



**Coordinator : Bertrand PINEL**  
**Institute : Terrena Coop**



**MAP 2017-2018 :**  
**Date of 1st implantation: August 2017**  
**Location : Loudun (86, France)**  
**Climate : Atlantic, annual rain fall = 700mm**  
**Clay-loam ; with tillage ; conventional**

Example of a 4 repetitions trial  
 Lupin + triticale

*For 2019 or 2020, other central fields could be found : till/no till ; conventional / organic ; etc.*

## 1. The MAP context:

Overall, most farmers are looking for economically viable solutions to reduce their use of pesticides. Crop mixtures are a topic to explore. For example, already 40% of Terrena organic grain summer collecting come from crop mixtures (wheat, barley, triticale...). To spread crop mixtures among farmers, technical crop managements must be secured. A lot of technical knowledge is still missing. West France MAP will be able to host various topics proposed by ReMIX partners, both on microplot trials and/or on farmer fields.

## 2. Partners in codesigning

### Main actors involved :

TERRENA (Coop – 29000 farmer members), INRA (Public LAB), ACTA [Institutes : Arvalis (cereal and leguminous), TerresInovia (oleaginous), and ITAB (organic crops)].

### Farmers :

Terrena mainly works with 8000 farmer members, both organic or conventional. Some of them, who interested in experimentation, sign an contract with the cooperative. Terrena knows its farmer members. Each week they are visited. So it is easy for the coop to recruit farmers for experimentation. We call them "Forward Looking Farmers"

### Other stakeholders :

Breeders, crop protection companies, agro-machinery firms, etc.

## 3. The crops mixtures in the MAP

All arable local crops need experimental works on our capability to crop them in mixtures. Wheat, barley, triticale, oat, pea, faba, lupin, oil seed rape, corn, sunflower, soya, etc. Special interests in lupin + triticale, as Terrena processes lupin grains into high value products (ingredients, cosmetic) Every partners propositions will be welcome and studied. Both several "mother trials" and several satellites can be managed.



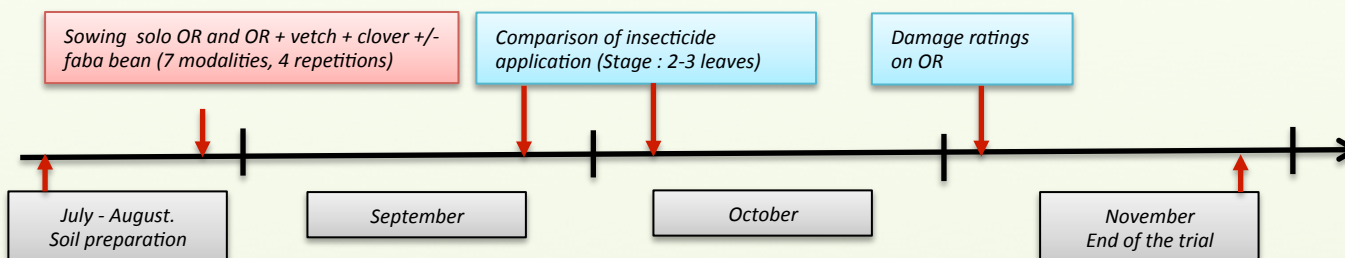
Lupin + triticale

### Example of crop mixture 2017-2018 trials :

Oilseed rape (OR) + companion plants (summer legumes) : usually, frost-sensitive companion plants are used to avoid herbicides and to reduce the need of nitrogen. These technics are now well-known. Now, we would like to know if the same companion plants could help to reduce insecticides. Indeed, it seems that *Psylliodes chrysocephaluse* females are disturbed by companion plants so that their bites could require no insecticide. Crop mixtures could be less vulnerable, but perhaps not.



Oilseed rape (OR) + companion plants (vetch, and clover)



**4. Next steps:** The first results on "reducing *Psylliodes* damage" must be confirmed before Terrena could present them to its members and advisors. Terrena is waiting for INRA track results and co-design workshop to prepare 2018-2019 platform.

