

# Farmer to Farmer Volunteer Assignment Report

## Wisconsin – Nicaragua Partners

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**Dates of Travel:** February 23 to March 16, 2003

**Purpose:** This assignment was a follow up to previous volunteer assignments that introduced and promoted composting and the use of the square meter garden technique. The objectives of this assignment were;

- 1) To identify the major disease and insect pest problems in vegetable gardens,
- 2) To learn about organic solutions that can be made in the home and are used already,
- 3) To develop and present a program ( called Plagas) addressing these issues,
- 4) To provide additional information on composting techniques, how nutrients are supplied by compost or manure, and tips for successful seeding during dry weather. and
- 5) To make contacts with organizations in the Esteli area.

### Executive Summary:

There is a high level of interest in the square meter gardening project. I saw active productive gardens in the communities of Las Lagunes, Juigalpa, Los Cedros and Buenos Aires. Many individuals mentioned garden projects undertaken because of previous work done by volunteers. A range of vegetables, flowers and other plants were being grown. Since February and March are the middle of the dry season, not as many gardens were in production as could be. Although water is the major concern, pest problems are less during this dry period. Disease and insect problems mainly occur in May and June, corresponding to the raining season and the traditional time of garden planting. Lesser problems occur in July and August. Materials are readily available for making compost, which when utilized reduces the impact of dry weather. However keeping the compost pile moist during the dry season is difficult; some gardeners were covering of the pile to conserve moisture.

The first part of this assignment was spent in Esteli and the surrounding area. Many sites and organizations were visited and a number of contacts were made for the Farmer to Farmer Program. During this time the major pest problems in gardens were identified and several locally used homemade organic control recipes were collected. A Plagas program was developed that described the nutrients needed by crops, the steps in making compost,

how nutrients are supplied by compost or manure, ways to improve seeding success, homemade organic control products, and included pictures of the main disease and insect problems with background information and tips for control. Five days were also spent at the Escuela Catolica de Agricultura y Ganaderia de Esteli (Catholic Agricultural College of Esteli). A total of eight 'plagas' presentations were made to 240 individuals (154 male/ 86 female), mostly at the College. The last part of the assignment was spend traveling to various learning centers in seven communities to meet the coordinators, make presentations, to visit gardens in each community, and talk with people about additional pest problems, control options and other garden problems. Seven 'plagas' presentations were made to 149 individuals (45 male/ 104 female). At the Mendoza farm, I assisted in completing an irrigation system for a plantain planting and helped make a compost pile for the afternoon 'charla' about gardening and pest problems.

The number one request was for help in the control of 'Zompopos' (Leaf-cutter ants), preferable an organic control method. Every agency and person I contacted mentioned it as the worst pest problem in the homes, fields and gardens. The other major pest problems in order are, numerous butterfly larvas that consume garden plants, and various fungus diseases. These issues could be addressed by the development of a series of fact sheets, in Spanish, with photos and descriptions of the various pest problems, organic control recommendations, and step by step procedures in specific gardening techniques. These could be laminated and combined in a 3-ring binder, and left with the main community contacts, and to be shared and used in the garden with the others in the community. I also believe the concept of year-around planting in the square foot garden needs to be reinforced. This would allow for crops to be produced during the dry season, when the pest pressure is lower.

## **Activities/Results:**

### **Primary contacts:**

Jorga Ulisas Gabeano Gomaz, Barrio 14 de Abril, Carniceria Castallon 3 ½ c. al Sur, Esteli, 713-5470

MAGFOR, Ministerio of Agropecuario y Forestal, Esteli, 071-36004 or 33335

Ing. Luis Felipe Perez Delgadillo, Coordinator of Vegital Sanidad

Luisperez50@hotmail.com

Ing. Martin Urbina Chavarria, Manager Laboratorio de Fitopatologia

Perfecto Rodriguez, Manager of the ASOGANOR Cattle Association

Fredman Perez, President of the Esteli Committee for Coordination of the Partners of the Americas Program

President Lic. Eduardo Lopez Herrera, Asdenic Centre (Nicaraguan Development Association) y Turismo Centre de Esteli.

