

## Impact of Herbicides on Soil Biology in Rapeseed

**Authors :** M. Eickermann, M. K. Class, J. Junk

**Abstract :** Winter oilseed rape, *Brassica napus* L., is characterized by a high number of herbicide applications. Therefore, its cultivation can lead to massive contamination of ground water and soil by herbicide and their metabolites. A multi-side long-term field experiment (EFFO, Efficient crop rotation) was set-up in Luxembourg to quantify these effects. Based on soil sampling and laboratory analysis, preliminary results showed reduced dehydrogenase activities of several soil organisms due to herbicide treatments. This effect is highly depending on the soil type. Relation between the dehydrogenase activity and the amount of microbial carbon showed higher variability on the test side with loamy Brown Earth, based on Bunter than on those with sandy-loamy Brown Earth, based on calciferous Sandstone.

**Keywords :** cropping system, dehydrogenase activity, herbicides, mechanical weed control, oilseed rape

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