Interplay: a serious game to design and evaluate the introduction of cereal-legume intercrops in cropping systems

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Challenges

- For most farmers, intercropping = mixtures with both species sown and harvested together
- Many more options (e.g. relay cropping)
- Field experimentations and computer simulations cannot quickly provide locally-adapted knowledge.

Building on innovative farmers’ knowledge

Objectives

- One way to get this knowledge elicited and shared is the use of serious games

We are developing Interplay, a serious game allowing farmers to explore locally the diversity of intercropping options given expected services and constraints at the cropping system level

Main steps

1. Define the crop sequence
2. Prioritize and define the levels of ecosystem services expected
3. Design intercrop management (cultivar choice, sowing date...)
4. Assess the outcomes with a qualitative Dexi model and compare them to the expectations (Step 2)
5. Discuss the relevance regarding end use (food, feed, energy...), value chain aspects (grain sorting, marketing, etc.) and lock-ins at different levels (machinery, knowledge...)

Iterations allow exploring scenarios and stimulate discussions

Next steps, expected results and benefits for end-users

- Ongoing finalization of a first prototype which will be tested in France and in Scotland in 2020
- Developing and calibrating locally the Dexi model on such an under-explored topic is challenging
- Interplay addresses the impacts of the management of intercropping on the cropping system
- It will promote co-learning through virtual experimentation, enriching discussions among researchers, advisors and farmers with visual and quantitative information