

# Weed dynamic in conservation agriculture: experiences from the Isite-BFC regional network of farmers and cropping system experiments on agroecology in France

S. Cordeau<sup>1\*</sup>, V. Vaccari<sup>2</sup>, E. Vieren<sup>1</sup>, A. Baudron<sup>1</sup>, M. Prudhon<sup>1</sup>, G. Adeux<sup>1</sup>, P. Farcy<sup>3</sup>, G. Fontanieu<sup>1</sup>, N. Munier-Jolain<sup>1</sup>, V. Deytieux<sup>3</sup>, M. Lechenet<sup>2</sup>  
\* stephane.cordeau@inrae.fr

1. Agroécologie, AgroSup Dijon, INRA, Univ. Bourgogne, Univ. Bourgogne Franche-Comté, F-21000 Dijon, France  
2. Groupe Dijon Céréales, 4 boulevard de Beauregard, BP 4075, 21604 Longvic Cedex, France  
3. UE115 Domaine Expérimental d'Époisses, INRA, F-21000 Dijon, France

## Conservation Agriculture

No-tillage + Species diversification + Permanent soil organic cover

Weed control relies on few tools because pre-sowing tillage, pre-emergence herbicide spraying and in-crop mechanical weeding are not possible.

Drastic changes in weed communities and quickly after the transition to CA:

- fewer annual species (weed seeds remain on the soil surface, a condition deemed to be unfavourable to weed germination)
- higher perennial species

The implementation of CA principles could be transcribed into a **wide array of cropping systems** because the objectives of farmers differ, and/or because systems are implemented in different production situations (e.g. associated or not to livestock, soil type, irrigation).

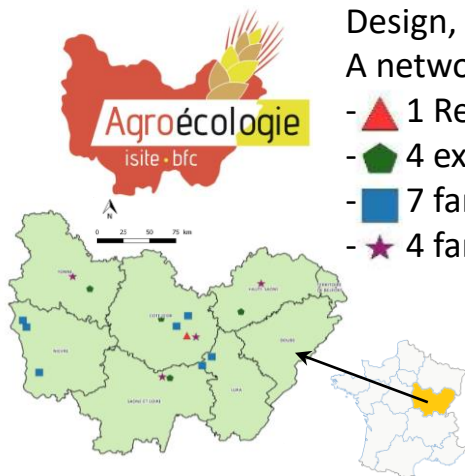


## The french Isite-BFC regional network

Design, Experiment and assess agroecological cropping systems

A network of 50 cropping systems originating from

- ▲ 1 Research experimental farm (The CA-SYS platform, INRAE, Dijon, FR)
- ◆ 4 experimental platforms of coepratives (Artemis, Dijon Céréales, FR)
- ■ 7 farmers
- ★ 4 farms of Agricultural colleges



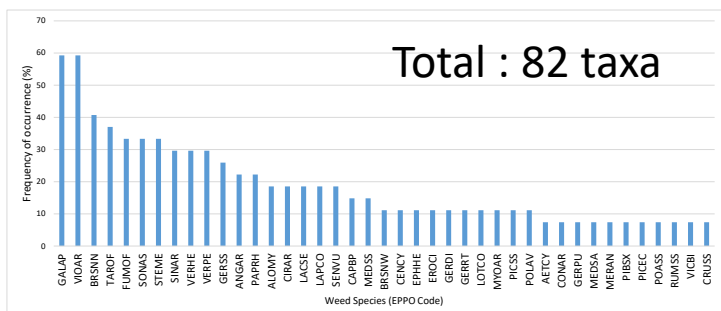
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## Premiminary results



Weed diversity was high in all systems compared to what is known from tillage-based agriculture. Weed community changes over time depending on the diversity of crop rotation tested and initial weeding pressure. Since CA is challenged by potential glyphosate ban in Europe, the application of glyphosate was stopped in 2018 in some sites and thus, cropping systems were redesigned accordingly to ensure weed management over the long run, economic profitability and multiperformance.



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