



ENDURE

European Network for Durable Exploitation of crop protection strategies

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PP Restricted to other programme participants (including the Commission Services)	
RE Restricted to a group specified by the consortium (including the Commission Services)	
CO Confidential, only for members of the consortium (including the Commission Services)	

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Summary

The First ENDURE Summer School 'Biodiversity supporting crop protection' has successfully taken place from 10 to 14 September 2007 at the International School of Advanced Education (SIAF) in Volterra (ITALY) and was organised by the Scuola Superiore Sant'Anna of Pisa (SSSUP).

Nearly 140 applications were received, of which 94 complete. The budget allowed to sponsor 15 students from all over the world. Additionally, two students linked to ENDURE partners paid for participation. The Summer School involved ten lecturers from Europe and the USA.

The objective of the summer school was to provide a theoretical framework and analytical tools enabling the participating PhD students to critically review projects dealing with biodiversity in agro ecosystems and to set up innovative research examining those elements and aspects of (agro) biodiversity which can positively affect auto-regulation and sustainability related to crop protection.

Students were very satisfied with the outcome of the summer school and a student network has been created as a follow-up activity.

First ENDURE Summer School - report

The First ENDURE Summer School 'Biodiversity supporting crop protection' has successfully taken place from 10 to 14 September 2007 at the International School of Advanced Education (SIAF) in Volterra (ITALY). It was organised by a team of the Scuola Superiore Sant'Anna of Pisa (SSSUP): Prof. Paolo Bàrberi (scientific organiser), Dr Camilla Moonen (logistic organiser), Gionata Bocci and Luigi Boccaccio (assistants).

1 Objective

The objective of the summer school was to provide a theoretical framework and analytical tools enabling the participating PhD students to critically review projects dealing with biodiversity in agro ecosystems and to set up innovative research examining those elements and aspects of (agro)biodiversity which can positively affect auto-regulation and sustainability related to crop protection.

Biodiversity was treated at all three levels that were defined in the UN 'Convention for Biodiversity' signed in Rio de Janeiro in 1992: genetic, species and ecosystem level. The bio-functionality of specific genes, biota or habitat traits that can interact with crop protection were explored for the cultivated subsystem, the crop antagonist subsystem (weeds, pests or diseases and habitat which negatively affect the cropping system) and the auxiliary subsystem (genetic traits, biota or habitat supporting in some way the cropping system).

2 Application summary

The summer school has been published by sending e-mails to all ENDURE partners and all relevant international contacts of the organising institution (SSSUP), with the request to disseminate amongst a wider public. At the same time a summer school website has been created

(http://summerschools.endure-network.eu/aesito/endure?&cms=null&id cms_doc=1)

and a link to the ENDURE home page was made. Interested PhD students were asked to register on the website and to submit:

- Short CV (max two A4 pages, Times New Roman 12 pt)
- Summary of PhD Project (max one A4 page, Times New Roman 12 pt)
- A motivation letter (max one A4 page, Times New Roman 12 pt)
- A support letter from their supervisor(s)

At the deadline (20 June 2007), 139 people had registered their name on the summer school site and 94 complete applications have been received from 53 countries, which have been screened for selection. Figure 1 shows the geographical origin of the applications.

