

Effect of Agro Pro X™ on Phytoseiulus Persimilis, the most effective natural predator of Tetranychus Urticae (red spider mite).

Purpose

Testing the effect of Agro Pro X™ product in direct spraying on the survival of the *phytoseiulus persimilis* a known predator most commonly used as biological control of Red Spider Mite.

Methods and Materials

- I. The test unit (= return) - a 8.4 cm plate with a pepper leaf disc in a red mite on all levels. The leaf is placed on top of an agar that maintains its vitality during the five days of the examination. The upper side of the leaf is placed on the agar. For ventilation, the plate and the lid were perforated, and ten details of the predator were inserted into each plate.

Each treatment was performed in 10 repetitions.

- II. Application of Agro Pro X™: Agro Pro X™ at 3.0% was sprayed on the leaf disk and the mites using a standard sprayer (Potter Tower). The spray volume is 5 cc per leaf, 15 lb. / inch (lb/inch²), spraying in this way to simulate a real state in which the pesticide is applied in the presence of a natural enemy based in the field. After the spray, the lid and the fungus plate were sealed at the junction point with paraffin paper to prevent the possibility of mites escaping from the petri dish.

Test process, data collection and processing

Petri plates were kept at a temperature of $23 \pm 2^\circ\text{C}$, a relative humidity of 50% -60% and a long day of 16 hours light.

The adult mortality rate was recorded for 5 days from the spraying.

If there was damage to the webs of the food used to feed the predator, additional chicks were added in large quantities to the examined leaf.

The mortality rate in the treatment was corrected according to Abbot's mortality. The weighted mortality rate of all returns in treatment was rated according to the International Organization for Biological Regulation (IOBC) guidelines, which set four levels to characterize the effect of pesticides on natural enemies in laboratory testing.

The levels are:

1. **Harmless** - mortality less than 30%.
2. **Slightly harmful** - 30-79% mortality.
3. **Moderately harmful** - 80-98% mortality.
4. **Harmful** - 99-100% mortality.

Results

The findings of the 5-day mortality rate are presented in the following table:

Mortality % Adjusted Treatment	H2O (Control)	Agro Pro X™ 3.0%	Return
-13%	%20	%10	1
-3%	%30	%20	2
%10	%20	%30	3
-%3	%10	%20	4
-3%	%20	%20	5
-3%	%20	%20	6
-3%	%20	%20	7
-3%	%30	%20	8
23%	%20	%40	9
-15%	%30	%10	10

Interpretations

- The mortality rate in the control is 22%.
- The weighted mortality rate in the treatment is 1%.
- The IOBC rating is 1.
- The predator of the genus *Phytoseiulus persimilis* is **not affected** by direct spraying of Agro Pro X™ at a concentration of 3.0%.

Conclusions

Under laboratory tests, it was found that when sprayed directly with Agro Pro X™ at 3% **conc. directly** on the predator, *phytoseiulus persimilis* is **not affected**.

The tests were conducted by the R & D team at *Bio-Bee, Sde Eliyahu Ltd.:
Avner Hess, agronomist Shaul Ginzberg. (<https://www.biobee.com/>)

Confirms the findings - Dr. Shimon Steinberg, R & D director.

* BioBee is the world's leading producer of *Phytoseiulus Persimilis*, the most effective natural predator of *Tetranychus urticae* (red spider mite).