



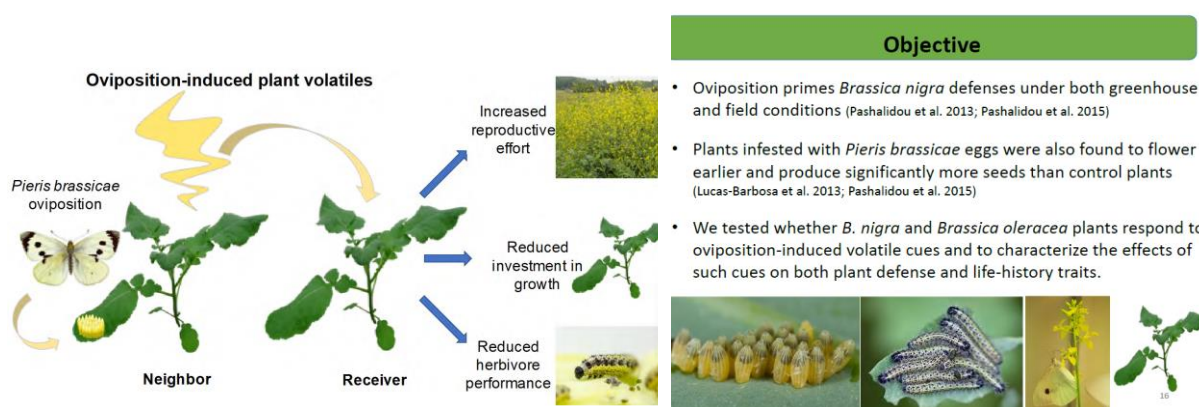
## METABIO - Café PIAnHealth



Plant volatiles induced by herbivore eggs prime defences and mediate shifts in the reproductive strategy of receiving plants

Foteini G Paschalidou  
INRAE, UMR Agronomie

**Mots-clefs :** plant volatiles, induced defences, priming, pests



### Résumé :

Plants can detect cues associated with the risk of future herbivory and modify defence phenotypes accordingly; however, our current understanding is limited both with respect to the range of early warning cues to which plants respond and the nature of the responses. Here we report that exposure to volatile emissions from plant tissues infested with herbivore eggs promotes stronger defence responses to subsequent herbivory in two Brassica species. Furthermore, exposure to these volatile cues elicited an apparent shift from growth to reproduction in *Brassica nigra*, with exposed plants exhibiting increased flower and seed production, but reduced leaf production, relative to unexposed controls. Our results thus document plant defence priming in response to a novel environmental cue, oviposition-induced plant volatiles, while also showing that plant responses to early warning cues can include changes in both defence and life-history traits.

### Références :

- Pashalidou, F.G., Eyman, L., Sims, J., Buckley, J., Fatouros, N.E., De Moraes, C.M. and Mescher, M.C., 2020. Plant volatiles induced by herbivore eggs prime defences and mediate shifts in the reproductive strategy of receiving plants. *Ecology Letters*, 23(7), pp.1097-1106.
- Bellone, D., Gardarin, A., Valantin-Morison, M., Kergunteuil, A. and Pashalidou, F.G., 2023. How agricultural techniques mediating bottom-up and top-down regulation foster crop protection against pests. A review. *Agronomy for Sustainable Development*, 43(1), p.20.