their presence in the treated fruit, from 13% infestation in the control to 3% in the treated fruit.

**Table 1. Citrus fruit infestation by live carob moth larvae**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Treatment** | **cm3/dunam or %** | **Percentage of carob moth-infested fruit**  |
| **8/10/2017** |
| 1 | Bio T Plus | 0.4% | 0.0 a |
| 2 | Wet control—water only |  | 7.5 a |

\* Values labelled by different letters are significantly different from each other (P<0.05)

**Discussion and conclusions:**

Bio T Plus (0.4%) effectively eliminates carob moth larvae in the fruit.

No phytotoxicity was observed in the crop.

**Acknowledgements:**

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