



Agroecological issues of organic cropping systems: importance of long term field experiments

WORKSHOP





Program of the Workshop

- **Introduction**

- **Impulses**

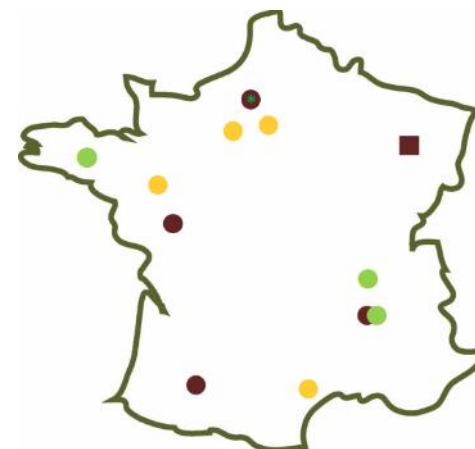
- Co-evolution of agroecology and organic agriculture through long term experiment design and development (Paola Migliorini, Università degli Studi Scienze Gastronomiche)
- Stakeholder inclusion in long term experiments (Marion Casagrande, ITAB)
- Decision making rules and system redesign in long term experiments (Daniele Antichi, University of Pisa)
- Fundraising, project opportunities and network for long term experiments (Stefano Canali, CREA)
- What are the characteristics of a LTE to be designed according to agroecological principles (Cesare Pacini, University of Florence)

- **Open Discussion**

- **Wrap up, take home message**

Introduction

- Starting an organic LTE network (France-Italy)
 - RetiBio
 - RotAB
- Do you know or manage any other organic LTE in Europe that could be part of a network?





UNIVERSITÀ DI PISA
Centro di Ricerche
Agro-Ambientali
Enrico Avanzi



Co-evolution of agroecology and organic agriculture through long term experiment design and development

Paola Migliorini, Università degli Studi Scienze Gastronomiche

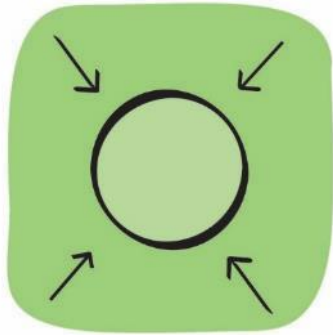




Stakeholder inclusion in long term experiments

Marion Casagrande, ITAB

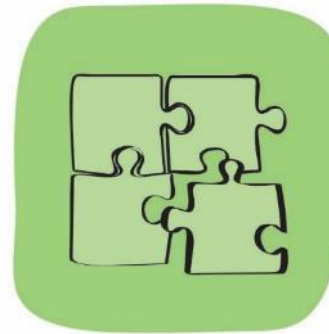




Shared analysis of the situation



Consumers
Farmers
Researchers



Co-design of new cropping systems

Ownership

Exchange and discussion



Improve communication



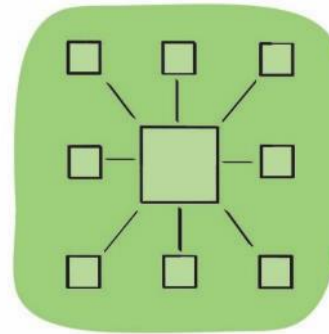
Videos

Websites

Social media

Summer school with farmers

....



Combine LTEs with trials
on satellite farms



Tests and demonstrations



Additional budget !



Decision making rules and system redesign in long term experiments

Daniele Antichi, University of Pisa





Fundraising, project opportunities and network for long term experiments

Stefano Canali, CREA



Fundraising

- Funds origin (FR and IT experience)

- mainly (exclusively) public origin funds
- provided by a wide range of funding research bodies/agencies:
 - European
 - National
 - Regional/Local

- Funding framework

- research projects needing LT outcomes (i.e. H2020 and former FPs)
- often, University/research Institutions running LTEs cover the funding gaps
- seldom, specific projects/programs addressed to sustain the LTEs themselves (*RetiBio* in IT is one of the few known experiences)





Funding opportunities

- LTEs foster the funding attraction capacities of research Organisations
- research teams managing LTEs multiply the opportunities to be selected/included in research project consortia
- specific funding programs to promote and to guarantee LTEs should be a priority by the national and international funding agencies



Networking

- Oriented programs to sustain LTEs should be aimed at:
 - filling in or mitigate the **funding gaps** (over time; amount)
 - identifying **emerging needs** and supporting novel LTE experiences which implement new approaches
 - promoting **networking** among on going experiences (nationally and internationally), supporting "side activities". As examples:
 - exchanges among involved scientists (sabbatical, short term missions);
 - development of **shared protocols for data collection and management**
 - organizing systematic events for **stakeholder involvement** and external **communication** activities



What are the characteristics of an organic LTE to be designed according to agroecological principles

Cesare Pacini, University of Florence





Definition of agro-ecology

Agroecology is the science of **applying ecological concepts and principles** to the **design and management** of sustainable food systems

(Gliessman, 1998)



Designing organic agriculture LTEs by applying ecological concepts

- Based on structural properties of agroecosystems
 - **Diversity**, which is given by the number of different components and processes present in the system and their relative abundance.
 - **Coherence**, which provides measures of the numbers and strengths of the connections and flows among components and processes within the system.
 - **Connectedness**, which is similar to coherence, but concerns the connections with components outside the agroecosystem.




Examples of agro-ecological principles and features impacting on structural properties of agroecosystems

- On **diversity** ... *i.e.* considering in organic LTEs
 - Biodiversity of genes, species and micro-ecosystems
 - Diversification of production cycles
 - Different sources of knowledge applied, both traditional and scientific
- On **coherence** ... *i.e.* considering in organic LTEs
 - Integrate and balance biological and ecological processes such as nutrient cycling, nitrogen fixation, soil regeneration, allelopathy, competition, predation and parasitism into food production processes
- On **connectedness** ... *i.e.* considering in organic LTEs
 - Trans-boundary pollution
 - Ecological infrastructures
 - Independence from exogenous factors
 - Capacity of cropping systems to be integrated in the supply chain
 - Two-way knowledge transfer towards and from farmers' networks



Open discussion





Question 1. Do you think your organic LTE can contribute to research for agro-ecology? and why?

- Which are the agroecological management techniques and features you implement in your LTE (*e.g.* length of rotation, intercropping, agroecological infrastructures, etc.)?
- Which are the priorities?





Question 2. Did you investigate in the field of innovative agro-ecological cropping systems?

- What is missing and not investigated so far in LTEs in agroecology and organic farming?
- What innovations/innovative cropping systems should be investigated further? *Please list them.*



Work with “cumulative groups”

Group A



Group B



Question 1

20 min



Question 2



Question 2

20 min



Question 1





Wrap up

Take home message





Thank you for attending
this workshop!

