UNISG
Ecological Vegetable Garden Project

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1. Introduction

Eating is an agricultural act (Wendel Berry)
Cultivation is a gastronomic act (Carlin Petrini)

The new academic discipline dedicated entirely to food, Gastronomic Sciences, brings together a wealth of scientific and humanistic knowledge that determine a systemic approach to the subject. The University of Gastronomic Sciences in Pollenzo, the highest cultural expression of the international Slow Food movement, draws its inspiration from the search for a new definition of the concept of nutritional quality, which includes the social, environmental and economic impact of the methods used to produce, transform and distribute what we eat and drink.

To study these topics in greater depth, a vegetable garden was created on the University campus and at the same time, an elective course in Ecological Horticulture and Sustainable Agriculture was instituted. The vegetable garden is also used for experimental purposes by the course on Vegetable Production. The University vegetable garden is thus the ideal laboratory for the field testing of the theoretical agronomic and ecological principles taught in the classroom. Hands-on experience in cultivation lets students experience the complexities of the agro-alimentary system, starting with the sector richest in social, agronomic and ecological implications: agriculture. By working the soil one learns to know and respect it. In applying the natural and biodynamic method, students become familiar with the different techniques used in various production systems, appreciate the importance of biodiversity and sustainable farming techniques, recognize the value of concepts like seasonality and freshness and develop a genuine appreciation for manual labor and farm work in general.

The main objective of the ecological study garden at the University of Gastronomic Sciences i sto contribute to the education of gastronomes who are aware, informed and critical towards the various methods used to produce food, capable of more effective interaction with the main players in the agricultural sector and able to independently manage a sustainable production of food and develop a social/educational project involving an ecological experimental garden.

2. Description

- Pollenzo vegetable garden: didactic and productive
- Gastronomic Society vegetable garden
- Tavole Accademiche vegetable garden

2.1 Pollenzo didactic vegetable garden

The vegetable garden at the University of Gastronomic Sciences in Pollenzo now covers 300 m^2 and is subdivided into beds of about 5 m^2 each, an area for the cultivation of a synergic garden, another for herbs, an area for composting and a shed in which gardening tools are kept.
The vegetable garden serves didactic/demonstration/experimental purposes, particularly for three-year degree students taking the Ecological Horticulture course and the research project for the Vegetable Production course (year II).
The students enrolled in the Ecological Horticulture course (years I, II and III) will cultivate/manage the didactic garden, coordinated by the Technical Supervisor.
In 2014 some plots may be available to those who wish to utilize them (ex: UNISG staff).

