

## Workshop 9: Agroecological issues of organic cropping systems: importance of long term field experiments

Convenors: Marion Casagrande (ITAB, France), Daniele Antichi (University of Pisa, Italy), Cesare Pacini (University of Firenze, Italy), Stefano Canali (CREA, Italy)

### Impulse talks:

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

The convenors are part of RetiBio (Italy) and RotAB (France) networks which both work on long term experiments (LTEs) testing cropping systems in organic farming. They have been sharing experiences on management, fund raising and stakeholder involvement.

It was proposed that LTEs should try to include and provide solutions to food system related issues that are crucial to get societal answers and a holistic view, through exchange with farmer and other stakeholders as they share the same problems/dissatisfaction.

The importance of improved communication was stressed as academic papers do not always reach stakeholders, thus there is a need to share the same language, final objectives and to involve farmers as it can help disseminate information.

It was proposed to combine LTEs with trials on satellite farms as it is an opportunity to have locally-tailored systems with tests and demonstrations, though that represents additional costs.

There is no fixed rule with regards to LTEs timeframe as it differs with context. Two approaches (albeit with various degrees of variation between the two) in defining factors, treatments and management of the experiment were discussed: 'Fixed' (when the experimenter fixes everything, applying same factors each year no matter which changes occur in the system) and 'Iterative' (can be redesigned periodically to get closer to the final objective of the experiment). The iterative method allows for fine tuning and offers the opportunity for system optimization, self-learning, economic viability and flexibility. However, it can be difficult to publish and interpret results. It was noted that there is not a unique way of thinking and that both approaches are valuable depending on the context and, above all, on the objective of the trial. With regards to funding, funds originate mainly from public sources, but also private companies/ organizations. Research projects needing long-term outcomes, university/research institutions running LTEs have to cover funding gaps. LTEs can foster funding attraction capacities by being included in research project consortias. National and international funding

agencies should focus on filling the funding gaps, identifying emerging needs, supporting innovative LTE experiences, and promoting networking among ongoing experiments. There was a discussion regarding the tools to design the main characteristics of LTEs and how they should be taking into account diversity (different components and processes present in the system), coherence (numbers and strengths of the connections and flows among components and processes within the system) and connectedness (connections with components outside the agroecosystem).