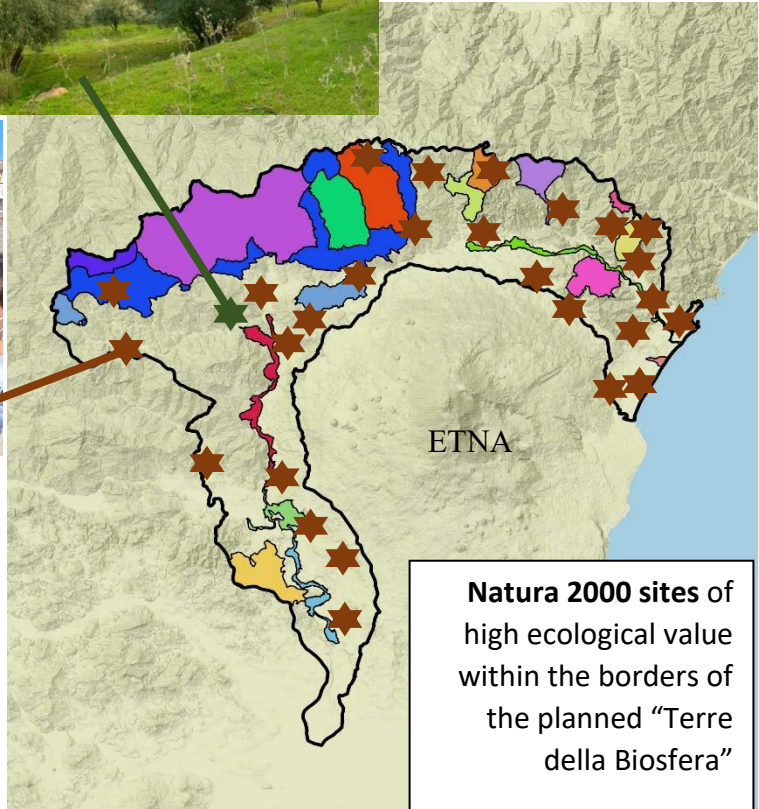


**EUKI-Project “Humus per la Biosfera” Q1 2023 – Meeting with Sicily’s Minister of Environment**  
**Our working group for an Etna surrounding Biosphere Reserve discusses the vision and opportunity**



Humus activity sites within the project area Terre della Biosfera

- ★ Project trial fields
- ★ Project school and community activities



Catania, 30.01.2023 We presented our vision and previous planning for a UNESCO biosphere reserve to the new minister and introduced her to our current project "Humus per la Biosfera" as an example of future activities in the field of climate protection, regenerative agriculture and environmental education.



The response was very positive; results will be seen later.

*Left: On. Angela Foti, Stefanie Hermsen (MHS), the Minister On. Elena Pedana and the GV-Team Dott. Salvatore Vinciguerra, Gino Montagno, Andrea Aidala*



**EUKI-Project “Humus per la Biosfera” Q4 2022-Q1 2023 – Creating an irrigation pond**  
**At the highest point of our field we create a natural pond that serves as a rainwater catchment basin**



An important project output is a large pond, which fortunately holds water very well without the need for a liner. It is the prerequisite for an environmentally friendly irrigation system of our new plantings and shows farmers an alternative to the usual summer water withdrawal from the river Simeto here.



*GV president Gino Montagno (middle) and guests from Germany admire the immediate settlement of amphibians and plants*



**EUKI-Project “Humus per la Biosfera” Q 1 2023 – Field work**  
**The international volunteers and trainees love to test out their practical skills!**



*Volunteers Milo Landsberg and Theresa Jäger energetically work on the fencing of the trial area*



*Instructor Simone Marullo enables the young people to use a motor scythe for the annual fire prevention work in our environmental education area Bosco Brignolo (above)*

*Field supervisor Riccardo Samperi explains to the volunteers the use of a soil auger for the preparation of big planting holes for trees*