Roberto Carlos Marin Guzman, agricultural teacher, Aldeas SOS de Ninos de Nicaragua

Escuela Catolica de Agricultura y Ganaderia de Esteli  
Ing. Rafael Rodriguez, Production Manager  
Ing. Noel Gonzales, Manager of Plant Pathology  
Horticulture Professor Fausto Munoz Hernandez, 713-3245, Esteli  
Rector Lic. Francisco Martinez  
Vice-Rector Lic. Dolores Tellez  
Lic. Fatima Rizo, Member of the Board

Ing. Mario Lenin Davila, Director CIPROV, the Centro de Investigacion en  
Proteccion Vegetal,  
713-3507, Esteli, email: [mario@davila2001](mailto:mario@davila2001)  
Horticulture Professors Preston Balladares and Ligia Munoz  
Msc. Vicente Valdivia in cattle

Ing. Esperanza Castro Castilla, Socia Propietaria, Nicaflor, Del Est. Municipal 200 vrs al  
sur, Juigalpa

**Seven Learning Centers:**

Diriamba, Centro de Aprendizaje Apan, Janyn, teacher  
San Juan Del Sur Rivas, Centro de Aprendizaje Mujeres, Lilliam Reyes  
Los Cedros, Centro de Aprendizaje, Angelica Povon Tapin  
Buenos Aires, Centro de Aprendizaje Buenos Aires, Carlos and Mayra Mendoza  
Juigalpa, Centro de Aprendizaje Acompua y Las Lajas, Elvia Francis Sevilla  
Santa Elisa, Centro de Aprendizaje Cooperativas Santa Elisa, Susana Gonzalez  
Las Lagunes, Centro de Aprendizaje, Pedro Rodriguez

**Service/assistance provided:**

The first part of this assignment was spent in Esteli and the surrounding area. Many sites and organizations were visited and a number of contacts were made for the Farmer to Farmer Program. During this time the major pest problems in gardens were identified and several homemade organic control recipes were collected with the aid of Ing. Martin Urbina Chavarria, Ing. Noel Gonzales and others. A program ('plagas') was developed that described the nutrients needed by crops, the steps in making compost, how nutrients are supplied by compost or manure, ways to improve seeding success, homemade organic control products, and this program included pictures of the main disease and insect problems with background information and tips for control. Five days were also spent at the Escuela Catolica de Agricultura y Ganaderia de Esteli (Catholic Agricultural College of Esteli). A total of eight 'plagas' presentations were made to 240 individuals (154 male/86 female), mostly at the College.

February 26 Visited the offices of Ing. Luis Felipe Perez Delgadillo, Coordinator of Vegetal Sanidad, MAGFOR, Ministerio of Agropecuario y Forestal. They are responsible, in the Esteli area, for inspecting and certifying fields for seed production, and maintaining quality for export and disease identification. Toured the Laboratorio de

Fitopatologia with manager Ing. Martin Urbina Chavarria. Received additional information on disease identification, the main disease problems, and a reference to use, while in Esteli, on the 'Diseases of the Main Agriculture and Garden Crops of Nicaragua. Visited Perfecto Rodriguez, Manager of the ASOGANOR Cattle Association.

February 27 Attended a MAGFOR meeting regarding seed production and certification requirements in the community of Pueblo Nuevo. Talked about the Farmer to Farmer Program and the 'Plagas' project to 18 farmers (16 male/2 female).

February 28 Visited the Asdenic Centre (Nicaraguan Development Association) y Turismo Centre de Esteli, President Lic. Eduardo Lopez Herrera and gave the 'Plagas' program to 7 staff members (7 male/0 female).

March 1 Visited Aldeas SOS de Ninos de Nicaragua to meet with Roberto Carlos Marin Guzman, agricultural teacher. We toured the rotational grazing of sheep, the composting of sheep and rabbit manure, the starting of vegetable, flower and fruits, and the garden area in preparation. Shared the information that had been gathered so far, on the disease and insect problems of garden plants and organic controls. Demonstrated the Rapitest pH meter, shared seeds and the Square Foot Garden bulletin.

March 2 Visited the farm of Fredman Perez. Reviewed the potential for rotational grazing, discussed alternative crops, water management and cattle breeding. Took pH readings in the pastures and garden area, and distributed vegetable seeds. Discussed the project with three members of the committee, distributed the bulletin and gave the updated presentation to them.