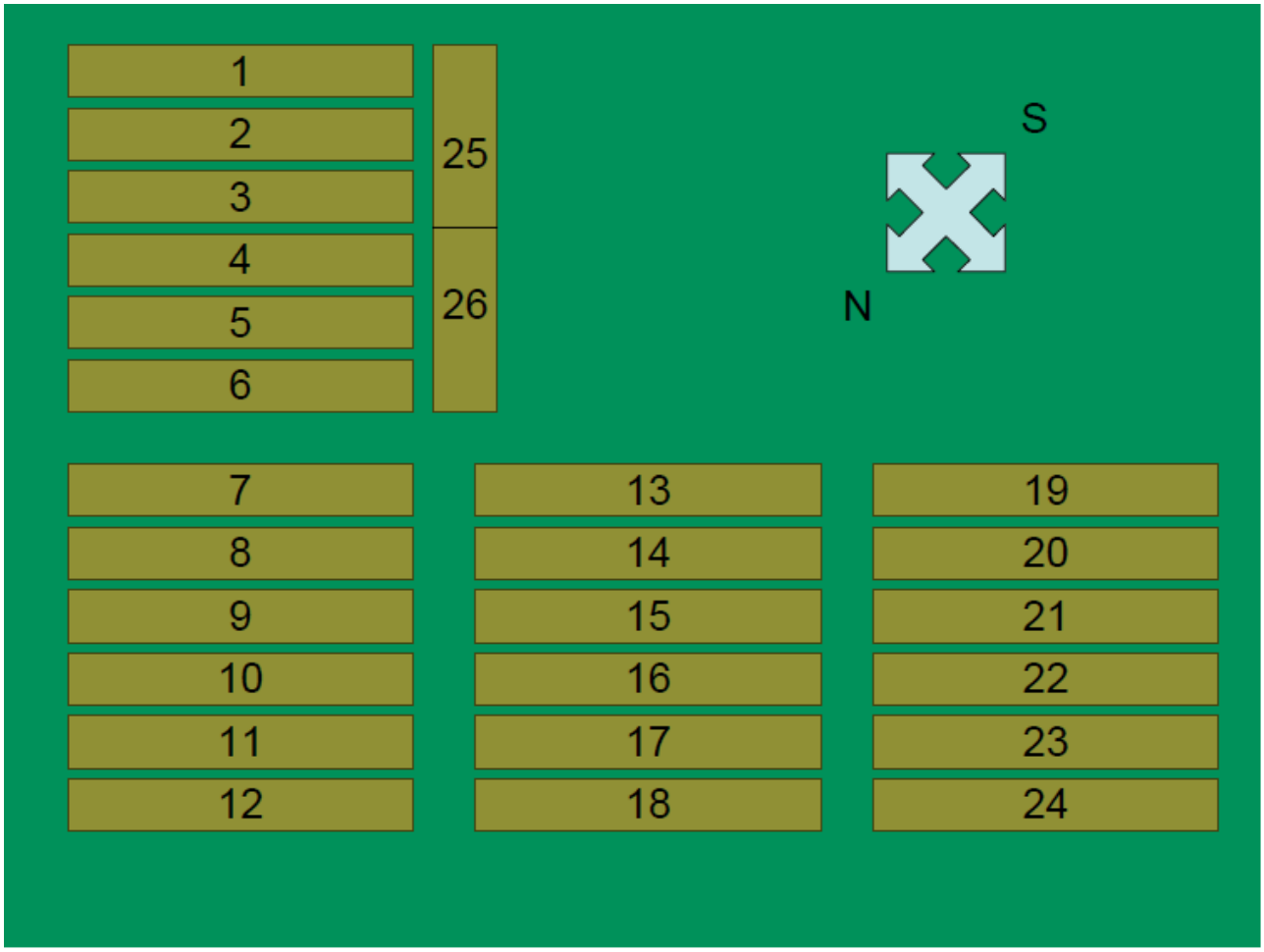


Fig.1 Map of the Pollenzo Vegetable Garden at present

Training
In Pollenzo, the Technical Supervisor will be present 2 days each week, from 4 p.m. to 6 p.m..

2.2 Pollenzo Production Garden
This vegetable garden may be expanded, depending on the needs of the school cafeteria and the resources available. Its production capacity is estimated at 3 Kg of vegetables per square meter per month for a season of 6-7 months. The projected surface area is 5,000 m^2.
The vegetable garden is designed for the production and distribution of food and is managed by the Technical Supervisor, aided during the most intense months (April through September) by students on scholarships, who will be organized into work teams to carry out the various tasks that one person cannot effectively do alone. Another part of the garden may be destined to independent production on the part of UNISG students and staff who request a plot and adhere to the declared social guidelines.

There will of course have to be an “agro-ecological” plan for the plot of land in which the new garden will be located, including important functional elements of biodiversity, such as hedges and artificial nests, as well as areas dedicated to composting and the preparation of decoctions and marinating. It will be necessary to make adequate fertilization and rotation plans, paying close attention to the machinery to be used and the training of the personnel who cultivate the garden. It is important that an initial selection of local cultivars be made, choosing resistant and gastronomically interesting strains.

2.3 Gastronomic Society vegetable garden

The vegetable garden at the Gastronomic Society has a surface area of about 500 m^2.

The Gastronomic Society's horticulture group is a community of people (many of whom are students at UNISG, especially in the Masters and Advanced courses) who wish to practice sustainable agricultural techniques, so that they can observe, learn, experiment and produce. Basically, there are two areas/methods employed:

1) COLLECTIVE PRODUCTION AREA: the vegetable garden is cultivated by the horticultural group under the supervision of Nino Boi, and takes up beds A, B, C, D, E and F;

2) INDIVIDUAL EXPERIMENTATION AREA: 15 plant beds (2.5-1.5 x 4-5 m) in the farthest terraces of the garden, each assigned to a student who cultivates them independently, under the supervision of the UNISG faculty members/technical staff, who provide advice and help in defining objectives.

The group philosophy is founded on the idea of proportional distribution of work and food among the participants, while at the same time engaging in a cultural activity that promotes a more sustainable lifestyle.

