

## Residue Study: Dinotefuran (Dinocide) and Imidacloprid (Imicide) Residues in Male Flower Parts of Apple (*Malus pome*)

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**Results and Discussion:**

Male flower parts (dehiscent anthers, pollen and filaments) were collected during bloom 2019 (May 15<sup>th</sup>), 11 months post-injection. Results are shown in Table 2. No detectable neonicotinoid-insecticide residues were found in the samples, indicating there were no detectable residues present in pollen, anthers and filaments of the apple flowers sampled.

**Conclusion:**

There were no detectable residues of dinotefuran or imidacloprid in male flower parts of apple blossoms sampled 11 months after microinjection.

**J. J. Mauget Co. Insecticide and Residue Trial – 2018+2019**

**Table 1.** Product name, DBH of treated tree and total active ingredient of product applied.

| Treatment # | Replicate | Product               | Tree Circumference (in) | Tree DBH (in) | Number of capsules | Total Insecticide - ai Applied (mg) |
|-------------|-----------|-----------------------|-------------------------|---------------|--------------------|-------------------------------------|
| 1           | 1         | UTC                   | 30.0                    | 9.5           | 0                  | NA                                  |
|             | 2         |                       | 28.0                    | 8.9           | 0                  | NA                                  |
|             | 3         |                       | 27.5                    | 8.8           | 0                  | NA                                  |
|             | 4         |                       | 28.0                    | 8.9           | 0                  | NA                                  |
| 2           | 1         | Imicide <sup>1</sup>  | 24.0                    | 7.6           | 4                  | 1771.2                              |
|             | 2         |                       | 27.0                    | 8.6           | 4                  | 1771.2                              |
|             | 3         |                       | 23.0                    | 7.3           | 3                  | 1328.4                              |
|             | 4         |                       | 24.5                    | 7.8           | 4                  | 1328.4                              |
| 3           | 1         | Dinocide <sup>2</sup> | 26.0                    | 8.2           | 4                  | 2064.0                              |
|             | 2         |                       | 22.0                    | 7.0           | 3                  | 1548.0                              |
|             | 3         |                       | 26.0                    | 8.2           | 4                  | 2064.0                              |
|             | 4         |                       | 21.0                    | 6.7           | 3                  | 1548.0                              |

1. 10% imidacloprid in 4 ml capsules

2. 12% dinotefuran in 4 ml capsules

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Table 2: Residues of dinotefuran and imidacloprid in male flower parts of apple, trees injected June 15, 2018 and sampled for residues during bloom on May 15, 2019.

| <u>Treatment #</u> | <u>Product</u>        | <u>PPM residues in<br/>male flower tissues</u> | <u>Limits of Detection-PPM</u> |
|--------------------|-----------------------|------------------------------------------------|--------------------------------|
|                    |                       |                                                |                                |
|                    |                       |                                                |                                |
| 1                  | UTC                   | ND <sup>3</sup>                                | 0.020                          |
|                    |                       |                                                |                                |
|                    |                       |                                                |                                |
|                    |                       |                                                |                                |
| 2                  | Imicide <sup>1</sup>  | ND                                             | 0.020                          |
|                    |                       |                                                |                                |
|                    |                       |                                                |                                |
|                    |                       |                                                |                                |
| 3                  | Dinocide <sup>2</sup> | ND                                             | 0.020                          |
|                    |                       |                                                |                                |

1. 10% imidacloprid in 4 ml capsules

2. 12% dinotefuran in 4 ml capsules

3. ND=no detectable residues at 0.020 ppm limits of detection

**Appendix 1.**  
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**New England Fruit Consultants**



Dr. Rafael Vega collecting male flower parts for analysis, May 2019.