

Combined effects of two natural enemies, entomopathogenic fungi and predatory midges, and their effect on a cereal pest

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BACKGROUND

Both the predatory midge, *Aphidoletes aphidimyza* and the entomopathogenic fungus, *Metarhizium brunneum* are successfully used for biocontrol of pest in many crops including aphids, such as *Rhopalosiphum padi*. However interaction between those two natural enemies is poorly understood.

AIM

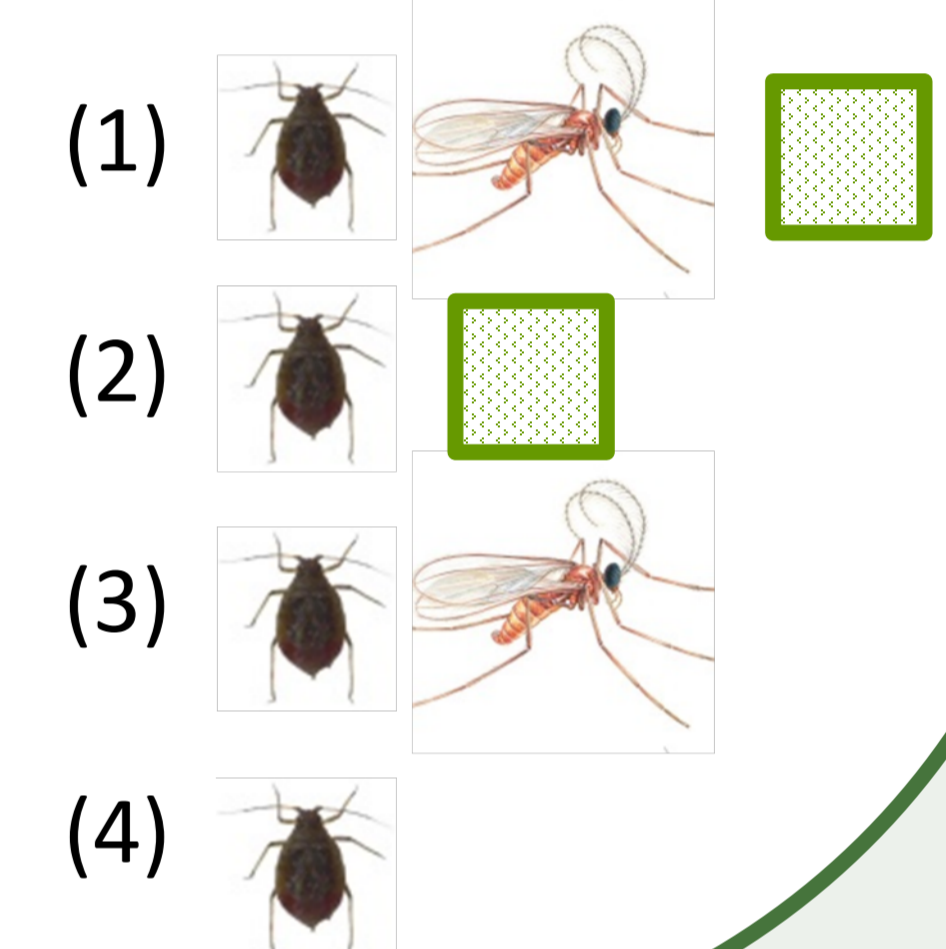
Investigate the interaction between two natural enemies and how that affects biological control.

As part of the EU supported project INBIOSOIL we designed a pot-trials to assess these interactions

METHODOLOGY

Sweet corn (*Zea mays* var. *saccharata*) growing in pots with the natural soil under greenhouse condition

