Effect of host plant on Brassicaceae specialist / generalist aphids and on their natural predator, *Adalia bipunctata* L. (Coleoptera: Coccinellidae)

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Secondary plant substances, called allelochemicals, play a major role in pest infestation. Glucosinolates and their degradation products (mainly isothiocyanates, ITC) are powerful stimulants for Brassicaceae herbivores but deter the non crucifer feeders. These plant compounds are tolerated by the generalist *Myzus persicae* Sultzer by ignoring or avoiding them. Thioglucosidases enzymes capable of releasing ITC from glucosinolates were found in the specialist *Brevicoryne brassicae* L. Do these substances have an effect on the aphid predators ?

Aphidophagous Coccinellidae are known to be polyphagous to a wide range of aphid species even if only a limited number of species provide suitable food for *Adalia bipunctata* L. *Brassica napus* and *Sinapis alba* were used as aphid host plants. While both specialist / generalist aphids were positively influenced by Brassicaceae species, mixed effects are recorded in ladybird performances following the aphid species / host plant combinations. Developmental (larval mortality, adult weight and developmental durations) and reproductive parameters (fecundity, egg viability) were observed. Significant differences appeared according to aphid host plant and aphid species. This kind of chemical ecology studies will enhance a better understanding of interactions between plant and insects. The plant - aphid - predator tritrophic model was used to suggest improvements in pest biological control.