Beyond *Xylella*, Integrated Management Strategies for Mitigating *Xylella fastidiosa* impact in Europe

Practice abstract 4

Ground cover management as a sustainable strategy for *Philaenus spumarius* management

BEXYL
BEYOND XYLELLA



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Xylella fastidiosa (***Xf***) is a serious plant pathogen in Europe, with its spread closely linked to insect vectors like ***Philaenus spumarius***. Traditional control methods targeting the insect vector often rely on chemical inputs, which pose environmental risks and offer limited long-term sustainability. Ground cover management has emerged as a promising agroecological strategy that not only reduces vector populations but also enhances biodiversity and soil health. **BeXyl** consortium is exploring how strategic management of ground vegetation can contribute significantly to the integrated management of ***Xf***, with a focus on disrupting the life cycle or feding habits of ***Philaenus spumarius*** in a sustainable and environmentally friendly way.

How ground cover management can make a difference for *Xylella fastidiosa* control?

Impact: Sustainable management of ***Philaenus spumarius***, the primary vector of ***Xf***, is critical to limit the spread of this devastating plant pathogen. As no cure exists for ***Xf*** -infected plants, controlling vector populations through eco-friendly practices is essential. **Ground cover management** - by modifying surrounding vegetation- offers a sustainable viable alternative to conventional management practices, minimizing pesticide use and drastic soil tillage while preserving biodiversity and supporting ecosystem health.

Objective: A key objective of **BeXyl**'s research is to identify and select plant species commonly used as ground covers that could contribute to the management and reduction of ***P. spumarius*** population densities. These species may support the development of a **push-pull strategy** by acting as trap plants, repellent plants, or non-preferred hosts of ***Xf***, thereby serving as ecological infrastructures to suppress vector populations and limit ***Xf*** spread.

Research outcomes: Our results suggest that ***Sinapis alba*** may be particularly effective in reducing ***P. spumarius*** nymph densities during critical periods, with also side effects lowering the population of ***Cicadella viridis***. Our research opens new ways to manage the vectors of ***Xf*** by using specific plant species as ground covers, which in turn will reduce the population density of vectors and reduce the spread and prevalence of ***Xf*** in susceptible crops.

Further details: Check our published research here

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