Evaluation of biocontrol solutions against *Myzus persicae* to prevent sugar beet yellows

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Introduction :

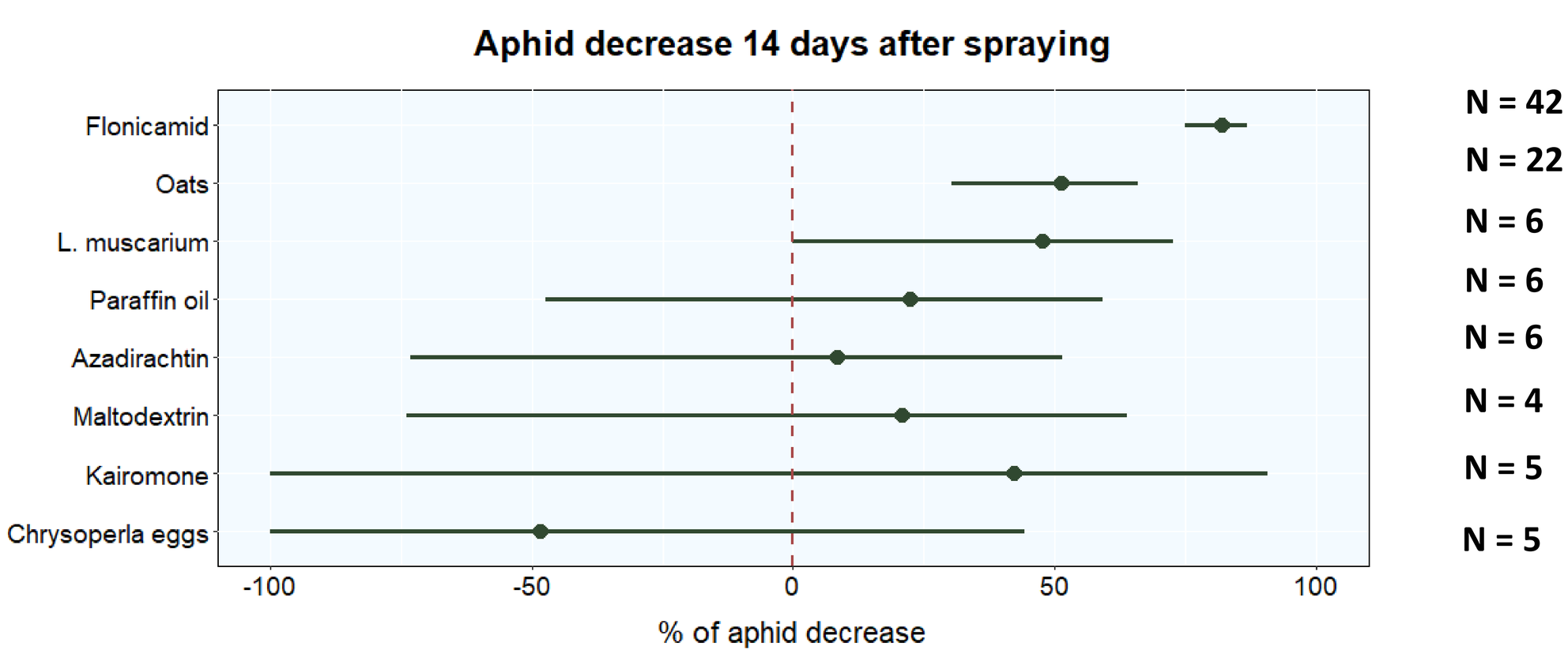
In the French the National Research and Innovation Plan (PNRI) for sustainable **solutions against beet yellows**, the impact of **bioinsecticides** (*Lecanicilium muscarium*, maltodextrine,…), **kairomones**, **companion plants** (oat, …), or the **release of beneficial insects** in comparison of chemicals aphicides on *M. persicae* is assessed.

Sugar beet yellows symptoms in the field

Material and methods :

- Biocontrol products were evaluated in randomized small-plot trials while *Chrysoperla* eggs, kairomones and oat as companion plant were evaluated in strip trials.
- The efficiency of various solutions against *M. persicae* were assessed using the **model created by Laurent et *al.* (2023)** to aggregate trials conducted during 4 years (2019-2022).
- Comparison is performed 14 days after spraying for biocontrol products or *Chrysoperla* and 14 days after the action threshold for oat and kairomones.

Results :



- **Oat reduces *M. persicae* up to 50%** but causes yield losses if not destructed early (due to **competiton**).
- ***L. muscarium* reduces the aphid population** (around 50%), but with a lot of **variability** between trials, and slower than flonicamid.
- Even if *Chrysoperla* reduces the aphid population in some trials (up to 80%) variability is huge, and there are no significant differences when trials are put together.
- Work on could improve efficiency of biocontrol products and reduce costs spraying technics.

To know more about solutions tested in the PNRI (in french)