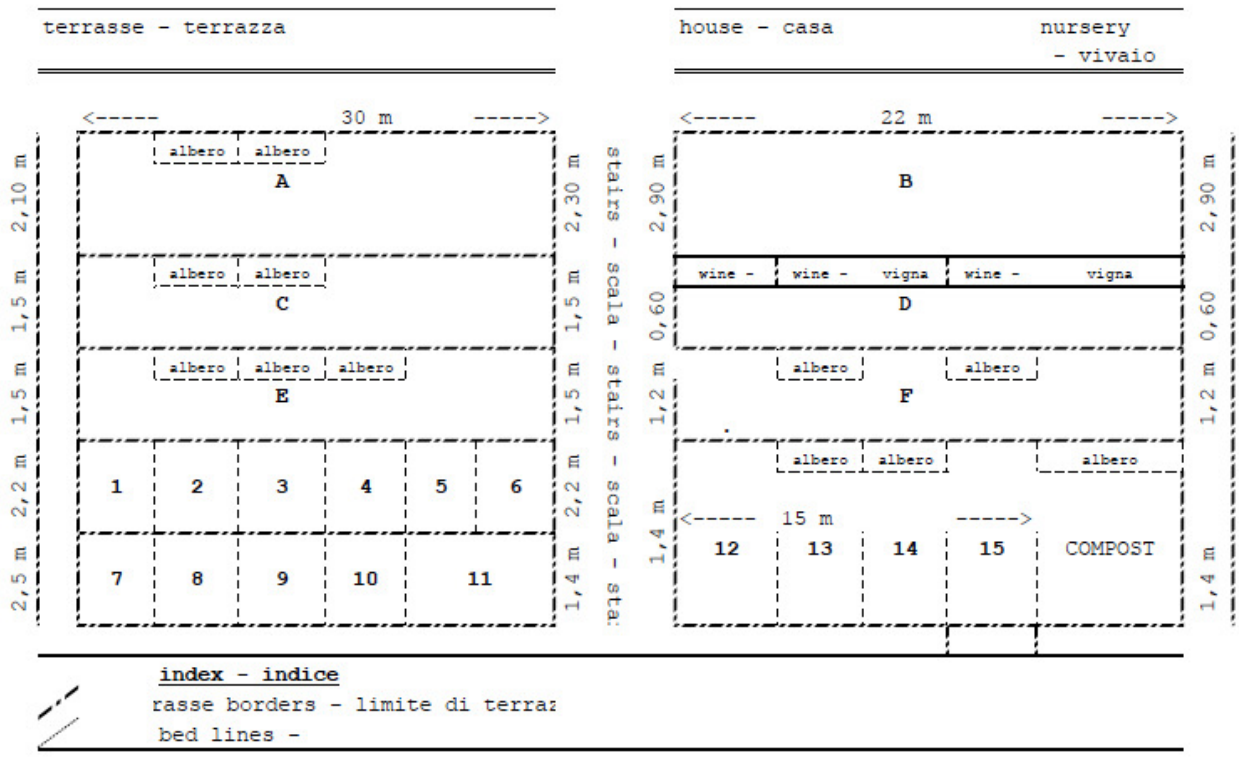


Fig2. Map of the Gastronomic Society vegetable garden

Stakeholders

Nino: present three afternoons per week (not Mondays) from 3 p.m. to ca. 6 p.m.

Students' "personal area": assigned to the experimental area, they cultivate their own plots

Students' "community group": assist Nino in the various tasks

Technical Supervisor: supervises the various activities and is present on site very Friday afternoon.

Flavio: communication and coordination between gardening groups and GS office

Hours/Programming/Attendance

Students may enter the garden when the Gastronomic Society is open.

In the medium term scenario, students in the "community group" will be in the garden regularly from 3 p.m. to 6 p.m., when Nino is present. When Nino is not present, it is important to know what

the priorities are. In addition, students may also work in the garden during weekends, but must coordinate their activities and notify the students who reside on the GS premises.

Logbook
A **to-do-list** will be drawn up on a weekly basis, containing the most urgent and important work to be done. The students will post the information on a facebook group page.
A hardcopy daily logbook will contain the names of students and the activities carried out.
Once a month, there will be a general meeting at the Gastronomic Society, to evaluate the work done, note the growth of the crops, check whether everything is working properly and make decisions for the future.

Methods
The method of cultivation used is **natural farming**, with close attention to the **agro-ecological approach**. No chemical/artificial products will be used**.**

Materials and input:
▪ programming for the use of equipment and tools and input
▪ an inventory of garden supplies and an annual account, as well as a seasonal (six month) plan

Training
Every Friday afternoon, the Technical Supervisor will be present at the Gastronomic Society, to carry out the various activities involved. Specific requests will be taken into consideration when time permits.

Irrigation
A drip irrigation system will be installed.

Crop rotation
Crop rotation will be planned, and there will be a production plan for each year (including flowers) listing the income crops, yields, spices and herbs and the components of biodiversity as well.
The fundamental principle is to alternate the crop family each year.

