

# Workshop 5: Agrobiodiversity to support agroecology

Convenor: Anna-Camilla Moonen (Scuola Superiore Sant'Anna, Italy)

## Impulse talks:

- Sibylle Stöckli (FiBL, Switzerland) – “An innovative approach to enhance biodiversity on farmland: A credit point system”
- Constanze Buhk (University of Koblenz-Landau, Germany) – “Traditional water meadows – a perfect management option to combine ecological and economical values”
- Karin Pirhofer Walzl (Freie Universität Berlin, Germany) – “Bacteria and fungi in agricultural landscapes: almost invisible but the engine of plant production”
- Florine Degrune (Freie Universität Berlin, Germany) – “Agroecosystem diversification: Digging deeper”
- Simone Marini (Scuola Superiore Sant'Anna, Italy) – “A participatory approach between researchers, farmers and beekeepers to define a common point of view about semi-natural habitat and agro-ecosystem service”
- Yaron Ziv (Ben-Gurion University, Israel) – “Crop diversity and rotation may increase reptile biodiversity in an agroecosystem”
- Tommaso Gaifami (University of Florence, Italy) – “Weeds and field margins: the other side of the coin”

The presentations showed how changing farming practices can increase on-farm biodiversity levels. The traditional irrigation system of water-meadows via ditches was an example of how management influences biodiversity. It was also shown how crop diversity and rotation impacts reptile biodiversity through its differing physiognomy. Knowledge gaps were identified concerning the mechanisms of bacterial and fungal diversity benefiting agriculture and the role of landscape heterogeneity for microbial diversity. A general issue regarding field experiments were the advantages and disadvantages of highly-controlled field conditions compared to real-field conditions.

Another aspect reflected in the presentations was the request for developing quantitative methods to assess biodiversity measures. For instance, the result-oriented credit point system is a suitable tool for fast and efficient assessment of farm-scale biodiversity that shows farmers how they can substantially increase biodiversity (e.g. with habitat management). In addition, a conceptual model was presented to help quantify ecosystem services by weeds and spontaneous plants in field margins.

Last but not least, the importance of participatory research and communication between stakeholders was repeatedly highlighted, in particular between beekeepers, farmers and researchers about each other's common interest in semi-natural habitats and agro-ecosystem services.