

Bringing Science to Society through Co-Innovation and Co-Creation – The Soil-Health and Food Mission

EURAGRI conference
27-28th September 2021

Évora (Portugal)

EURAGRI



Agroecological approach *Fostering natural pest control services in arable agriculture* **EIP Operational Group RegGAE**



Sandrine Petit



Perrine Lair



UNION EUROPEENNE

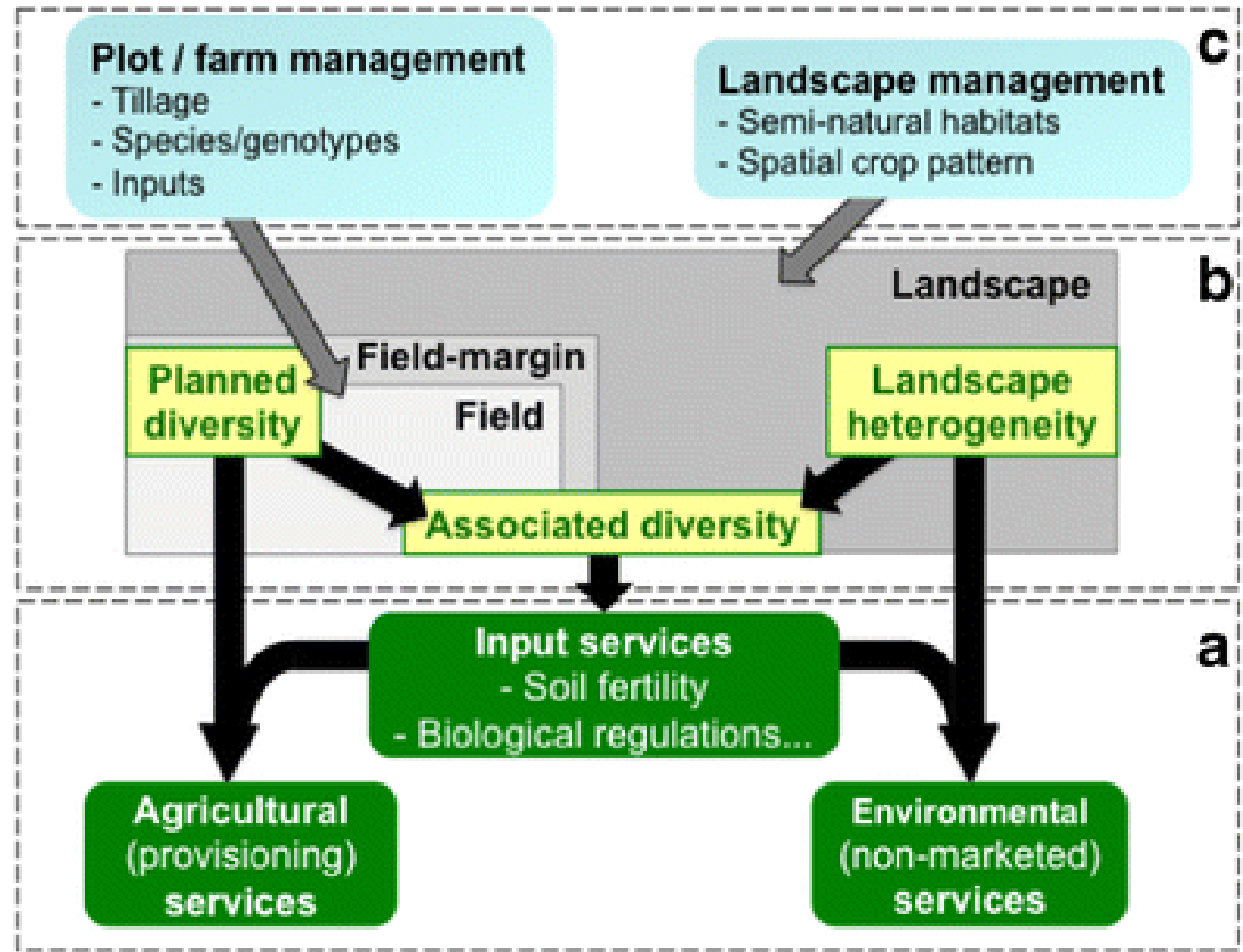
**RÉGION
BOURGOGNE
FRANCHE
COMTE**

avec le Fonds européen agricole pour le développement rural (FEADER)
L'Europe investit dans les zones rurales.

