



### **A newly characterized *Phytoseiulus persimilis* is a component of a novel mass rearing method and a revolutionary slow-release product\***

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The predatory mite *Phytoseiulus persimilis* has been a leading commercial biocontrol agent against spider mites, traded globally for more than five decades. Despite that, the main diet used for its mass rearing hasn't changed, and still consists of spider mites, which are considered essential for this mite's reproduction (McMurtry & Croft 1997). Spider mites are both challenging for mass rearing, and are also inadequate to be used as a diet for slow release sachets, which are a common product for other predatory mites that can feed on a broader range of diets.

To overcome these limitations, we tested a wide array of alternative diets for *P. persimilis*, and developed a protocol for mass rearing it on frozen immature *Carpoglyphus lactis* and other astigmatid mites (Tabic *et al.* 2019). We selectively bred a *P. persimilis* population which is better suited for this rearing method. This population was further characterized by a set of genetic markers that can differentiate the newly selected *P. persimilis* from other *P. persimilis* populations.

The new system allows the unprecedented formulation of *P. persimilis* slow-release sachets, which are used preventively in biocontrol programs against spider mites. The predatory mites reared using this new system were tested for their efficacy regarding oviposition, prey location and control, and proved highly efficient.

**Keywords:** *Phytoseiulus persimilis*, biological control, mass rearing, Astigmata, slow-release sachets, genetic markers

#### References

- McMurtry, J.A. & Croft, B.A. (1997) Life-styles of phytoseiid mites and their roles in biological control. *Annual Review of Entomology*, 42, 291–321.
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