OP-282 [Pollination and Bee Flora]
Large-scale flowering initiatives (>1000 ha) have a significant impact on pollinator diversity and abundance

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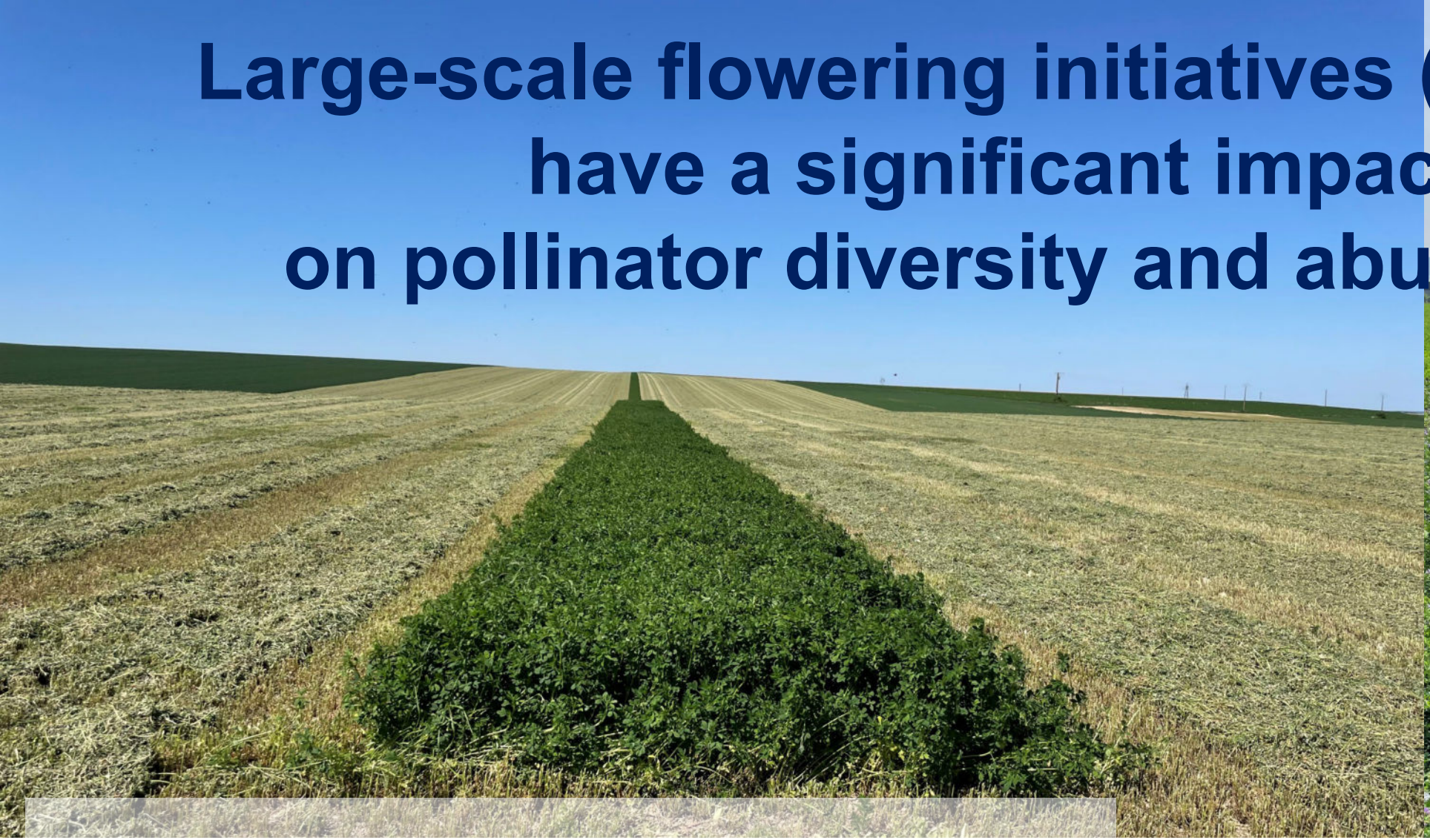
The loss of biodiversity, including the decline of pollinators, poses significant challenges to both ecosystems and agricultural systems. It undermines their stability and productivity. This presentation explores the essential role of floral resource enhancement in strengthening functional biodiversity based on the results of a study investigating the impact of large-scale floral plantings on pollinator communities and ecosystem services. By selecting a diverse range of native, melliferous plant species with extended flowering periods, we aimed to maximise pollinator attraction and support their life cycle. Our experimental design compared pollinator diversity, abundance, and pollination rates between control and flower-rich plots. Two main experiments had a very high impact. The Apiluz programme asks the farmers to leave part of their Alfalfa to flower, rather than cutting it before flowering for desiccation. This programme involves hundreds of farmers cultivating more than 50,000 ha of lucerne in France. The Coup d'Pouce programme aims to help the farmer to establish more biodiversity-oriented areas, by seeking funding to reduce the cost of these measures. More than 1000 farmers have been helped for more than 1500 hectares involved. Statistical analyses showed a significant increase in pollinator diversity and abundance in the flower-rich areas, together with improved pollination success and seed production. In the case of lucerne, highest honey crop was observed, adding further value to these measures. Our results highlight the effectiveness of targeted provision of floral resource in enhancing functional biodiversity and ecosystem resilience. In conclusion, this research provides further evidence that the implementation of strategic flower planting initiatives for pollinator conservation and ecosystem restoration must be supported. Indeed, these strategies play a key role in redefining ecological corridors and providing diverse food resources, that ensure both the health and sustainability of pollinator populations.

