

E D U N A B I O



Universität
Rostock



UNIVERSIDAD NACIONAL DE LA PLATA

Corpoica



UNIVERSIDAD NACIONAL AGRARIA
"Por un Desarrollo Agrario Integral y Sostenible"



DAAD

Deutscher Akademischer Austausch Dienst
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Proceedings

Workshop Managua, Nicaragua 2016

Part 1:

February 25 to March 02

Part 2:

May 03 to May 06

Organizer: Universidad Nacional Agraria, Faculty of Agronomy

Schedule Part 1

25.02. Arrival of participants

26.02. Workshop on Distance Learning

27.02. + 28.02. Excursion to Camoapa and Masaya (Finca El Plantel)

29.02. Workshop of the main outcomes of the Edunabio project

01.03. Meeting with the representatives of UNA, selected presentations on Agrobiodiversity

02.03. Leaving of the participants

Schedule Part 2

02.05. Arrival of participants

03.05. Workshop on the main outcomes of the Edunabio project

04.05. Workshop on Distance Learning

05.05. Workshop on Agrobiodiversity

06.05. Meeting with the representatives of UNA

07.05. Leaving of the participants

Due to new visa regulations, which require a visa for Cubans citizens, the Cubans must cancel their flights for February and had to postpone their visit at UNA to May2016.

The Ministry of Higher Education in Cuba was not informed about these new regulations regarding the visa before. The Cubans participants were informed about this regulation two days before departure by the embassy of Nicaragua in Havana.

Part 1) Workshops and field trips

Friday, 26.02. Special course on Distance Learning.

This course was given by Guillermo Antunez (Cuba) via a video conference. Comprehensive learning material was provided prior to the course to the participants.

Saturday, 27.02. to Sunday 28.02. Field trip to Camoapa and the Cooperative farm "El Plantel"

The following issues were carried out during the field trip: I) Visit of various field experiments, II) Explanations of methods of mixed cropping in this region of Nicaragua, III) Discussion with farmers about sustainable crop production and animal husbandry, IV) presentations of students of the branch of UNA in Camoapa, V) meeting with representatives of the branch of UNA in Camoapa, VI) meeting with docents regarding contents of master modules

Monday, 29.02. Workshop of the Edunabio project

Welcome addresses **Carolina Vega** (Managua) and introduction of the all participants.

Bettina Eichler (Rostock) presented the work of the project Edunabio with special focus on the last year. She specially drew attention on the importance of e-learning. Related to this topic a special training course (half a day) was included in the present workshop in Nicaragua. A homepage of Edunabio is online and all presentations of the present workshop can be downloaded from there.

Alfred Flint (Rostock) presented the main outcomes of the work package "Evaluation". He developed a system for the evaluation of courses. This work was supported by the project "Kosmos" of the University of Rostock. He presented in detail the concept and items of the evaluation sheet which should be filled in by students involved in the training courses modified during the project. Questions are related to time, skills, quality, literature etc. One main issue of the discussion was the question whether or not the students should give their personal data, such as name and address.

Jael Cruz (Managua), master student of Carolina Vega, presented her work related to microbiological studies, and the effects of microbial communities on cacao cultivation. In future molecular genetic analysis will be carried out. This work is of special interest as part of the training and education work package within the Edunabio project.

Franciska Mejia (Managua), master student of Carolina Vega, presented her work related to fungi as native antagonists to avoid the extensive use of insecticides in crop production. This work is of special interest as part of the training and education work package within the Edunabio project.

Laura Villamizar (Bogotá) reported about new techniques in the field of pharmaceutical technology (formulation of biomedicaments) with a special emphasis on the analysis by SEM and TEM technology for the evaluation and quality control of biological insecticides and on the production of recombinant enzymes. The results of this work were used in various teaching programs.

Hugo Jiménez (Bogotá) reported about his results on fermentation tests which he did during a stay in Rostock. Here he used crops from mixed cropping experiments. In addition, he reported about the degradation of feedstuff for animals. The results of this work should be also used in teaching programs.

Jorge Jios (La Plata) spoke about new trends of teaching in chemistry. Special chemistry lectures were also given for students of biology, engineering and agriculture with special focus on current problems related to contamination and environment. He highlighted the relevance of chemical subjects in master courses on agrobiodiversity.

Claudia Flores (La Plata) spoke about current trends in the field of agroecology which special emphasis on sustainable development in the context of economy, sociocultural aspects and ecology.

Carolina Vega (Managua) summarized the most important findings with special focus on future problems to be solved within the Edunabio network.

The participants gave special thanks to Dr. Carolina Vega for the organization of the workshop.

Tuesday, 01.03. Meetings and presentations

Meeting with representatives of the university UNA.

Peter Langer (Rostock) gave a lecture about indigo and indirubin as plant ingredients for the development of drugs based. The lecture put a special focus on teaching aspects related to chemical and biological diversity relevant to agriculture and drug development which are key features of the Edunabio project.

Gladys Romero (Bogotá) gave a lecture on genetic aspects of cultivation with a focus on teaching within the Edunabio network.

Part 2) Workshops and meetings

May 02-07, 2016 in Managua, Nicaragua

Various activities were developed within the frame of the second part of the Workshop.