Agroecology

Design cropping systems that respect and valorize biodiversity and beneficial biotic interactions

- *Input services*
- *Multiscale management*



After Duru et al., 2015 *Agronomy for Sustainable Development*

Natural pest control services: a key component of agroecological farming

- Pest management remains a challenge in agriculture
- Strong societal pressure to reduce pesticide use

Conservation Biological Control

Increasing levels of pest natural enemies through **adequate land management**



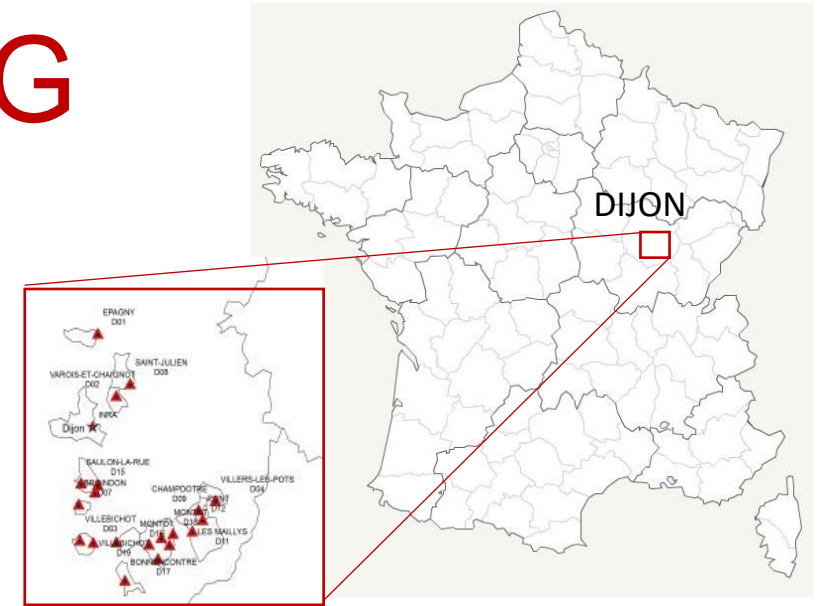
Agroecological engineering: The challenge is to design a compatible set of management practices even while the necessary ecological knowledge is often incomplete

Emergence of the Reg-GAE OG

From 2009: Research projects on natural pest control based on network of farmer's fields

2013 : set up of a monitoring network of pest control and farming management in 20 fields with annual meetings with the 13 farmers

2017: Decision to create an OG; 4 farmers with active involvement



Who?

INRAE

Epl Quetigny
Plombières-lès-Dijon



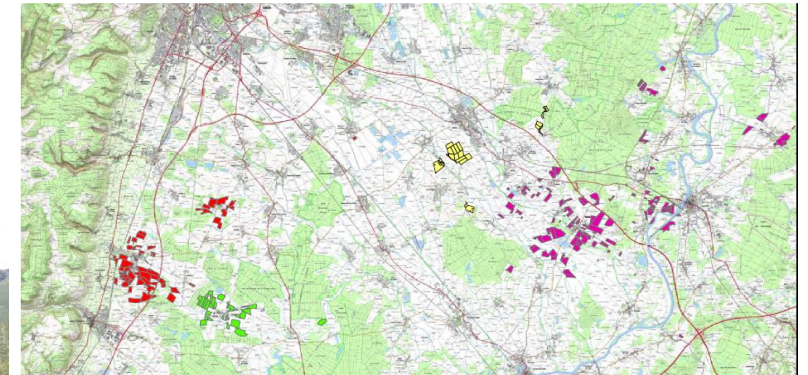
Integrated farming



Conservation tillage



Organic farming



©L. Mureret



© GAEC Henriot



Farmer's expectations in RegGAE

*'What amount of functional biodiversity do I have on my farm?
More or less than what I could expect?
How can I improve this?'*

'My cropping systems are innovative but am I doing the right thing to improve natural pest control?'

'Nice to get feed-back on how many seed-eating carabids I have in my field but how much do they work for me? How many do I need to skip one herbicide spraying?'



1. On farm diagnosis

What diversity and abundance of pest natural enemies on my farm ?



Ordres	Nombre d'espèces	Espèces patrimoniales	Espèces exotiques
Coléoptères (scarabées, coccinelles...)	133	12	2
Diptères (mouches, syrphes...)	45	8	0
Hyménoptères (guêpes, abeilles...)	35	7	1
Lépidoptères (papillons)	14	1	0
Autres ordres	23	2	0
TOTAL	250	30	3