Large-scale flowering initiatives (>1,000 ha) have a significant impact on pollinator diversity and abundance



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Réseau Biodiversité pour les Abeilles

Objectives

The “**Réseau Biodiversité pour les Abeilles**”, “**Biodiversity for Bees Network**” is a french non profit association who aims to improve pollinators biodiversity via a collaboration with agriculture.

- **Objective:** To promote large-scale flowering initiatives that support pollinator and other beneficial insects communities, with the goals of:
  - Improving nutrition and health for pollinators,
  - Supporting the life cycle of crop auxiliaries,
  - Strengthening farmers’ involvement in biodiversity management,
  - Raising public awareness of ecological issues,
  - Evaluating the impact of these initiatives on insect fauna.

This approach is pursued with the ambition of achieving an economic valorization of biodiversity.

Réseau Biodiversité pour les Abeilles

2 success stories :

We have a lot of actions with various stakeholders (e.g. *solar projects, territorial communities, private companies, associations)*

Among them, two are surpassing the others in terms of results with more than 1,000 hectares with flowers.

- **« Coup'd Pousse [*Boost*]» project that pays the seeds for the farmers**
- **APILUZ, a programme involving a whole agricultural branch, with a type of action that could be duplicated in other branches.**

Coup d'Pousse (*Booster*)

The Funding partner provides money to buy the seeds and/or finance the evaluation study

Individuals
Territorial collectivities
Private companies
Associations

The « Réseau biodiversité pour les abeilles » provides the coordination work, and scientific evaluation

The Seed producer produces or collects local seeds

Individual farmer
Soft agriculture labels

The farmer provides the parcell and his time

A local hunter association provides a special machine to saw in the margins of the parcels : the SEMOBORD

