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# Predicting the efficiency of a biocontrol agent in the context of global change

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## **Predicting the efficiency of a biocontrol agent in the context of global change**

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Entomopathogenic nematodes (EPNs) are used in biocontrol against insect pests. During higher than usual temperatures, some phenotypic and/or genetic responses of the various partners of these nematobacterial complexes (nematodes, bacterial symbionts, associated microbiota) could modify their parasitic success in the insect.

We will characterize EPNs from an experimental evolution approach by serial passage in vivo in insects at different temperatures. We will determine the phenotypic traits affected by serial passages at a high non-optimal temperature. Are these phenotypes associated with genetic or epigenetic modifications of the different partners of the complex, or with a modification of their microbiota?

A better understanding of the different factors involved in the adaptation of the nematobacterial complexes to a non-optimal high temperature would allow to improve the efficiency of biocontrol.

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