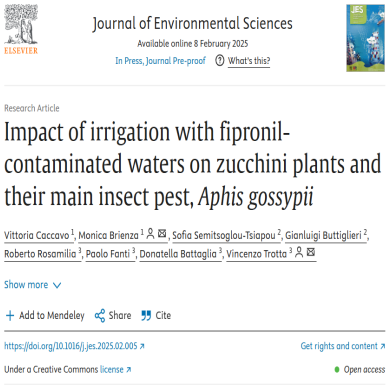

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Description

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A recent study published in the *Journal of Environmental Sciences*—conducted as part of the **PRIMA-SAFE** project—investigates the impact of using **fipronil-contaminated irrigation water** on zucchini plants and their main insect pest, *Aphis gossypii*.

The researchers found that even low concentrations of fipronil, a persistent insecticide often found in treated wastewater, can accumulate in plant tissues and **negatively affect aphid survival and reproduction**. More importantly, aphids exposed to these conditions showed **increased resistance to pyrethrins**, a natural insecticide widely used in organic farming.

These findings raise important concerns about the **ecological and agronomic risks** of reusing treated wastewater in agriculture. They suggest that pesticide residues in irrigation water—though present at low levels—may contribute to the **development of resistance in pest populations** and impact the sustainability of crop protection strategies.

Reference

Caccavo V. et al. (2025). *Impact of irrigation with fipronil-contaminated waters on zucchini plants and their main insect pest, Aphis gossypii*. *Journal of Environmental Sciences*.
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