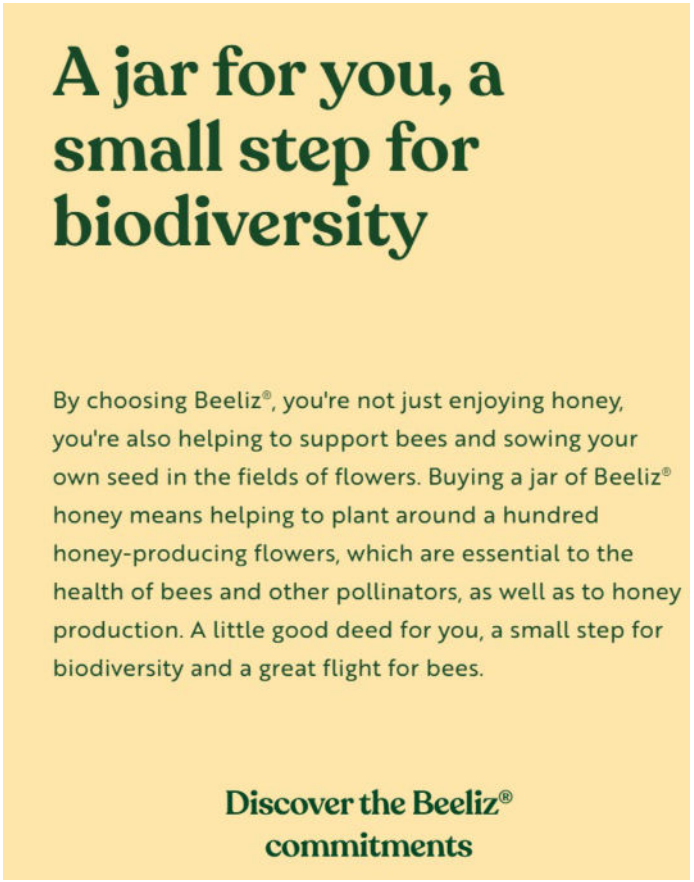
>7 years of innovation

SemO'bord

Ecological corridors
Zone without the constraints of agricultural reglementation

Example, funding by BEELIZ

1 Jar = 100 flowers



Coup d'Pousse Results

Food and shelter for pollinating and other beneficial insects since 2018

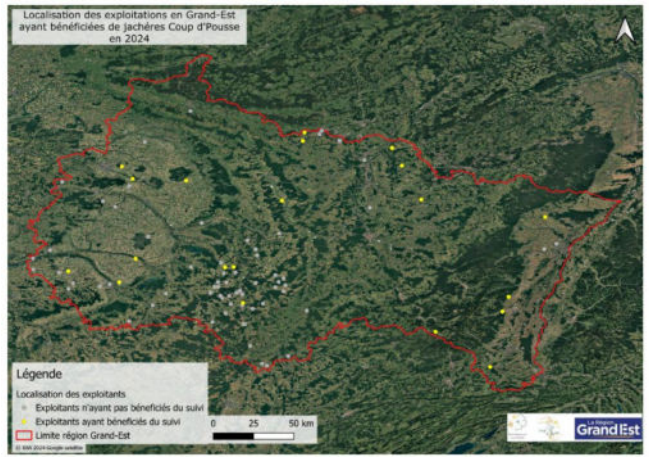
More than **500 farmers** involved since 2018

1,787 hectares of sown fallow land

That's more than 2,550 football pitches (in area, not in diversity ☺)

In 2024 – In 2024 – 199 farmers for 232.5 ha of fallow land

En 2024 –Field monitoring on 20 farms



Hundreds of pollinators and auxiliaries counted in the field !

APILUZ programm

Apiluz is a long-term program involving a whole branch (dehydrated lucerne) designed to assess the value of a simple measure: leaving strips of 3 meters of flowering lucerne in selected areas to enhance biodiversity (compensated for farmers and dehydratation industry).

- First contacts in 2012 :

The dehydrated Lucerne branch was in difficulties for its bad impact Energy/water/biodiversity)