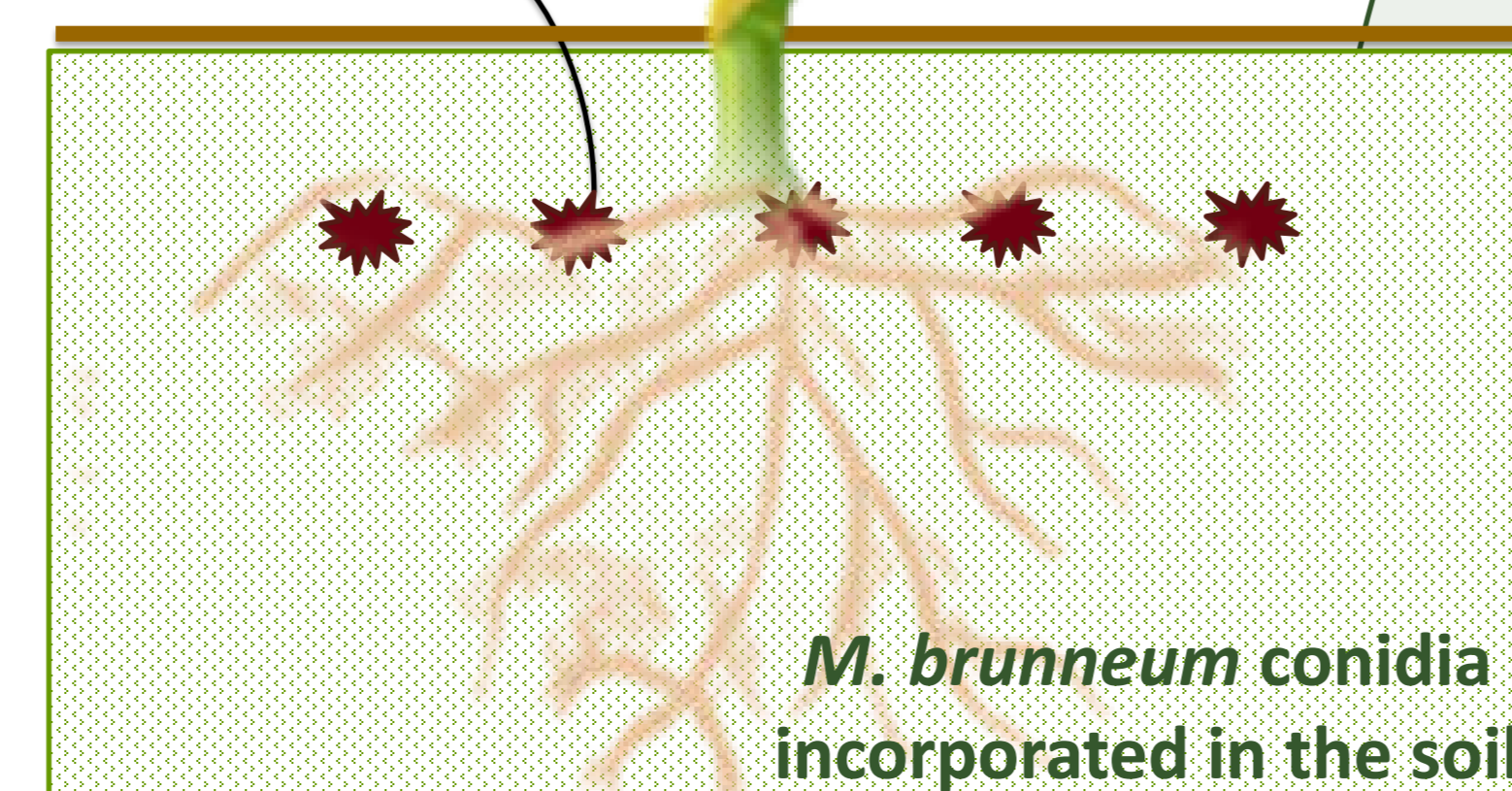
Treatments






- Ten replicates/treatment
- Cages on each pot for keeping the replicates isolated
- Daily check: adult midge emergence and number of living adult midges.
- Final assessment: alive aphids and their developmental stage, dead aphids preyed upon by *A. aphidimyza*, *A. aphidimyza* eggs and larvae.
- Fungus presence in the soil and in/on the leaves is assessed.



Predaceous insect
Larval stage



M. brunneum conidia incorporated in the soil

-  The pest: *R. padi*
-  *A. Aphidimyza* pupae
-  *A. Aphidimyza* adult, midge