

Project Title: EFnet staff training: Set up and management of field trials to determine ecosystem services

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Main purpose of the project (about 1/2 page):

Field trials are complex in data sampling and choosing appropriate methods is essential for research quality. These requirements ask for skilled researchers and technicians, to face these multiple challenges. From planning to publishing, highqualified staff is a keystone for successful conducted projects. The experimental farm network (EFnet) is organizing the first staff training: from trial setup to data sampling, from planning to practical conducting tips. The training is a platform to share knowledge and inventions in field experiment methodology. Special topic of the first staff training in October 2018 will be ecosystem services of cover crops and soil biota at EF-BOKU in Gross-Enzersdorf, Austria. Main results achieved so far (if applicable):

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Project description (about 1-2 pages):

Motivation in relation to the CASEE network goals:



This training facilitates further project cooperation between EFnet members and the understanding of ecosystem services and therefore for the bio-economic EU strategy for the Danube Region. Furthermore, the training secures the usage of the same research methods between EFnet members and increases the quality of upcoming projects.

Brief description of project content:

Applied research in agriculture is very important to implement new findings to field level. The first steps from pot trials onto field states are complex and demanding. Therefore, experimental farm (EF) researchers and technicians are facing multiple challenges in varying situations. Not only an adequate infrastructure and machinery pool is needed, but also trial setup and management must be well considered. Additionally, data sampling is inherent in research quality and requires experience and knowledge about practical processes in crop production and biological interactions. Hence, from planning to publishing high-qualified staff is a keystone. To meet these

requirements, employees have to be well trained and up-to-date in trial management, data sampling methods, handling instruments and for inventive solutions for individual and environmental trial conditions. The EFnet is starting an initiative of training courses to provide new approaches in research for its members. The overall aim of this initiative is sharing diverse methodologies and aspects of field research to increase data quality. Therefore, a training with theoretical and practical units will be held at the EF Gross-Enzersdorf at the University of Natural Resources and Life Science, Vienna (EF-BOKU) in October 2018. The topic of this first staff EFnet training is about the ecosystem services of cover crops and soil biota. Trials about ecosystem services need elaborate planning, because of the multilevel interactions between plants, soil, soil biota and plant pathogens. However, this bioeconomical approach is essential for a sustainable agriculture and it is worthwhile to look into the black box of ecosystem services.

Table I Training schedule from the 15t to 4th of October 2018.

Time	Monday	Tuesday	Wednesday	Thursday
08:00	Registration			
08:30	Welcome	Coffee	Coffee	Coffee
09:00				
09:30	Intro. Field management	Intro. Cover crops	Intro. Plant pathogenes	
10:00				
10:30	Coffee break	Coffee break	Coffee break	Excursion
11:00				
11:30				
12:00				
				
12:30				
13:00	Lunch	Lunch	Lunch	Lunch
13:30				
14:00				
14:30	Intro. Soil	Intro. Soil	Statistics	
15:00		fauna		
15:30	Coffee break	Coffee break	Coffee break	Excursion
16:00	16:30	Field		

17:00

17:30

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### Methods, outcomes, costs and funds

The training course based on the exchange of expertise with colleagues from BOKU and EFnet members. Teaching implies a field trial for demonstrations, data sampling and data analyses. Based on this field trial the seminar contains a set of issues as field management, soil processes, soil biota and plant pathogens (Table 1). The field trial will be conducted by EF-BOKU (from July 2018 to April 2019) and is attended by a student employee for 3 months. Further data sampling in autumn 2018 and spring 2019 contains earthworm abundance, plant and root biomass as well as available nitrate.

Peers from EU member states are encouraged to apply for Erasmus+ staff mobility to participate in the training. The training will be free of charge, but a contribution of EUR 20.00 per day/person is asked for lunch and coffee breaks. The application for EU EFnet members depends on the date of application (first come, first serve) and signed staff training agreements. Travelling expenses for EFnet members from nonEU member states (e.g. Serbia, Bosnia-Herzegovina and Albania) will be covered by this fund (only board and lodging). All participants have to apply by a short explication (1/2 page): the implementation of ecosystem service experiments at their home universities and the knowledge transfer of the training outcomes to researches and students. Participants from non EU states have to state about the covering of their travel expenses.

### Envisaged outcomes:

EFnet members have the possibility to participate in the field trial and a joint publication is envisaged. Further data sampling and analysis will be carried out by BOKU bachelor students in autumn 2018 and spring 2019. This approach facilitates the integration of BOKU students and offers the possibility for bachelor theses.

Furthermore, projects and experiments are planned to extend the research activities in EFnet. Moreover, all participants are required to contribute in the scientific discussions and disseminate the training content with their colleagues and students at their home universities.

### CASEE Members involved:

All researches and technicians of the CASEE EFnet member universities are invited to apply for the training.

### Project timeline:

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December 2017 pre announcement of the training  
May 2018 announcement of the training  
June 2018 official invitation at the CASEE conference in Bucharest  
July 2018 seeding of cover crops  
July 2018 application deadline  
October 2018 training and data sampling

December 2018 follow up (per email) on preliminary results (autumn)

March 2019 data sampling

April 2019 end of the field trial

May 2019 follow up (per email) on preliminary results (spring) and presentation at CASEE conference

August 2019 follow up on research results

September 2019 project report finished — end of project

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