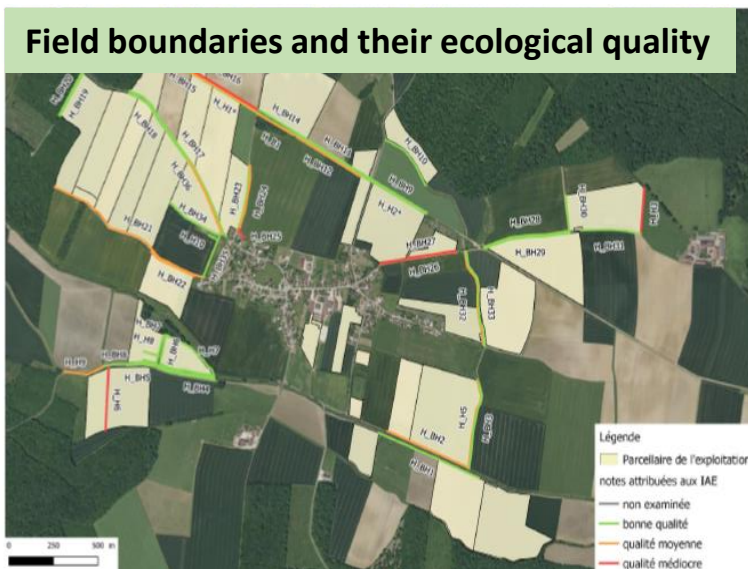
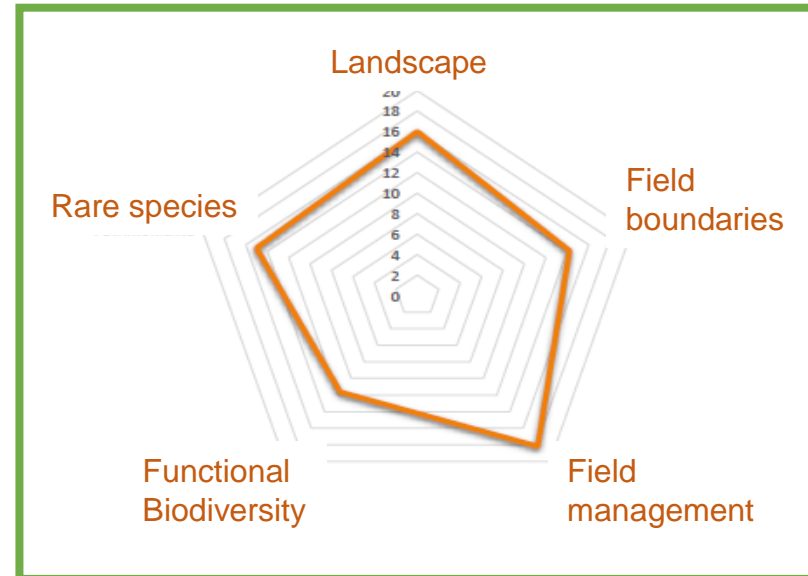
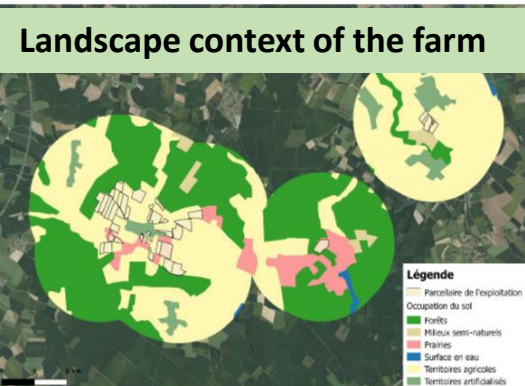


Who is eating weed seeds in my field?



