

Title of the symposium:

Mapping and monitoring farmland biodiversity and ecosystem services

Detail of organizer(s):

Responsible

Name:	Felix
Surname:	Herzog
Email	felix.herzog@agroscope.admin.ch
Organisation/Affiliation:	Agroscope
Telephone:	+41 58 468 7445
Country:	Switzerland
Address:	Reckenholzstr. 191, CH-8046 Zurich

Co-organizer(s)

Co-organizer

Name:	Yunhui
Surname:	Liu
Email:	liuyh@cau.edu.cn
Organisation/Affiliation:	China Agricultural University
Address:	College of Resources and Environmental Sciences, China Agricultural University, 2# Yuanmingyuanxilu, Haidian district, Beijing 100193
Country:	China

Co-organizer

Name:	Majid
Surname:	Iravani
Email:	iravani@ualberta.ca
Organisation/Affiliation:	University of Alberta / Alberta Biodiversity Monitoring Institute
Address:	Department of Biological Sciences, University of Alberta, Edmonton, AB T6G 2E9
Country:	Canada

Co-organizer

Name:	Tian Xiang
Surname:	Yue
Email:	yue@lreis.ac.cn
Organisation/Affiliation:	Chinese Academy of Sciences
Address:	Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, 11A, Datun Road, Anwai, 100101 Beijing
Country:	China

Symposium abstract

Agriculture dominates global land use. Agricultural landscapes, which are land area that is either arable, under permanent crops, or under permanent pastures and rangelands, are therefore instrumental for biodiversity conservation. At the same time, farming is intimately

connected to biodiversity by the ecosystem services it relies on such as pollination, crop production, pest control, water provision, soil fertility, etc. Agricultural practices depend on the provision of multiple ecosystem services and in turn also affect them by the choice of cropping or grazing patterns and by the use of external inputs such as fertilizers and pesticides. Those practices also act on the biodiversity conservation potential of agricultural landscapes.

The importance of agricultural practices for biodiversity and the provision of multiple ecosystem services is widely recognized. Still, surprisingly less attention has been paid for quantifying and monitoring impacts of those practices on biodiversity and consequently ecosystem functioning and services across different spatial scales. This symposium aims at presenting and discussing the recent developments and innovations in mapping and monitoring farmland biodiversity and ecosystem services. Specifically, the symposium will collate contributions on the following topics:

- Quantifying biodiversity and ecosystem services in agricultural lands at the farm to landscape scale
- Potential use of remote sensing and new technologies, such as drones, and next generation sequencing, together with new analytical approaches, such as Machine Learning, for monitoring farmland biodiversity and ecosystem services
- Development of new approaches, techniques and tools for mapping and monitoring biodiversity and ecosystem services in agricultural lands over time and space
- Assessing biodiversity and ecosystem services benefits of farming practices in different agricultural landscapes
- Resource mapping: Landscape and habitat mapping from the perspective of farmland species

How your symposia will improve landscape ecology science?

The Symposium will bring together contributions working on farmland biodiversity and ecosystem services from around the globe. This will allow comparing approaches and research methods used so far for monitoring farmland biodiversity and ecosystem services across a range of environmental conditions.

Broad thematic areas

Broad thematic areas 1st choice: From landscape pattern to functions (variables, metrics, indicators, monitoring)

Broad thematic areas 2st choice: Landscape ecosystem functions and services

Free Keywords

Landscape functions and services, resource mapping and monitoring, remote sensing, agricultural landscapes, management practices