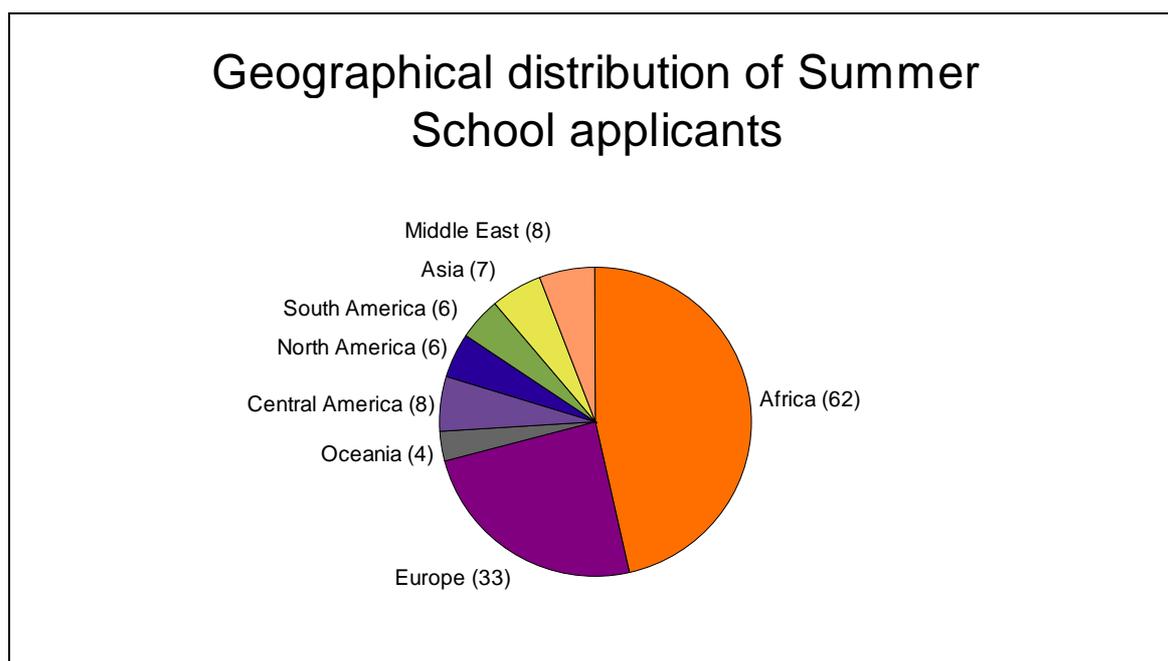


Figure 1: Geographical distribution on Summer School applicants

3 Selection procedure

The initial aim was to be able to sponsor 10 PhD students for the summer school. Close budget management allowed the organising committee to selected 15 students for participation in the summer school (Table 1). Four substitute students (Table 2), were indicated in case one or more of the 15 selected students would not confirm his/her participation before 10 July. The substitute students have been selected according to the list order of eligible applicants.

A first screening of all applications was made based on the following criteria:

- motivation for participation in the summer school
- relevance of the PhD project to the summer school topics
- quality of the CV
- fluency in English

Consequently, applicants have been selected in order to have a wide geographical representation and to cover, with their projects, the various thematic areas that were treated in the summer school.

Table 1: Selected students for the summer school (in alphabetical order)

Number	Student name	Country of origin
1	Baraibar Padró, Barbara*	Spain
2	Bicksler, J. Abram	USA
3	Brzozowski, Sebastian*	Poland
4	Caballero, Berta	Spain
5	Fabre, Paul	France

6	Kitis, Yasin Emre	Turkey
7	Levay, Nora*	Hungary
8	Madu Mailafiya, Duna	Nigeria
9	Oaten, Heather	UK
10	Perović, David	Australia
11	Rouphael, Souzy*	Lebanon
12	Ulber, Lena	Germany
13	van Wyk, Annemie	Republic of South Africa
14	Veres, Andrea*	Hungary
15	Yang, Chunyan	Popular Republic of China

* Student working at an ENDURE-related institution

Table 2: Substitute students for the summer school (in order of selection priority)

Number	Student name	Country of origin
1	Pineda Gómez, Ana María	Spain
2	Lô-Pelzer, Elise*	France
3	Kasina, Muo John	Kenya
4	Jedlicka, Julie Anne	USA

* Student working at an ENDURE-related institution

Sebastian Brzozowski could not participate to the summer school and therefore Ana María Pineda was invited and she accepted. Two ENDURE-partner related students asked for the possibility to participate paying for the costs. Since there was no space limit at the conference centre, and the objective was to enable as many students as possible to participate to this event, it was decided to approve their participation. Therefore Elise Lô-Pelzer from INRA (France) and Małgorzata Lisowska from IHAR (Poland) were added to the list of participants.

