**Controlling codling moth in apple—Yiron 2018**

By Amotz Perver and Shmuel Ovadia

**Aim**

To test the effectiveness of the Bio T Plus preparation in controlling codling moth (*Cydia pomonella*) in apple.

**Experimental procedure**

The experiment was conducted at Kibbutz Yiron, in a Pink variety orchard planted in 2005. The experiment was performed in a plot infested by codling moth and used a randomised block design with four experimental repeats, and three trees in each repeat. Results were analysed by ANOVA test using the JMP software (version 8).

**Treatments**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Treatments** | **% Concentration** | **Formulation** |
| **1** | Bio T Plus + Mahatz | 0.4 +0.07 | SC containing 16,000 ITU/mg Bacillus thuringiensisMahatz = SL surfactant |
| **2** | Bio T Plus + Mahatz | 0.8 +0.14 | SC containing 16,000 ITU/mg Bacillus thuringiensisMahatz = SL surfactant |
| **3** | Sparta Super | 0.04 | SC containing 60 gr/L Spinetoram |
| **4** | Control | --- | --- |

**Spraying**

The plot was sprayed four times during the experiment, 10–11 days apart, on 15.7.18, 25.7.18, 5.8.18, and 16.8.18. Spraying was applied by a spray gun, Braglia nozzle (1.6 mm eyelet), at a spray volume of 180 L/dunam (1000 m2).

**Infestation counts**

Three infestation counts were conducted during the experiment: a baseline count was conducted on the day of the first spray application (15.7.18), and the two following counts were conducted 3 and 13 days after the last spray application (19.8.18 and 29.8.18). In each experimental repeat, 100 apples were randomly sampled from the central tree, and the number of apples showing signs of codling moth damage was determined.

**Results**

**Table:** Apple infestation by codling moth after four spray applications of Bio T Plus. The table presents the percentage of moth-damaged fruit, from an average of 400 apples/treatment, Yiron 2018.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Preparation** | **% Concentration** | **% Fruit damaged by codling moths****after the last spray application** |
| **baseline** | **+3 days** | **+13 days** |
| **1** | Bio T Plus + Mahatz | 0.4 + 0.07 | 0.5 a | 1.3 b | 1.5 b |
| **2** | Bio T Plus + Mahatz | 0.8 + 0.14 | 1.0 a | 1.3 b | 0.8 b |
| **3** | Sparta Super | 0.04 | 0.5 a | 1.3 b | 1.5 b |
| **4** | Control | --- | 1.0 a | 6.0 a | 7.5 a |

 **Note:** Values labelled by different letters are significantly different from each other, α=0.05

**The results presented in the table show that:**

1. At the start of the experiment, 0.5–1.0% of fruit showed codling moth damage. At the end of the experiment, 7.5% of the fruit in the control plot was damaged by codling moth.
2. Bio T Plus was effective in controlling codling moth in apples, and prevented the increase in infestation, similar to Durivo.
3. No damage was visible during growth, and no typical signs of pesticide use were observed in the foliage or the fruit with any of the treatments tested.

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