2. Room for on-farm change?

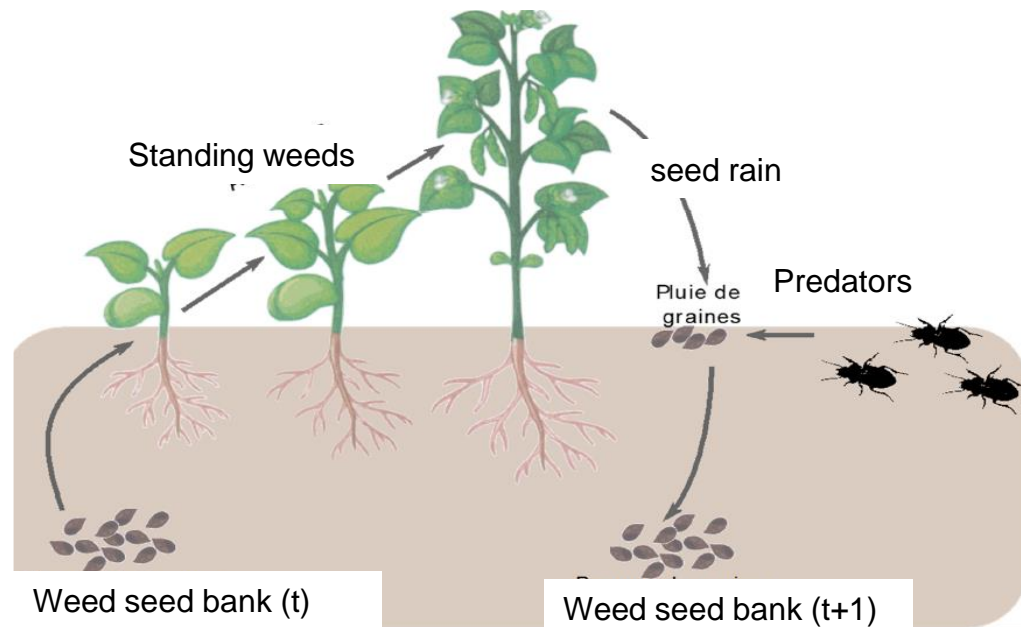
Overall diagnosis and recommendations



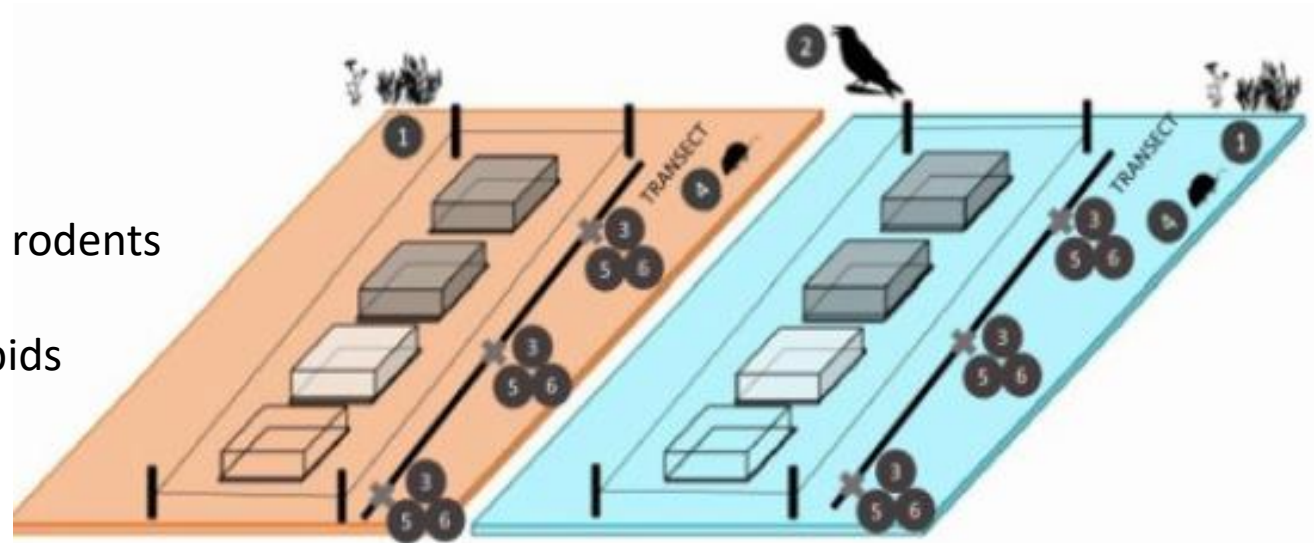
3. How much weed regulation to expect?

Weed demography and crop yield under four modalities of predator exclusion

- 30 fields
- 18 months



Small rodents
Birds
Carabids



4. Training future farmers

7 theoretical and practical courses developed, tested and circulated across the french network of schools training future farmers



5. Communication

Videos

Newsletters



Newsletter n°7 / Novembre 2020

Le point d'orgue du projet


Malgré les contraintes sanitaires, le projet RegGAE a bien avancé. Les diagnostics éco-entomologiques sont restitués aux agriculteurs partenaires. Ils sont le cœur du projet car ils sont le support essentiel de la pédagogie. Plusieurs outils pédagogiques sont en cours de création, notamment les 8 panneaux d'exposition, conçus cet été par Inès Roussel, en phase de finalisation. La journée de



<https://www.youtube.com/watch?v=vfdMGTMRcCow>



Flyer



RegGAE RÉGULATIONS BIOLOGIQUES EN GESTION AGROÉCOLOGIQUE

Le projet RegGAE est né dans le contexte de la nécessaire réduction de l'usage des produits phytosanitaires dans les cultures.

- INQUIETUDE DE LA POPULATION**
EXPOSITION AUX PRODUITS PHYTOSANITAIRES.
Lien avec certaines pathologies.
Contamination des milieux.
- PRÉOCCUPATIONS ÉCOLOGIQUES**
DANS LES POLITIQUES AGRICOLES
Plan agroécologique, Plan Ecophyto 2 + (France)
Verdissement de la PAC (Europe)...
- INTERROGATIONS DES AGRICULTEURS**
Développement de résistances aux traitements.
Moyens alternatifs aux produits phytosanitaires.
États des recherches scientifiques et techniques

5 partenaires et 2 organismes d'appui construisent un Partenariat européen pour l'innovation pour construire des enseignements concrets et localisés sur la régulation biologique :



Exhibition (for lending)

Bringing Science to Society through Co-Innovation and Co-Creation – The Soil-Health and Food Mission

EURAGRI conference
27-28th September 2021

Évora (Portugal)

Thank you for your attention
Any questions?

EURAGRI

