



ALL-EMA

Arten und Lebensräume Landwirtschaft –
Espèces et Milieux Agricoles
Agricultural Species and Habitats

**Monitoring biodiversity in the Swiss
agricultural landscape**



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Agroscope

Federal Office for Agriculture FOAG

Federal Office for the Environment FOEN



What is ALL-EMA?

Around one third of Switzerland's surface area is devoted to agriculture. In addition to providing healthy food, these surfaces also offer important habitats for animals and plants, thereby making a key contribution to biodiversity. Species-rich communities also encourage pollinators and natural antagonists of pests, which in turn have a positive effect on yields.

In the last 100 years, biodiversity has declined steeply. In 2008, the Federal Offices for the Environment (FOEN) and Agriculture (FOAG) set environmental objectives for agriculture in order to maintain and promote biodiversity over the long term.

To measure the achievement of these objectives, the ALL-EMA monitoring programme has systematically recorded the biodiversity of the agricultural landscape since 2015. The monitoring is carried out by Agroscope on behalf of and with the financial support of the FOAG and FOEN.

ALL-EMA focuses on answering the following questions:

- What is the current state of biodiversity in the agricultural landscape, and how is it changing?
- What influences biodiversity, and which measures are effective in promoting it?

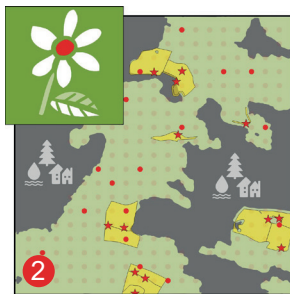
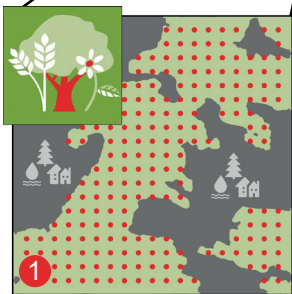
In this way, ALL-EMA helps measure the extent to which the agricultural environmental objectives are being achieved and contributes to the further development of agri-environmental policy measures.

Together with other national biodiversity monitoring programmes such as 'Biodiversity Monitoring Switzerland' (BDM), 'Monitoring of Common Breeding Birds' (MHB) and 'Monitoring the Effectiveness of Habitat Conservation in Switzerland' (WBS) programmes, ALL-EMA contributes to the promotion of biodiversity in Switzerland.

What does ALL-EMA record, where, how and when?



ALL-EMA investigates 194 survey squares (each 1 km²) – representative of the whole of Switzerland's agricultural landscape.



In the agricultural landscape (green), habitats are surveyed on 1 m² plots and neophytes and small structures on 200 m² plots within a 50 m grid (1, red dots).

In addition, ecological focus areas are sampled (2, yellow areas and red stars). Here and on selected grid points (2, red dots) plant surveys are conducted on 10 m² plots.

3 shows the size of the plots. Areas outside of the agricultural landscape (grey) are not surveyed.



The surveys are carried out by the field team (1). GPS (2) is used to navigate to the plots, and data is entered directly into the smartphone (3).

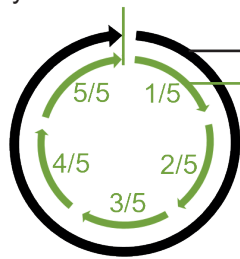
Time series to detect developments

The surveys are repeated every 5 years.

First survey: 2015–2019

Second survey: 2020–2024

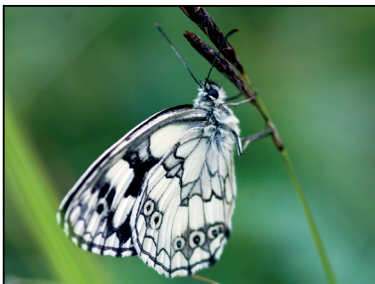
Third survey: 2025–2029



Five-year period

Annual surveys from April to August on one fifth of all survey squares

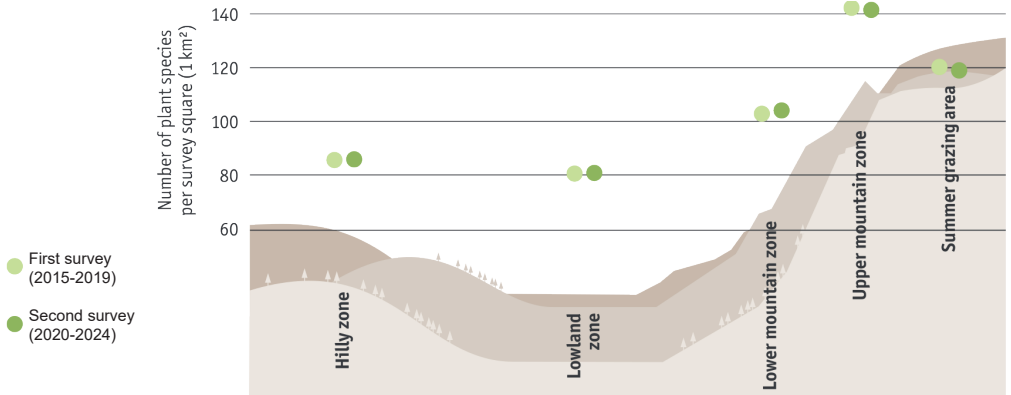
Collaboration with other national biodiversity monitoring programmes



To gain greater insight, ALL-EMA supplements its own data with information on butterflies from the 'Biodiversity Monitoring Switzerland' (BDM, 1) programme and on breeding birds from the 'Monitoring of Common Breeding Birds' programme (MHB, 2). These are always recorded along routes in the same year in the same survey squares.

Examples of data analyses

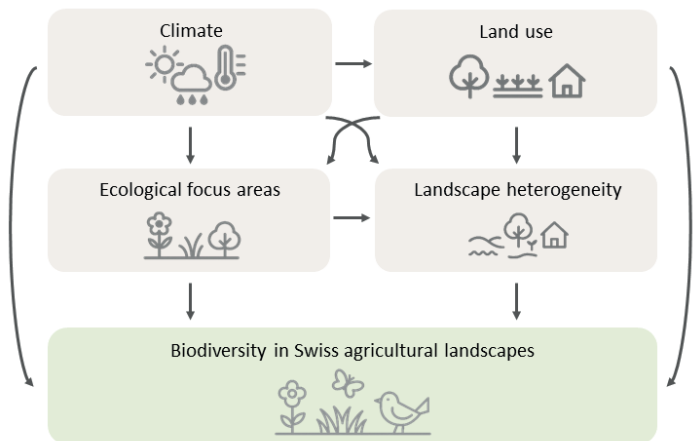
Recording biodiversity patterns over space and time



ALL-EMA studies the status and development of biodiversity in the agricultural landscape. To this end, various biodiversity indicators are calculated, e.g. the diversity of various plant species or the area of valuable habitats. The figure shows how plant species richness differs in the various agricultural zones and between the first and second survey.

Understanding the status and development of biodiversity

In order to understand the status and development of biodiversity in the agricultural landscape, ALL-EMA includes various drivers from additional data sources. The analyses show, for example, how climate or land use influences biodiversity in the Swiss agricultural landscape.



Anonymity guaranteed

The survey areas are selected at random. The data are used exclusively for monitoring and research purposes and evaluated in aggregated form by agricultural zone, region and usage type.





Additional information and publications can be found at:

www.allema.ch



Contact | Project lead

Agroscope
Eliane Meier
Reckenholzstrasse 191
8046 Zürich
info@allema.ch

www.agroscope.ch
info@agroscope.admin.ch



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This flyer is also available in German, French and Italian.

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