The origin of organic farming in Costa Rica is mainly based on cultural practices of native Americans. Some of the experiences were adopted by the Spaniards in the colonial period and have been conserved by small farmers, despite the variety of chemical products promoted by the “Green Revolution.” For instance, the “slash and mulch seeding” that is a direct application of bean seeds to uncleared land, the weeds then being cut and used as mulch (Briceño and Meléndez 1999).

Urban Organic Farming at the University of Costa Rica

Studies on rural organic production in Costa Rica have been performed by CEDECO, a Costa Rican NGO devoted to educational projects (CEDECO 1998). According to this study, organic production has increased constantly in the last years, involving a high diversity of crops like: traditional crops (coffee, banana and beans), followed by other non-traditional crops (blackberry, mango, roots, herbs and tubercles). The area devoted to organic farming is 9,229 ha, involving 4,360 farmers (actually comprising less than 2% of national organic production), 465 of whom work in the rural agricultural industry in the production of compost, coffee processing, sugar, jelly, honey, cheese and achiote.

It has been pointed out that farmers choose organic methods for four reasons: environmental conscience, low-cost production, better prices for organic products and family health. Some of the organic knowledge has its origin in conventional agricultural research. This is the case of organic banana and cocoa, produced on the Atlantic coast of Costa Rica. Crop materials were abandoned by conventional farmers because of the high production costs and are managed today without chemicals by the American natives. In the same way, coffee is produced by individual farmers and farmers’ cooperatives like Caraigres’ Organic Coffee from the Acosta zone (south of San José), and the mentioned case of “slash and mulch seeding” produced in the same zone as well as in other hillside lands.

In Costa Rica, as in the world at the beginning of the industrial era, people move from rural zones to urban places in search of new opportunities. This phenomenon has caused a dramatic increase in the population in the capital, generating two types of “urban farmers”: those who attained their fields close to the capital before they were merged into the urban area; and those who have maintained their agricultural skills and who produce in their backyards or in small open yards nearby.

This Programme coordinates all the activities on organic farming at the UCR and has cooperative links with other institutions both at national and international levels:

Research: soil organic matter, slash/mulch bean production, biodegradable plastics for banana plantations, tropical alternatives for animal feed, bio-fertilisers, entomopathogens, insect repellents, composting, marketing, post-harvesting, organic legislation, etc.;

Extension: management of solid residues at elementary schools, “clean technology” bulletin, organic farming extension to small farmers, CUW in urban organic agriculture; and

Training: regular course in organic farming in the department of Agronomy, short courses to professionals and farmers in agronomy (PAO-UCR 2000).

Among the extension projects, it is important to highlight the experience gained by PAO-UCR with the project, “Management of residues at elementary schools of the Curridabat county” (the CURRI project), which included the participation of children. In this project it was possible to establish permanent links with children, teachers, and parents through activities such as recycling and organically managed school gardens. As a point of interest, many of these children are now teenagers or young adults who...
have become the "seed" for these ideas within their community (Alvarado and Briceño 1999).

The CURRI project extended into the "Urban Organic Agriculture" (UOA) project developed by the Communal University Work (CUW) students as one of their graduation requirements. In our case, the objective of the CUW in the project permits CUW students to serve the community by helping to establish organic production plots at neighbourhood homes. Specific objectives of the UOA-CUW are: to organise the production of organic crops in backyards of neighbourhoods in two communities in the capital; to work in the establishment and maintenance of organic production units at volunteer homes; to teach the procedures regarding inputs needed in organic production; and to promote the consumption of organic products and the preparation of written materials.

METHODOLOGY
The first phase of the UOA-CUW was developed at Tirrases, a small community in Curridabat county, and a second phase is now beginning (January 2002) at Santa Ana county close to the UCR’s organic farm, under the administration of PAO-UCR. The students enrolled in the UOA-CUW belong to different career orientations and so develop very diverse activities from agricultural production, waste management, nutrition or law, to communications.

The planned production of plants consists mainly of vegetables, medicinal and ornamental plants. The students were divided into three main areas: plant production, dissemination of materials on production and training, the collection of other experiences on vegetable production at home through their own interest or led by other agencies, while also allowing for participatory interaction between the groups.

RESULTS OF THE FIRST PHASE
The first phase of UOA-CUW at Tirrases began with introductory lectures for the students, who were divided according to three groups mentioned above. The CUW’s introductory session began with seven elementary teachers from the Centro America school at Tirrases, which were interested in the UOA’s work. After this training session, these teachers contacted 30 people in the community (mainly parents of the elementary school students) who wished to participate. These people were later invited to attend lectures on organic farming, nutrition, food technology, etc. These activities permitted contact and the exchange of ideas with the CUW students and teachers. Elementary school students also received lectures on topics of organic production as decided by the students at CUW.

After this initial process, the students in the production groups began to produce plants in the backyards of participating neighbours and demonstrated how to produce compost, vermicompost, liquid fertilisers and repellents. The training groups used facilities at the Centro America school at Tirrases, and at the community greenhouse facilities.

In the second phase of the project, people from the community of Santa Ana county, close to UCR’s organic farm were contacted in order to repeat the first phase with the support of the farm’s facilities. Compared to Tirrases, Santa Ana has a higher population distributed over the urban, periurban and rural zones, and more diverse activities in agriculture, commerce and services.

RESULTS, LIMITATIONS AND SOLUTIONS
(in the development of the UOA-CUW in Tirrases in the period 2000-2001)

Production
Results: Vegetable plots were established in backyards, which involved land preparation, seeding, fertilisation, and plant protection measures using repellents and micro-organisms. Participants received assistance for two production seasons.

Limitations: Better interaction between neighbours and CUW students is necessary as people request more student visits. The UCR’s main campus transportation of materials and students presents a limitation, as UCR’s transportation schedule must be prepared months in advance and is not flexible enough to satisfy the neighbour’s requests for assistance.

Solutions: Improvement in transportation services is necessary.

Materials
Results: Students are taught how to prepare the materials for production. This preparation included organic fertilisers (from leaves and fruits), micro-organisms for plant protection and repellents.

Limitations: The amount supplied was not enough to satisfy the requirements of the community.

Solutions: Although the neighbours must prepare their own products, more resources are needed to provide the necessary materials, independent of whether such materials are distributed free or are sold.

Training area
Results: Many conferences were offered to neighbours, teachers, and elementary school students. Dissemination materials were designed, and there was a recompilation of the information on production, nutrition, post-harvest and food technology. An inventory was made of the community’s reality, knowledge on organic agriculture, eating habits and their use of chemicals at home.

Limitations: Not being able to adequately extend the acquired experience.

Solutions: More resources in order to edit and print manuscripts prepared by the students.

FINAL REMARKS
It is clear that despite the limitations of this project, important gains were made from the experiences and ideas that deserve further analysis. There needs to be a process of reflection to be able to analyse the experiences, questions and suggestions coming from the UOA-CUW, as it was developed by the group of professors PAO-UCR with the various career-orientations of students over one and a half years in 2000/2001.

REFERENCES