We were able to select students from INCO countries (as requested by the ENDURE ExCom) despite the fact that no specific suggestions were received by colleagues from CIRAD.

4 The scientific programme

The summer school programme included (1) lectures given by internationally-renowned experts belonging to ENDURE partners or to other higher education/research institutions, (2) team work to facilitate active participation of the selected PhD students and their interaction with the lecturers and (3) opportunities during the whole week for students to discuss individually with the lecturers about their PhD project or related questions.

The type of themes that were proposed to expert lecturers from all over Europe and overseas were:

1. How can bio-diversity and bio-functionality at the crop genetic, variety and species level affect the interaction between the crop and pests, weeds and diseases (PWD)? Possible aspects that can be treated are:
 - a. Crop traits protecting the crop against PWD on the short term
 - b. Crop performance perspectives in relation to PWD for the long term (under scenarios of changes in environment or agricultural policies)
 - c. Side-effects of crop traits on auxiliary organisms for crop protection and the environment (soil, water and other biota in agro-ecosystems)
2. How can bio-diversity and bio-functionality at the cropping system level affect the interaction between the crop and PWD? Possible aspects that can be treated are:
 - a. Cropping system characteristics with a PWD control effect
 - b. Side effects of cropping systems characteristics for PWD control on auxiliary organisms, including positive functions of weeds and pests
3. How can landscape diversity and landscape functionality affect the interaction between the crop and PWD? Possible aspects that can be treated are:
 - a. Farm territory characteristics and management interacting with PWD population control and auxiliary organisms
 - b. Landscape configuration interactions with PWD population control and auxiliary organisms
4. True IPM, including management effects on interactions between pests, weeds and diseases and the interactions with landscape spatial and temporal configuration
5. Socio-economics and politics on crop protection

Selected lecturers who accepted to participate are listed in the Table 3.

Table 3. Lecturers of the First ENDURE Summer School ‘Biodiversity supporting crop protection’

Lecturer	Origin
Prof. Paolo Bàrberi*	Scuola Superiore Sant’Anna, Pisa, Italy
Dr. Maurizio Sattin*	CNR, Padova, Italy
Dr. Stefan Otto*	CNR, Padova, Italy
Prof. Ferenc Tóth*	Szent Istvan University, Hungary
Dr. Oscar Alomar*	IRTA, Spain
Dr. Sarah Dewhurst*	Rothamsted, United Kingdom
Dr. David Brook*	Rothamsted, United Kingdom
Dr. Silke Dachbrodt-Saaydeh*	Federal Biological Research Centre for Agriculture and Forestry, Germany
Dr. Jon Marshall	Agroecology, United Kingdom
Prof. Robert F. Norris	University of California, Davis (USA)

*ENDURE partners

In collaboration with the lecturers the summer school programme was finalised. Students were asked to prepare a poster presenting their PhD project. Posters were presented by the students on Monday afternoon during a poster session and a lively discussion took place among the students and with the lecturers.

Given the fact that the background of the students and the lecture topics covered a wide range of aspects related to biodiversity and crop protection, and therefore none of the students was expected to be familiar with all the topics, lecturers were asked to present a short CV, lecture abstract and recommended literature which were all downloadable from a protected part of the summer school website. This allowed students to arrive well prepared on the arguments treated during the week.

