

1. Record Nr.	UNINA9910806976603321
Titolo	The ecology of agricultural ecosystems : long-term research on the path to sustainability // edited by Stephen K. Hamilton, Julie E. Doll, and G. Philip Robertson ; contributors, Bruno Basso [and thirty two others]
Pubbl/distr/stampa	New York, New York : , : Oxford University Press, , 2015 ©2015
ISBN	0-19-026676-7 0-19-977348-3
Descrizione fisica	1 online resource (449 p.)
Collana	Long-Term Ecological Research Network Series
Disciplina	577.5/5
Soggetti	Agricultural ecology - Middle West Cropping systems - Middle West
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Series; The Ecology of Agricultural Landscapes; Copyright; Contents; Preface; Acknowledgments; Contributors; 1 Long-Term Ecological Research at the Kellogg Biological Station LTER Site: Conceptual and Experimental Framework; 2 Farming for Ecosystem Services: An Ecological Approach to Production Agriculture; 3 Economic Value of Ecosystem Services from Agriculture; 4 A Crop Stress Index to Predict Climatic Effects on Row-Crop Agriculture in the U.S. North Central Region; 5 Soil Organic Matter Dynamics: Controls and Management for Sustainable Ecosystem Functioning 6 Microbial Diversity in Soils of Agricultural Landscapes and Its Relation to Ecosystem Function 7 Plant Community Dynamics in Agricultural and Successional Fields; 8 Arthropod Diversity and Pest Suppression in Agricultural Landscapes; 9 Nitrogen Transfers and Transformations in Row-Crop Ecosystems; 10 Simulating Crop Growth and Biogeochemical Fluxes in Response to Land Management Using the SALUS Model; 11 Water Quality and Movement in Agricultural Landscapes; 12 Mitigation of Greenhouse Gases in Agricultural Ecosystems; 13 Farmer Decisions about Adopting Environmentally Beneficial Practices

Sommario/riassunto

Evidence has been mounting for some time that intensive row-crop agriculture as practiced in developed countries may not be environmentally sustainable, with concerns increasingly being raised about climate change, implications for water quantity and quality, and soil degradation. This volume synthesizes two decades of research on the sustainability of temperate, row-crop ecosystems of the Midwestern United States. The overarching hypothesis guiding this work has been that more biologically based management practices could greatly reduce negative impacts while maintaining sufficient productivity