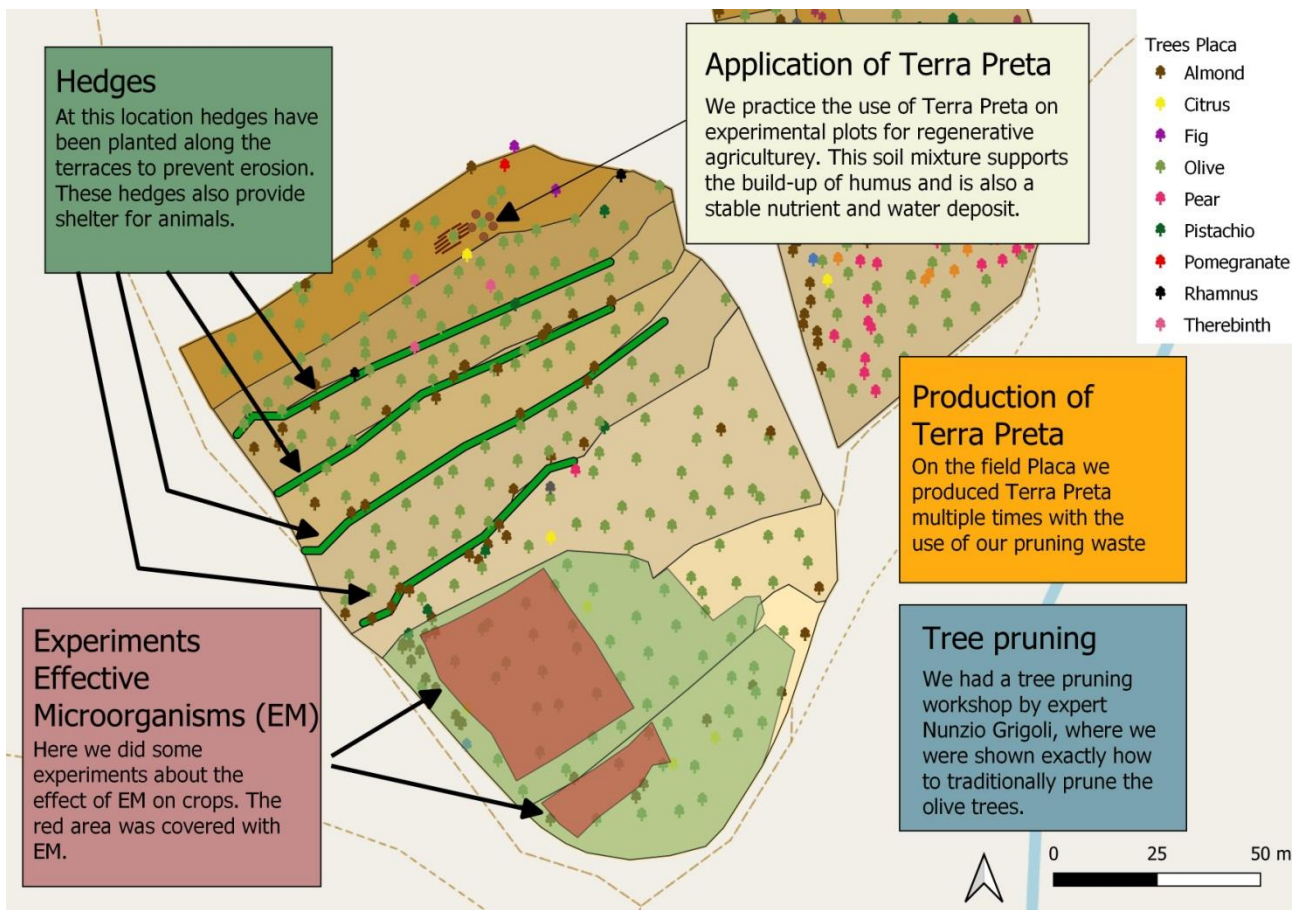
Supported by:



**EUKI-Project “Humus per la Biosfera” Q 1 2023 – Mapping our experimental plots**  
**Two courses in field fairs enabled the volunteers to document our farming experiments**



*Photos left: engineer Massimo Longhitano explains his instruments; Volunteers Aziz Uğur Koç, Marvin Launert, Sebastian Mittag and Theresa Jäger try out what they have learnt. Above: Student Lina Saleh with the help of Felix Aufderheide take points for her documentary map below.*



**EUKI-Project “Humus per la Biosfera” Q 1-2 2023 – Hedge planting  
800 metres hedges hinder erosion and support biodiversity**



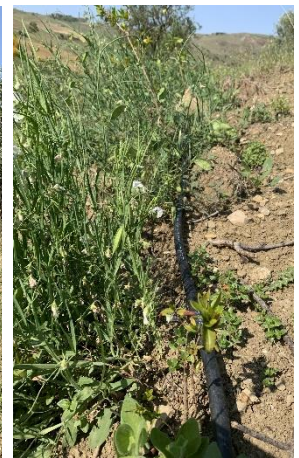
Stabilizing our olive grove soil, we planted native shrubs and trees along the terrace slopes. The plants also provide nectar and pollen for insects, fruit for birds, hiding places and nesting opportunities for various animals. They enrich the biodiversity of the soil with their root system and stimulate the growth of the surrounding plants with their mycelium.

