Non-target effects of a biological control agent against Rumex obtusifolius

In Switzerland as well as in other European countries, dock, *Rumex obtusifolius* (Blacke, Patience sauvage), is a major limitation to plant production on existing organic farms and a serious obstacle to conversion to this type of production. Currently there is no mechanical management option in place that significantly reduces infestations by *R. obtusifolius* at a reasonable economic cost. Due to the restrictions on control methods in organic farming, biological control is a logical tool but it must be integrated into an integrative management strategy.

Recently, a collaborative project between research and industry partners was launched that aims to develop a new biological control product against *R. obtusifolius* and other dock species. The biological control agent under consideration is a moth that is native to Europe and that attacks the tap roots, i.e. the storage organs of established *R. obtusifolius* plants. The biological control agent is supposed to be mass-reared and repeatedly released into *Rumex*-infested grasslands.

The goal of the research is to determine the host-specificity of the moth under laboratory and open-field conditions, and establish a life-table analysis to identify biotic interactions with the resident invertebrate community (competitors, predators, parasitoids) that may alter natural food-webs when the moth will be mass-released.

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