March 3 Meet with the Lic. Fatima Rizo, Member of the Board of the Escuela Catolica de Agricultura y Ganaderia de Esteli (Catholic Agricultural College of Esteli). Discussed the Farmer to Farmer Program, the Square Garden Project, UW-Madison CALS and Extension, and the Homemade Organic Pest Control Project. Made the presentation to faculty from Horticulture, Dairy Science and Plant Pathology, and students (6 male/ 4 female).

March 4 Toured the various areas of production at the College with Ing. Rafael Rodriguez, Production Manager for Escuela Catolica de Agricultura y Ganaderia de Esteli. Looked at alternative fruits, trees for various uses, potato production, fish farming, dairy, vermicomposting, and tomato production and student project areas.

March 5 Visited a private finca near the College with Professors Preston and Ligia's class of 52 students (30 male/ 22 female) in the morning. Made a presentation on 'The Important Components of Making Compost' and answered questions for two hours about compost, organic farming and the differences and similarities between Wisconsin's and Nicaragua's agriculture. Visited the finca with Professor Fausto Munoz Hernandez (713-3245) and his class of 34 (19 male/15 female) in the afternoon. Made the 'Plagas' presentation and answered questions on organic farming and the differences and

similarities between Wisconsin's and Nicaragua's agriculture. The students all with have to do a report on some aspect of the presentation and meeting.

March 6 Visited the finca again this morning with Professor Ligia's class of 34 (19 male/ 15 female). Gave the 'Plagas' program and demonstrated and answered questions about the pH meter. Visited CIPROV on campus, the Centro de Investigacion en Proteccion Vegetal with Director Ing. Mario Lenin Davila, 713-3507, Esteli. Gave the, Plagas, program to 80 students (50 male/ 30 female) in the classes Professors Preston and Ligia. Met with the Rector of the college, Rector Lic. Francisco Martinez and Vice-Rector Lic. Dolores Tellez to discuss the Farmer to Farmer Program, the 'Plagas' project, and future potential contacts with University of Wisconsin and the Farmer to Farmer Program.

March 7 Visited Mirafior with Manager of Plant Pathology Ing. Noel Gonzales and Ing. Msc. Vicente Valdivia, cattle specialist. Mirafior is in a higher elevation area, 1300 meters, protected by the government to preserve the forest, related rainfall and climate. Potatoes, cabbage, sorghum forage crops were being raised, along with plantains and shade-grown coffee.

The last part of the assignment was spent traveling to various learning centers in seven communities to meet the coordinators, make presentations, to visit gardens in each community, and talk with people about additional pest problems, control options and other garden problems. Seven 'plagas' presentations were made to 149 individuals ( 45 male/ 104 female). At Mayra and Carlos Mendoza's farm I helped complete an irrigation system for a plantain planting, assisted in setting up a watering system for the garden, and helped make a compost pile for the afternoon 'charla' about gardening and pest problems. The college in Juigalpa was also toured including the horticultural farm producing flowers for export and an organic vegetable farm.

March 9 Diriamba, Centro de Aprendizaje Apan, Program for 45 (15male/ 30 female), viewed the remains of garden because school was still on vacation.

March 10 San Juan Del Sur Rivas, Centro de Aprendizaje Mujeres de la Bahia, visited a store that made and sold herbal medicinal plants. Program for 35 (15male/ 20 female)

March 11 Los Cedros, Centro de Aprendizaje. Program for 16 (2male/ 12 female), Visited a young man's garden and a small farm's garden also..

March 12 Buenos Aires, Centro de Aprendizaje Buenos Aires, Helped complete irrigation system for plantain plantation, established a watering system for garden, made compost pile and gave program to 15 (5 male / 10 female).

March 13 Juigalpa, Centro de Aprendizaje Acompua y Las Lajas Program for 12 (3 male/ 9 female) visited a square foot garden and the University in Juigalpa, Ing. Esperanza Castro Castilla, toured the tomato production area, the horticulture flower and plant production area for export, and visited a local organic vegetable farm.

