



## **Earthworm distribution in temperate agroforest systems: Direct and indirect effects of tree rows on habitat characteristics in arable sites**

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Agroforest systems are highly discussed as new and innovative land use systems for arable land in temperate regions. They are recommended due to their beneficial impact on several ecosystem functions and for the general diversification of the cultured landscapes. Tree rows, known as alley cropping systems, are one of the most frequent applications. This presentation will summarize surveys in such systems at different locations in Germany, most of which are experimental field sites of the BONARES-Signal project. The sampling was always carried out as a gradient from the tree row into the crop or into the grassland depending on land use. Also grassland and cropland with no trees were sampled as a control. Three to six different species covering all ecological groups of earthworms were found in the surveys. Results indicate a strong impact of the tree species. An effect of hypothesized earthworm supporting factors like litter entry and shading couldn't be fully confirmed. More data and long term observations are needed to value agroforest systems for their impact on key organisms and key functions of soil biota.