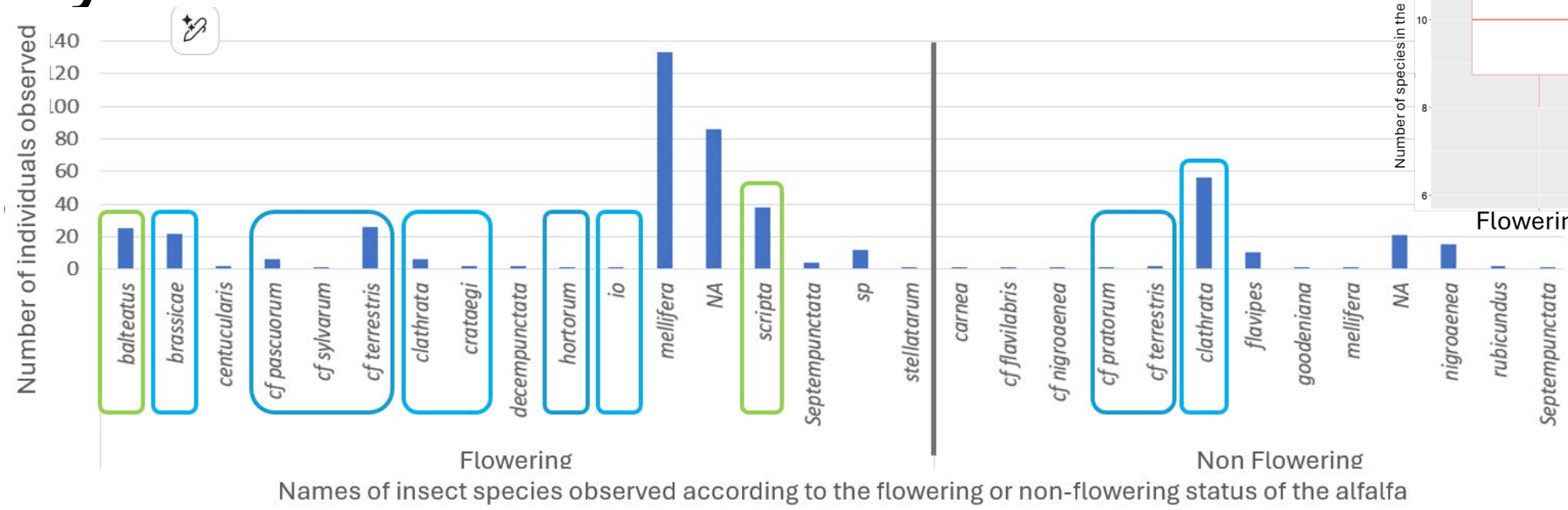
- First trials in 2014

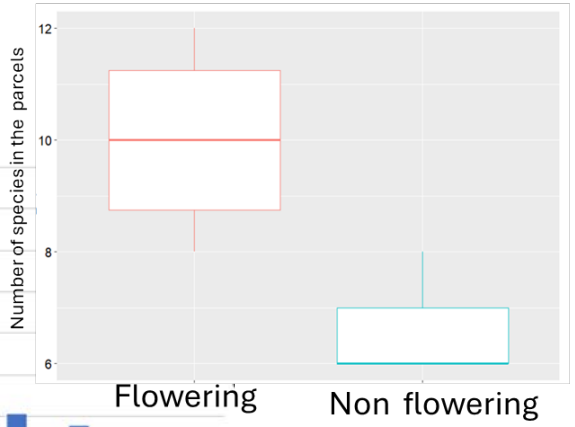
Demonstration of the feasability and of the high contribution to global biodiversity

