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Evaluation of the biodiversity of epigeic groups depending on the crops grown

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Abstract: *Research on the biodiversity of epigeic groups (2024) confirmed high stability and similarity between arable land and an apple orchard in a sample of 1370 individuals. Higher diversity (2.15) was recorded in the orchard, with populations peaking in the summer months. Similarity indices above 70% indicate balance and ecological stability of both sites.*

• Introduction

The aim of the work was therefore to evaluate the occurrence of epigeic groups in selected types of ecosystems and to assess their functional diversity.

• Material and method

The research was conducted in 2024 on arable land and apple orchard sites using ground traps with 4% formaldehyde. The material was collected at monthly intervals from May to December. The obtained abundance data were evaluated using diversity (Shannon-Weaver) and similarity (Renkonen, Jaccard) indices.

• Results and discussions

A total of 1370 individuals were captured (18 groups on arable land, 19 in the orchard), ants (Formicoidae) and beetles (Coleoptera) were eudominantly represented. The orchards showed higher diversity ($H' = 2.15$) compared to arable land ($H' = 1.86$), which is related to higher environmental stability. High species identity (Jaccard 78.95%) and similarity of dominance (Renkonen 70.94%) confirm the ecological balance of both habitats.

• Conclusions

Research (2024) confirmed higher stability and biodiversity of apple orchards ($H' = 2.15$) compared to arable land ($H' = 1.86$) with high species identity of both locations (78.95%).

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