SUNDAY 9 SEPTEMBER		
19.00	Meeting at Pisa Airport outside bar/pizzeria and shuttle service to Volterra	
20.30	Arrival SIAF – Volterra	
21.00	DINNER	
MONDAY 10 SEPTEMBER		
9.00 – 11.00	Welcome Welcome address Presentation of the Scuola Superiore Sant'Anna Presentation of ENDURE Presentation of Summer school activities Students' presentation (3 min each)	Prof. Paolo Bàrberi Prof. Pierdomenico Perata Dr. Maurizio Sattin Dr. Camilla Moonen Students
11.15 – 13.15	Introduction 'Biodiversity supporting crop protection'	Dr. Jon Marshall - Agroecology (UK)
13.15 – 14.30	Lunch	
14.30 – 18.30	Group work – Project presentations by students and discussion	Dr. Camilla Moonen and all lecturers
20.00	Dinner	
TUESDAY 11 SEPTEMBER		
9.00 – 11.00	Theme 1 Crop strategies for crop protection: push-pull strategies	Dr. Sarah Dewhirst – Rothamsted (UK)
11.15 – 13.15	The Farm Scale Evaluations Project	Dr. David Brook – Rothamsted (UK)
13.15 – 14.30	Lunch	
14.30 – 18.30	Group work - calculation of biodiversity indicators/indices: demonstration of data analysis and discussion	Dr. David Brooks
20.00	Dinner	
WEDNESDAY 12 SEPTEMBER		

9.00 – 11.00	Theme 2 Cropping system diversity in relation to crop-weed interactions	Prof. Paolo Bàrberi – Scuola Superiore Sant’Anna (IT)
11.15 – 13.15	Cropping system diversity in relation to crop-pest interactions	Dr. Oscar Alomar – IRTA (SP)
13.15 – 14.30	Lunch	
14.30 - ...	Free afternoon: guided tour of Volterra or leisure	
20.00	Dinner in Volterra	
THURSDAY 13 SEPTEMBER		
9.00 – 13.15	Theme 4 True IPM, or, putting the I in Integrated Pest Management	Prof. Robert F. Norris - University of California, Davis (USA)
13.15 – 14.30	Lunch	
14.30 – 18.30	Theme 5 Efficient agricultural production and reducing reliance on pesticides? – The Thematic Strategy as a political European answer Introduction to the problematics Discussion between students and lecturers	Dr. Silke Dachbrodt-Saaydeh - Federal Biological Research Centre for Agriculture and Forestry (DE)
20.00	Dinner	
FRIDAY 14 SEPTEMBER		
9.00 - 11.00	Theme 3 Diversity at the farm territory level in relation to crop protection	Dr. Stefan Otto – National Research Council CNR (IT)
11.15 – 13.15	Diversity at landscape level in relation to crop protection	Prof. Ferenc Tóth – Szent Istvan University (HU)
13.15 – 14.30	Lunch	
14-30 – 17.00	Group work on landscape and farm scale diversity Plenary discussion	Prof. F. Toth & Dr. S. Otto Prof. F. Toth & Dr. S. Otto
17.15 - 18.30	Closing session: feedback from students	Prof. P. Bàrberi & Dr. C. Moonen
20.00	Dinner	

5 Feedback from the students

An evaluation form was distributed among the students and they were asked to fill this in. Questions regarded subscription procedure, preparation process, summer school programme and location and other comments or suggestions.

All students expressed their satisfaction about the summer school. The most frequent comments are listed below.

Suggestions:

- Some problems with subscription on website but the problems were always resolved by e-mail contact
- Lecturers did not always stick to their time and this reduced time for groups discussion after the lecture
- More group work in the afternoons
- More time for discussion with lecturers if they all would have been present during the whole week
- More time to present own project

What was most appreciated:

- Lecturers who were present during the whole week
- Variety of topics in the programme
- SIAF location
- Contact with the other students

6 Follow-up

As a consequence of the successful summer school and the mutual interest of the students and lecturers, some actions have been taken to increase communication and information exchange in the future.

- A student network has been created though a common mailing list.
- All students willing to do so have provided a .pdf version of their poster and this has been uploaded on the website.
- All lecturers willing to do so have left a .pdf version of their presentation and this has been uploaded on the website.
- Prof. Robert Norris has distributed his entire IPM literature database (in EndNote) to the students who were interested in having a copy.
- An interactive work space will be created on the website where students and lecturers can exchange documents, information, announcements about workshops or conferences related to biodiversity and crop protection, etc.