It became necessary to divide the workshop into two parts, as the Cuban participants could not take part at the workshop in February due to new visa regulations between Cuba and Nicaragua.

I) Meeting with the Dean of FACA (Faculty of Animal Sciences, UNA) Prof. Carlos Jose Ruiz Fonseca, with the dean of FAGRO (Faculty of Agronomy, UNA) Prof Gregorio Varela, and the vice-rector of UNA Prof. Alberto Sediles Jaén.

UNA is planning to establish Veterinary Medicine and Animal Husbandry as a joint career; currently UNA offers Veterinary Medicine and Animal Husbandry separately. It was agreed that Cubans professors will be involved in the development of the methodological design. Additionally, the Cuban professors will elaborate material for students on practical experiences at farm level, as well as lab protocols on food analysis, parasitology, microbiology and clinics.

II) Visit to FACA installations.

The Dean of FACA guided a tour through the installations and animal facilities of the faculty, e.g., the teaching farms of poultry, swine, bovine, sheep, rabbits, *Ctenosaura similis* (garrobo), and forage banks. At every station ideas were interchanged with students.

III) Carlos Saenz (professor of FACA, UNA) presented a PhD project on Sustainable Agriculture - Monitoring the effects of pesticides on animal health. Several students participated and had to develop own presentations on this topic under supervision of the Cubans scientists. Carlos Saenz was invited for a two-week stay at Universidad Central "Marta Abreu" de Las Villas (Department of Veterinary Medicine and the Center of Bioactive Chemicals).

IV) Visit to the Universidad de Ingeniería (UNI)

Although, the UNI is not directly involved into the Edunabio project there is a long tradition of collaboration between this university and the partners of the Edunabio project. During the meeting further academic activities were discussed. The partners agreed to carry out joint conferences and teaching activities in the field of Environmental Sciences and Resource Management.

V) Visit to the Laboratory of Soil Analysis and a meeting on soil protection

Several UNA specialists took part at these activities (some of them were educated in Cuba). It was discussed how the outcomes of recent studies in soil science could be implemented in teaching activities.

VI) Debate with professors of FAGRO about education in master study courses. It was discussed how new modules can be created and how the workload of each module should be calculated.

VII) Meeting with the Rector of UNA, Prof. Telemaco Talavera.

Raul Lopez introduced the idea of an integral project on Agriculture in Dry Areas. The idea was accepted by all participants.

VIII) Meeting at the Department of Irrigation. Here the new post graduate program in Irrigation Systems was presented.

The participants gave special thanks to Dr. Carolina Vega for the organization of the second part of the workshop.

Participants of the Edunabio activities in Nicaragua 2016

Family name	First name	Institution
Villamizar Rivero	Laura	Corpoica (Colombia)
Jiménez Sabogal	Hugo	Corpoica (Colombia)
Romero Guerrero	Gladys	UDCA (Colombia)
Flores	Claudia	University La Plata (Argentina)
Jíos	Jorge	University La Plata (Argentina)
Méndez	José Mamerto	UNI Managua (Nicaragua)
Páramo	Leandro	UNI Managua (Nicaragua)
Chamorro	Efraín	UNI Managua (Nicaragua)
Talavera	Telemaco	UNA Managua (Nicaragua)
Saenz	Carlos	UNA Managua (Nicaragua)
Ruiz	Carlos Jose	UNA Managua (Nicaragua)
Jaén	Alberto Sediles	UNA Managua (Nicaragua)
Beck	Inge	UNA Managua (Nicaragua)
Salazar	Dennis	UNA Managua (Nicaragua)
García	Leonardo	UNA Managua (Nicaragua)
Ordoñez	Mercedes	UNA Managua (Nicaragua)
Videa	Roger	TICs-UNA (Nicaragua)
Munguía	Rodolfo	UNA Managua (Nicaragua)
Gutiérrez	Martha	UNA Managua (Nicaragua)
Arguello	Harold	UNA Managua (Nicaragua)
Ríos	Miguel	UNA Managua (Nicaragua)
Vega	Carolina	UNA Managua (Nicaragua)
Cruz	Jael	UNA Managua (Nicaragua)-UNA
Mejía	Francisca	UNA Managua (Nicaragua)
Alvarado	Rommel	UNA Managua (Nicaragua)
Chavarria	Isabel	UNA Managua (Nicaragua)
Gutiérrez	Jeanette	UNA Managua (Nicaragua)
Eichler	Bettina	University of Rostock
Flint	Alfred	University of Rostock
Langer	Peter	University of Rostock
Lopez	Raul	Universidad de Granma (Cuba)
Torres	Eugenio	Universidad de Granma (Cuba)
Antunez	Guillermo	Universidad de Granma (Cuba)
De la Fe	Pedro	Universidad de Santa Clara (Cuba)

Family name	First name	Institution
Espinosa	Ray	Universidad de Santa Clara (Cuba)
Fundora	Onelio	Universidad de Santa Clara (Cuba)
Lazo	Leonel	Universidad de Santa Clara (Cuba)

Apart from these participants listed several students and farmers were involved in the activities of the workshops and meetings