15 experimental plots
The 15 experimental plots are assigned through a tender to 15 or more students (priority goes to students enrolled in the Masters program and 5-year degree course).
Each candidate must submit a plan including his/her:
1. motivation
2. objective
3. cultivation plan.
Each student assigned a plot will be asked to pay a symbolic fee at the start of the season, which will be refunded if the student completes the agreed upon cultivation program.

2.2 Tavole Accademiche vegetable garden A vertical garden with herbs and aromatic plants has been constructed in the courtyard of the Tavole Accademiche. The goal was to create a greener environment and to bring together the aromatic plants used in cooking that are contributed and used by the various chefs associated with the Tavole Accademiche.

Fig. 3 Vertical Garden

3. Objectives

The UNISG vegetable gardens provide a model of sustainability with **ecological ends** (genetic biodiversity, specific and ecosystemic, fertility of the soil, quality of water and air, no chemical pollution), **economic ends** (independent production of greens for the university cafeteria and of local seeds), and **social ends** (educational/didactic, creation of a community, physical exercise and the consumption of natural food; local, seasonal and fresh).
The following aspects were discussed during a workshop at the Gastronomic Society in May 2013:

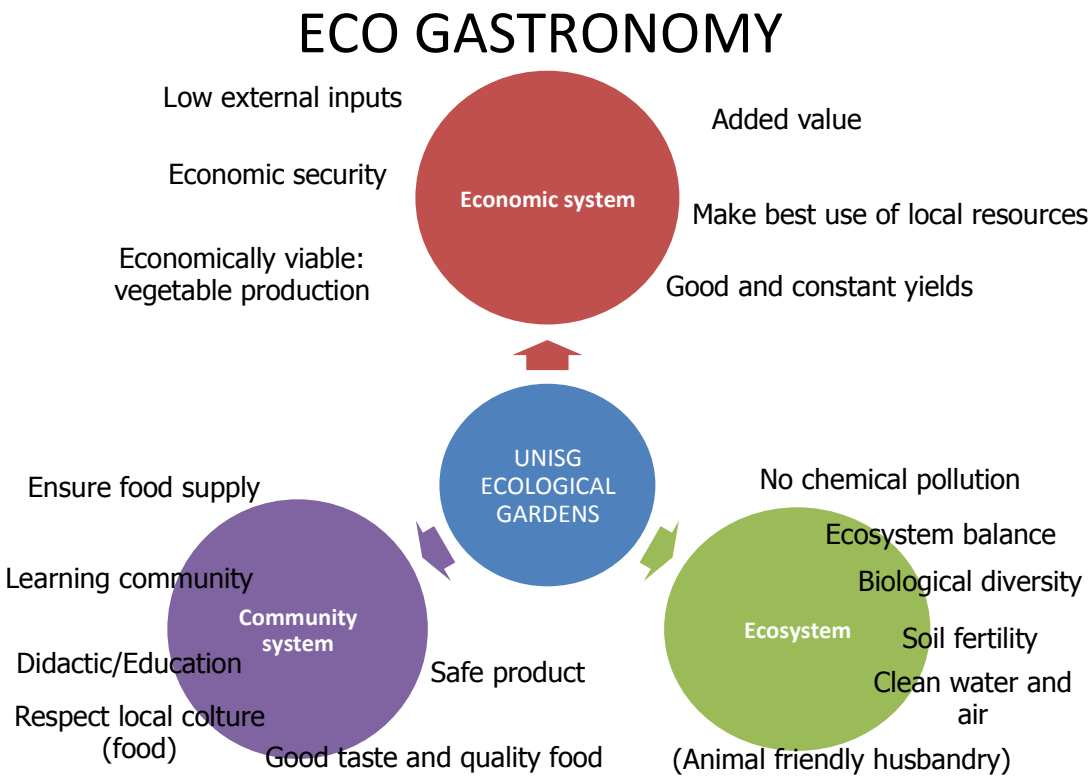
Didactic functions

- experimenting with new techniques;
- learning from the experiences of others;
- improving the students' agricultural skills and sharing them;
- applying the principles studied in the classroom;
- learning to cultivate edible fruit and flowers;
- eating food you have grown;
- a place where natural cultivation can be demonstrated;
- a place for basic instruction;
- experimentation;
- connection between food and the soil;
- innovation;
- supplier of goods;
- a place of learning;

• engaging in production;
• improving practical skills;
• a place for people who want to get their hands dirty;
• a place to work hard and think things over;
• reducing the ecological impact of agriculture

Community functions

• natural production of local greens to be used for common meals at the Society;
• obtaining food;
• having fun;
• making connections with others;
• sharing;
• looking after a shared place;
• food for dinners;
• forming relationships