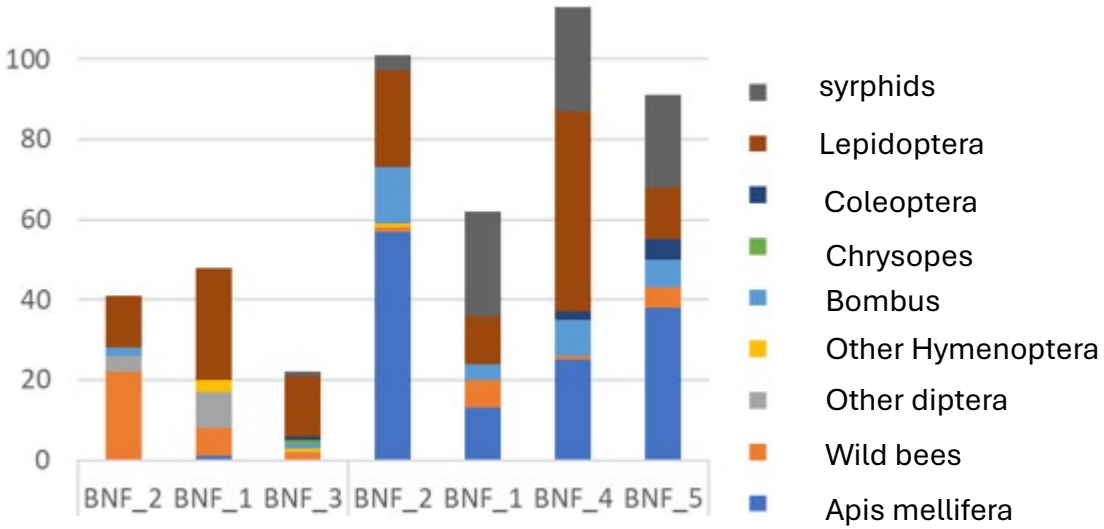
- 2021-2023 financed by Lidl
- 2024-2026: financed by an european operational programme (½ Europe ½ lucern branch).

Key Results

Countings : 30 minutes on a transect on the parcel







2,400 farmers
1,900 km of strips (annually)

Melitta leporina (female)
Summer oligolectic species of Medicago genera
Photo : https://www.flickr.com/photos/djangomaurel/

Take home message

- We can flourish agricultural landscapes, if some costs are shared by society and not only the farmers
- It takes time to mobilize an entire economic sector but the result is substantial, especially in areas where biodiversity was initially very low.
- Our focus is shifting from pollinator-oriented programs to programs that address both pollinators and beneficial insects.

This transition reflects the emergence of new pests affecting nearly all crops under changing climatic conditions, and highlights the role of flowering strips as part of the solution.

0,5 % of the foraging area in floral strips contributed >70% of the pollen collected by the colonies

Figure 13 Exemples d'auxiliaires de culture observés dans les luzernes

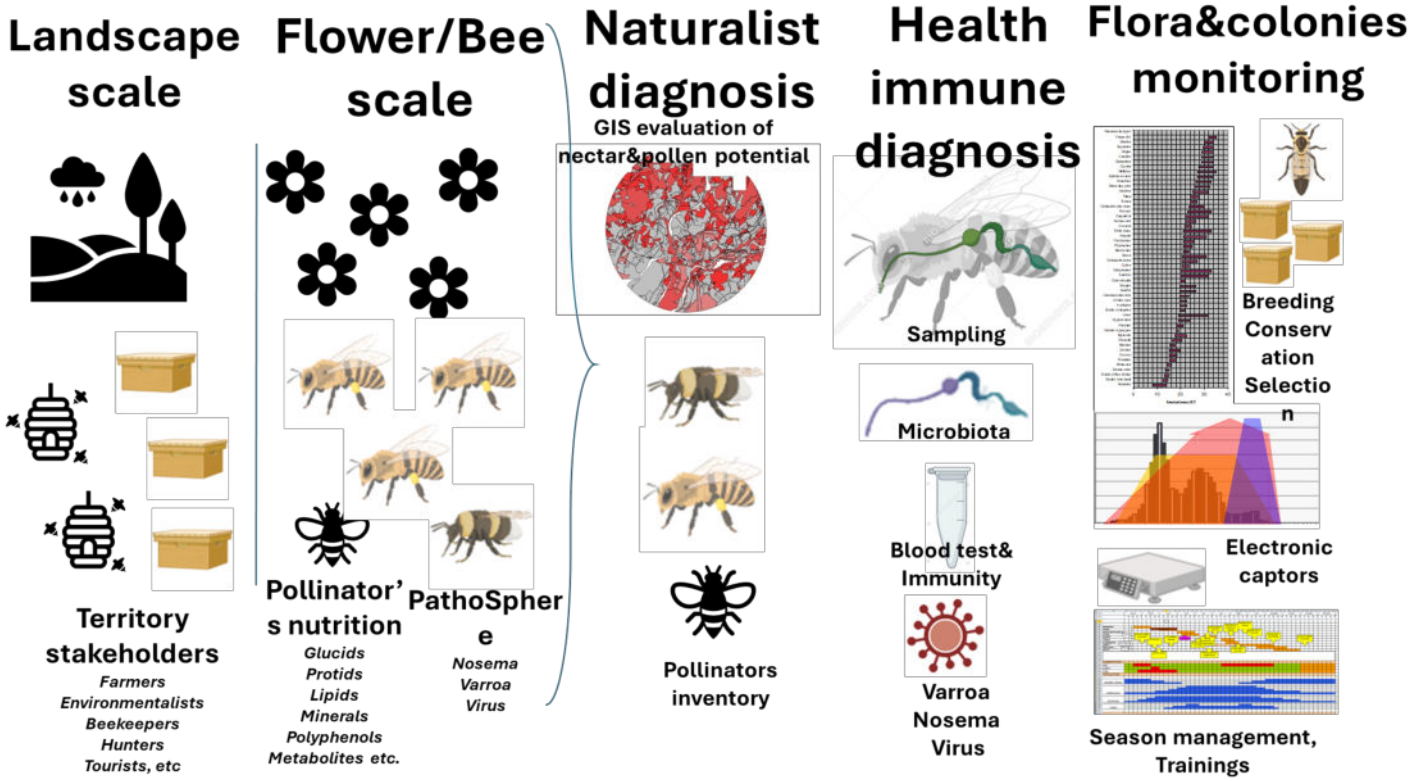
1. Coccinella septempunctata 2. Œufs de coccinelle 3. Œufs de chrysope 4. Chrysope 5. Cantharides 6. Larve de coccinelle asiatique 7. Propylea quatuordecimpunctata 8. Momie de puceron 9. Hyménoptères parasitoïdes 10. Harmonia axyridis 11. Episyrphus balteatus 12. Sphaerophoria scripta

