

"Current Themes in Ecology" of the Netherlands Ecological Research Network 2023

Quantifying ecological structure and ecosystem services in farmland

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In this talk I will describe how we can assess and support the management of ecosystem services in crops through targeted increases in arthropod functional biodiversity. Various management practices can be implemented to increase biodiversity on farms, but how well do these translate into increased or more stable ecosystem services, are there tradeoffs, and what are the consequences for yields? Management of individual fields, but also the structure and composition of whole landscapes have an impact on arthropod communities and associated services. However, patterns are highly variable between studies, geographical regions, organism groups and crops. I outline elements of consensus that have recently emerged for the quantification of ecological structures in farmed landscapes and highlight gaps in our understanding of how to predict their impact on ecosystem service provision and stability across space and time.