

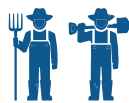
ASSESSING BIODIVERSITY

In dairy farms



1

common
tool



14

countries
involved



40

farms audited
across Europe

Biodiversity?

Biodiversity is defined by the number, diversity and variability of living organisms, and their movements over time.

When talking about biodiversity, we often focus on so-called 'extraordinary biodiversity', i.e. endangered species. However, 'ordinary biodiversity' is equally important. Ordinary biodiversity covers insects, fauna, flora, but also soil micro-organisms that are characteristic of a specific region or area. This biodiversity is essential for ecological regulation and has an important impact on food production, for example through pollination or the ability of soil to produce organic matter.

Agriculture and dairy farming play a key role in maintaining ordinary biodiversity. Farming activities are intrinsically linked to the territory, and its everyday practices model landscapes and have an impact on biodiversity: permanent grassland offers permanent shelter for species, management practices of crop fields (harvesting time, available shelters nearby...) will impact species survival in the area...

Assessing biodiversity is not straightforward, making it difficult to communicate about facts. Within EuroDairy we evaluate the potential of Biotex, a biodiversity assessment tool, to evaluate the impact of different dairy farming systems on biodiversity.

A single tool, different farming systems...

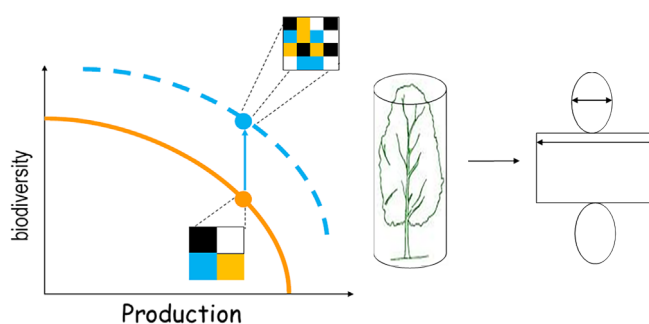
EuroDairy partners decided to use the Biotex tool as a common tool for biodiversity assessment. This tool combines 3 major advantages:

- It is easy to implement, based on indirect indicators that are readily available on the farm.
- It is time efficient, both for the farmer and auditor, and easy to understand.
- It does not rank farming systems. EuroDairy covers various dairy farming systems in different regions. Each system is adapted to its own specific region, and they cannot be compared to each other. The Biotex tools allows to assess a farm's contribution to biodiversity, within the context of its specific region.

The Biotex tool is based on the evaluation of 3 indirect indicators:

- The **landscape mosaic** is an indicator for **agricultural land use and species conservation**. In areas with a majority of annual crops, land use diversity allows conservation of fauna species. The effects of potentially aggressive agricultural practices for fauna are limited when the landscape mosaic is diverse.

- **Available developed biodiversity area** is an indicator for **landscape diversity and shelter capacity**. The developed biodiversity area per hectare of UAA illustrates the landscape complexity created by the farm. This indicator corresponds to a farm's capacity to shelter fauna and flora.



Source : Muriel Tichit - INRA, 2011

- **Permanent grassland** is an indicator for biodiversity resources, depending on management practices. Grassland is a regulation area if it is not intensively managed. It is a source of available biodiversity and allows colonization of poorer areas such as annually cultivated areas. There is an exchange dynamic between grassland and other areas (woods, fields...).



ASSESSING BIODIVERSITY In dairy farms

All farmers receive feedback after the audit. This feedback is not intended to be prescriptive, but is intended to raise awareness on biodiversity, by bringing the impact of certain farming practices on biodiversity to the farmer's attention.

FARMER CASE

At Vernierfontaine, good farming practices are favourable to biodiversity

Patrick Duboz is a dairy farmer, and president of the VernierfontaineCoop. Located in the east of France (Doubs), this cooperative gathers 20 dairy farms and 2100 ha, and collects 6.6 million litres of milk per year to produce Comté, a French PDO cheese.

Why did Vernierfontaine decide to perform a biodiversity assessment?

“The Cooperative was willing to perform the audit. We were curious to know the impact of our practices on biodiversity, and if they were adapted to our territory. With hard and permeable limestone soils, our ancestors decided to use this land as pasture. Today, 57% of the farm land area is permanent grassland and 33% non-permanent grassland. The remaining 10% is used for cereal crops”

What were the results?

“It appeared that the density of agroecological elements is quite high in the farms involved in Vernierfontaine. The production system is defined by Comté product specifications, particularly concerning fertilization. Some farmers decided to bring more fertilization on some parcels to increase forage production and consequently feed autonomy. On the other hand, some parcels receive little to no fertilization, and create a biodiversity reservoir.



The territory is characterized by a large presence of hedges, due to the presence of what is called 'murger d'épierrement' in the region. These are piles of stones that were manually put aside by farmers, and that ended up creating small walls over time, where hedges grew.

Hedges and field hedges are maintained and leave an 'open landscape', which is more favourable for biodiversity than woods. Autumnal maintenance avoids destruction of birds' nests or flowers. The audit highlighted that existing practices are mostly favourable to biodiversity.”

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Biodiversity

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