March 14 Traveled to Boaco Santa Elisa, Centro de Aprendizaje Cooperativas Santa Elisa, had an informal talk with them about making and utilizing compost and the square foot garden concept (8 females).

March 15 Las Lagunes, Centro de Aprendizaje, toured several gardens and gave a presentation for 20 (5 male/ 15 females).

## **Observations:**

The major pest problems occur in May and June, corresponding to the raining season and the traditional time of planting gardens. Lesser problems occur in July and August. The major pest problems are; 1) Zanpopos, 2) Butterflies laying eggs, then the larva eats leaves and plants, 3) the various fungus diseases. During this dry period when I was in Nicaragua, I observed early and late blight in tomatoes and potatoes, cercospora leaf spot in peppers and previous cabbage worm damage was also obvious.

There is a high level of interest in the square meter garden project. Some people would take notes though out the 2-hour program. There is a difference in the level of gardening ability, in the various communities and in participants, as would be expected. Presentations with pictures appeared to be an effective means of communication. Digital pictures taken in communities and gardens were well received.

Need positive identification of a small green worm in the fruit of members of the cucumber family, I believe this may be the pickleworm or the melonworm. Need identification and better information on the seed corn maggot, which I believe is a problem in small garden plantings.

## **Follow-up:**

### **Next Steps:**

A fact sheet with 'Disease Resistant Cultivars' and sources will be provided.

A fact sheet describing the disorder Blossom End Rot and its control will be provided.

The 'Plagas' program will be updated to include Blossom End Rot, Squash Vine Borer and Pickleworm and Melonworm.

The 'Plagas' program will be put on CD for distribution to horticultural educational institutions and the southern partners.

A series of fact sheets should be developed, in Spanish, with photos and descriptions of the various pest problems, organic control recommendations, and step by step procedures in specific gardening techniques. These can be laminated and combined in a 3-ring binder, and left with the main community contact to be shared with the other gardeners in the community.

### **Future Volunteer Assignments:**

The number one request was for help in the control of 'Zompopos' (Leaf-cutter ants), preferable organic control. Every agency and person I contacted mentioned it as the worst pest problem in the homes, fields and gardens.

#### Community contacts for other future projects

##### Water location and management

Byron Morales Espinosa, El Pencal - Pueblo Nuevo

Orlando Rodoas Cruz, Potrerillos – Condega

German Gonzales, El Aguacate – Pueblo Nuevo

##### Rotational Grazing

Fanor Bellorin Sguilor, Guasuyuca – Pueblo Nuevo

Jose Augusto Rodriguaz Salgado, Guasuyuca – Pueblo Nuevo

##### Improving potable water collected from the hillside for the community

Jose Augusto Rodriguaz Salgado, Guasuyuca – Pueblo Nuevo

Escuela Catolica de Agricultura y Ganaderia de Esteli requested help in potato pest management, the testing of disease resistance varieties, cultivar development and germ bank information and establishing a soil testing facility. An exchange program with the University of Wisconsin was also requested.

Include information on dried flower production in future gardening volunteer assignments, dried flowers could be raised and sold throughout the year and in conjunction with other craft items.

#### **Changes from previous volunteers:**

There were several communities that were enthusiastic square foot gardeners because of previous visits by volunteers. Las Lugunas, Juigalpa and the Mendoza farm were the most advanced.

I saw five or six pastures that were being rotational grazed. It is a practice that is being utilized more and more, after previous successful visits by volunteers. I visited a new dairy in Miraflores, which was being built over a number of years. The belowground silo is in, along with a shelter-feeding building that the young stock utilize. When the animals are mature and milking, that building will be converted to the milking area as well. This development was being undertaken because of the impact of rotational grazing.

#### **Comments:**

Current information on agricultural production practices is needed by the various schools and colleges provided it is in Spanish.

Any time a volunteer is in Esteli, I would recommend that they are prepared to make presentations to the College and SOS, in their areas of expertise. In addition, provide materials that can be left for future use, again in Spanish.

In my area of agriculture, it was obvious that an organization like SOS would benefit greatly from future contacts and assistance. This school and facility is providing a needed and important opportunity for youth at risk. I would recommend that this school be included as a stop for information sharing in the appropriate classes for each volunteer. For the most impact make sure school is in session.