

# Pollinator habitat monitoring (EMBAL)

## European Monitoring of Biodiversity in Agricultural Landscapes (EMBAL)

EMBAL is a robust monitoring tool to collect information on the state of biodiversity in agricultural landscapes in EU Member States. The Commission launched its development with a view to address critical knowledge gaps that hindered the development, implementation and evaluation of the relevant EU policies, in particular the EU biodiversity strategy and the EU common agricultural policy. EMBAL is a sampling approach based on standardised field survey (*in situ* data collection) and serves several purposes:

- Recording of the current situation of land cover and biodiversity throughout EU countries at landscape level;
- Recording the types, quality and extent of land cover and landscape elements within the agricultural landscape.

The data obtained from the EMBAL field survey allows the interpretation in the following seven main sectors, relevant to a wide range of agricultural and environmental concerns:

- Land cover and land use
- Landscape elements
- Nature value of all surveyed land use units and landscape elements
- Habitat types (EUNIS classification)
- Biodiversity of grassland, arable land, fallow land as well as plot biodiversity
- Nature value of the landscape
- Pollination potential through the assessment of flowering species, their density and distribution

EMBAL builds on [Land Use and Coverage Area frame Survey \(LUCAS\)](#) and existing national initiatives. Its methodology is fully harmonised with the LUCAS survey.

## Rollout of EMBAL 2022 & 2023

Following years of development and piloting (see next section), the [Commission launched a full rollout of EMBAL in all 27 EU countries in 2022 and 2023](#).

In 2023, the survey takes place from April to September. The survey is carried out by *EFTAS Fernerkundung Technologietransfer GmbH* and *IFAB (Institute for Agroecology and Biodiversity)* on behalf of the European Commission.

In the course of the vegetation period, surveyors will visit 3,000 randomly sampled plots in agricultural landscapes. Each survey plot covers an area of 500 x 500 m. The number of plots per country ranges from 30 to 250, depending on the country area and the respective share of agricultural land.

The survey requires that the surveyor enters the grassland or arable land parcel to record a number of parameters, including the occurrence and number of specific indicator plant species (flowers).

The surveyors have clear instructions to map and photograph the selected sample plots and transects only with a minimum of disturbance and not to cause damage of any kind including any crop covering the survey area. They carry a signed accreditation letter issued by the European Commission to inform landowners about the survey's purpose and methods.

The collected information will be used for the production of national and European scale statistics and does not retain any information of personal or land property character. The purpose of the survey is to support policy evaluation at national and European level. The purpose is not any type of control and compliance, nor is the collected information suitable for such use.

Results (data) of the EMBAL 2022 and 2023 surveys will be available in Q1 2024.

## EMBAL documentation and tools



EMBAL 2021 Survey Manual.pdf



EMBAL 2021 Survey Protocol.pdf

[Survey Manual \(PDF\)](#)

[Survey Protocol \(PDF\)](#)

#### **Tools:**

[Additional Survey Protocol Documents I \(zip file\)](#)

[Additional Survey Protocol Documents II \(zip file\)](#)

[Additional Survey Protocol Documents III \(zip file\)](#)

[Survey sheets & key plant species \(zip file\)](#)

[EMBAL data collection tool \(ODK\) \(zip file\)](#)

#### **Other documents:**

[EMBAL Methodology \(presentation\)](#)

[EMBAL Rollout Scenarios \(presentation\)](#)

## **History of EMBAL**

In 2014, the Commission supported the Landscape Infrastructure and Sustainable Agriculture (LISA) study which initially explored a methodology for an *in situ* data collection exercise that enables a rapid assessment of the state of farmland biodiversity and the ecological structure of the agricultural landscape. The outputs of the study can be found [here](#) (zip file).

In 2017, the Commission launched the **EMBAL project**, building on the LISA study outputs and taking the work to the next level. The project scoped comprehensively existing initiatives for monitoring biodiversity in agricultural landscapes across the EU, advanced the methodological work and proposed a cost-effective methodology for a monitoring system. The outputs of the project can be found [here](#) (zip file).

In 2019, the Commission launched the **EMBAL pilot project** to test the EMBAL methodology on the ground and fine-tune it. It also prepared the ground for a wide application of EMBAL in the future. This project has been finalised in October 2021. The outputs of this project are available in the below documentation section. During the pilot, workshops were organised to consult experts and national environmental and agricultural authorities on the EMBAL methodology. The summary of the discussions can be found [here](#) (zip file).