Next steps

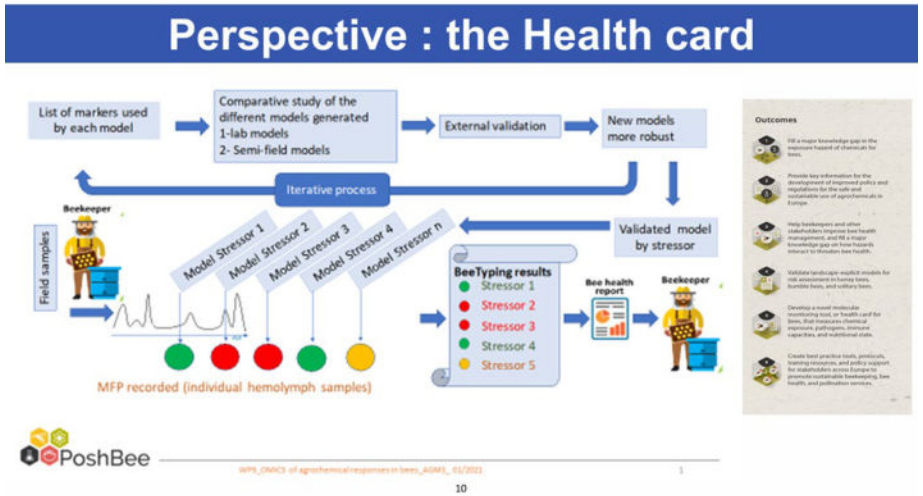
The scientific evaluation is still basic at this stage, and our primary focus has been on the total number of hectares dedicated to biodiversity and the number and abundance of species found in the field.

We are now developing in France a network of monitored sites, using a range of evaluation techniques.

=> *We are open to collaborations with other networks of sentinel sites in Europe*



Including the Maldi BeeTyping method to evaluate the health status of the pollinations as studied in Poshbee and WildPosh H2020 Projects



Anthophora retusa (female)

Photo : https://www.flickr.com/photos/djangomaurel/

Apimondia QR Contact

Thank you for your attention