Co-design of farming systems weakly dependent on insecticides at a territory scale

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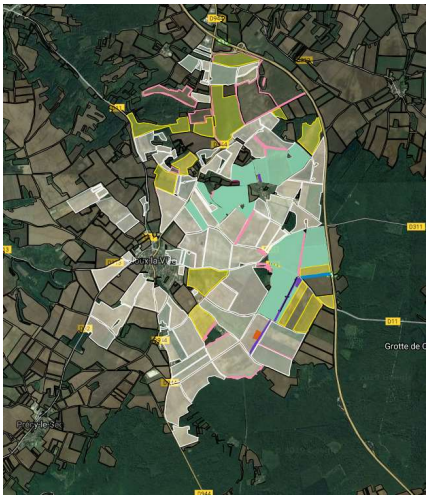

1000 ha area in Burgundy region

Context: difficulties in growing rapeseed

- Project area: heart of the French zone affected by cabbage stem flee beetle and rape winter stem weevil resistance to pyrethroids
- Shallow clay-limestone soils with low potential
- Short rotations: winter oilseed rape, wheat, barley
- Oilseed rape surface reduced by 48% between 2000 and 2019 (Agreste)

R2D2: an innovative project to support farmers in managing pests without insecticides

- 7 farmers in a 1000 hectares' territory
- A 6 year project involving 8 local partners
- Data collection: pest pressure, natural enemies, natural regulation efficacy, crop damages and yield

Redesign of farming systems

- Co-design workshops of farming systems and landscaping favouring crop robustness and natural pest regulation
- Individual and group accompaniment
- Implementation and multicriteria assessment using Systerre®
- Finding solutions to provide financial support for farmers during the transition phase

Farmers during a training course on natural regulation of pests

Faba bean strip sown on a field border

Parasitic wasps on Brassicacea

First results

- Changing in agricultural practices:

↘ Tillage: direct drilling of cereals following rapeseed

↘ Pesticide applications thanks to technical support

↘ Rapeseed surfaces and diversification of rotations (pulses, sunflower)

- Landscape management at a territory scale:

↗ Nectar and pollen resources for natural enemies: 10 ha of flowering strips sown with annual mix (Faba beens and Apiacea) or perennial mix (30 wild flower species)

- First measures of beetle regulation by parasitic wasps showed a weak regulation service at the beginning of the project:

➢ 2.5% maximum on pollen beetle

➢ 1.5% maximum on cabbage stem flea beetle

➢ 20 % maximum on rape winter stem weevil

Action pilotée par le ministère chargé de l'agriculture et le ministère chargé de l'environnement, avec l'appui financier de l'Agence Française pour la Biodiversité, par les crédits issus de la redevance pour pollutions diffuses, attribués au financement du plan Ecophyto.