4. Activities

1) **Aesthetic/demonstrative:** towards the creation of a reference model for agro-ecological management for the provincial/regional agricultural operators. It could also provide a model for the "1000 garden is Africa" project. It could develop into a laboratory on ecological, economic and social sustainability, useful as a point of reference for young entrepreneurs interested in starting up activities of this type in the Cuneo area

2) **Didactic:** it broadens the range and underscores the practical aspects of the coursework, because the larger dimensions, the simultaneous involvement of different academic activities and the enhancement of the current didactic activities permit:
- the application, and thus the learning, of a semi-professional ecological horticulture, rather than hobbyist methods, a system that provides a model for small-scale production that can be applied to commercial agriculture of a horticultural type;
- greater engagement of all UNISG students, including those enrolled in Masters programs and the 5-year degree course;
- the education of taste (gustative biodiversity as a signal of biodiversity).

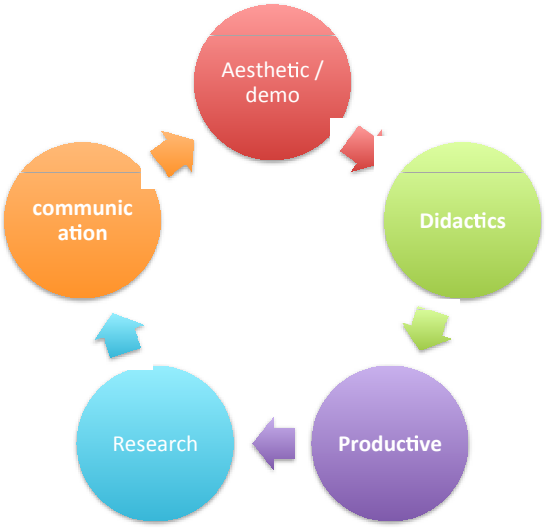
Program of didactic activities:

- Course in Ecological Horticulture and Sustainable Agriculture (Stefano Pescarmona and Irene Benvegna).
- Course in the Production of Vegetables (Paola Migliorini). Realization of a research project to be carried out in teams, designed to acquaint students with agronomic research methods.
- Practical workshops in Ecological Horticulture at the Gastronomic Society.
- Courses in Ecological Horticulture for groups of 20 people (ex: residents of Bra) beginning in April (to be discussed).

3) **Production:** ensures a consistent supply of fresh produce for the Tavole Accademiche and the Gruppo di Acquisto Solidale di Bra, perfectly rounding out the organization of a university campus designed with sustainability criteria in mind.

4) **Research:** in the area of ecological horticulture. The garden could contain species and strains characteristic of Piedmontese biodiversity, in collaboration with area associations, and create a living model of on site conservation. In addition, it could host open field experiments, whose objectives would be diverse, such as, for example, comparison between varietals, comparison of soil fertilization techniques, of methods of dealing with weeds and of methods for damage control and prevention of disease.

5) **Communication:** enhances the image of the University by developing a far-reaching multifunctional project that meets didactic, experimental and production needs: website, blog, magazine, etc.



5. Staff

Paola Migliorini, sector specialist and scientific coordinator for the project
Irene Benvegna, technical specialist for the vegetable gardens project
Stefano Pescarmona, didactic coordinator, teaches the Ecological Horticulture course
Flavio Coffano, communications coordinator
Students: fellows and volunteers
Nino Boi, Carmelo

In addition, collaborations of fundamental importance will be established with other faculty members, because the vegetable garden is intended to be at the disposal of the entire scientific community in Pollenzo.

6. Collaborations

- Contact with the "AIAB research and experimentation in the Piedmont" group, which has collected genetic samples of about 40 different cereals and vegetables native to the Piedmont as part of its regional and international research projects;
- Collaboration with the networks of 'guardian' agricultural operators and associations like, for example, the Antichi Mais Piemontesi (Ancient Piedmont Corn), the Rete Semi Rurali (Rural Seed Network), and the Piedmont Farmers' Collective (Coordinamento Contadino Piemontese), national and international biological and biodynamic research bodies and others

7. Communication

The primary communications vector is the Facebook **Gardening Group UNISG** (https://www.facebook.com/groups/488450077845234/) which is intended to keep everyone up to date on what needs to be done and to share experiences and a technical database. A mailing list will also be used: **gardeningroup@unisg.it**.
In addition, there will be a physical logbook: a Daily Journal containing a to-do list that will be

regularly updated. A small reference library containing books on plants and gardening tips will also be made available.
An official website will be posted on the UNISG web page.