*Volunteer Marvin Lauer and field staff Simone Marullo are preparing the planting*



*Aromatic plants and shrubs are Cistus salviifolius, Salvia Rosmarinus (photo left), Teucrium frutican, Lavandula angustifolia, Origanum vulgare.*

*We also plant some trees like Phillyrea angustifolia, Pistacia lentiscus, Arbutus unedo (photo right), Myrtus communis and Laurus nobilis.*



*Left: Simone Marullo with volunteer Theresa Jäger and trainee Merle Winterberg at planting work; Right: Laurel and this year’s legume undersowing Chickpea with a water-saving drip irrigation tube – the water gets from the new pond to the plants by gravity.*



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## EUKI-Project “Humus per la Biosfera” Q 1 2023 – Carbon Capture through Charring Workshop

One of our project goals, to (approximately) permanently store carbon bound in tree prunings, is pursued by carbonising and later incorporating it into the soil.

Our first attempts at a practical charring method for farmers failed because our self-made charcoal pile made of scrap metal released toxic heavy metals into the charcoal at high temperatures.

On the recommendation of the German Ithaka Institute and under the guidance of their scientific assistant, Jannis Grafmüller, we tested a simpler and pollutant-free method: charring in a conical digged pit, a "Soil-Kontiki".

**24.03.2023:** We invited to a workshop on Giacche Verdi's land, in which 47 farmers from the surrounding area and some African refugees working in agriculture took part.

The participants helped to model the previously excavated hollow in the ground and fed the fire with tree cuttings. After about 2 hours we stopped the carbonisation process with water. The result was around 100 kg of biochar. We sent part of it to the Ithaka Institute for their large-scale comparative testing of the effectiveness of carbon sequestration by plant charcoal of different provenances.

Our material now got pulverised and mixed with fresh donkey manure before it goes into a 3-month maturing phase. Then the “Terra Preta” (= black earth) is ready to be worked into the soil or applied to it and to unfold its positive agricultural effects and carbon sequestration over the next 1-2,000 years.



The whole process and how to create biochar is further explained in [our YouTube Video](#).

This video is supposed to spread the practise of biochar production. Thus, the content of the workshop reaches a wider range throughout Italy.



Engineer Jannis Grafmüller (front) from the Ithaka Institut lead the workshop



EUKI-Project “Humus per la Biosfera” Q 2 2023 – Good practice in regenerative agriculture  
28.04.2023 Workshop on sustainable olive tree cutting



Regular pruning of fruit trees is important to maintain their yielding capacity.

*Left: Pruning expert Dott. Nunzio Grigoli explained the rediscovered ancient method of vase-shaped tree cutting method to the participating farmers (22)*



*One pruned tree example*

After removing all dead branches, the topiary is carried out, resulting in a relatively light crown that is open at the top for maximum light penetration. The cuttings are again recommended to be transformed into bio char.

The pruning procedure is explained in detail in [a video on YouTube](#).



**EUKI-Project “Humus per la Biosfera” Q 1-2 2023 – Carbon sequestration**  
**With the charred tree cuttings and horse manure we produced so-called Terra Preta – black earth**



Terra Preta is a soil mixture discovered in the Amazon in ancient Indian settlements that makes soils more fertile by introducing nutrients in a bound form and making them available to plants for an extremely long time. The water-holding capacity of the soil gets also increased. Another important point is the charcoal’s capacity of carbon storage; because the coal nearly does not rot underground, this method serves as a CO2 sink.



Biochar-compost mixture 1:3



*Above: We are trying out two different methods of inserting TP into the soil: The simple surface fertilisation and the slightly more elaborate spot burial around the tree in question.*



Like last summer, our recent volunteers experiment with different soil mixtures in order to understand whether short-term changes in plant growth can be detected with and without Terra Preta.

See our [Video Terra Preta](#)



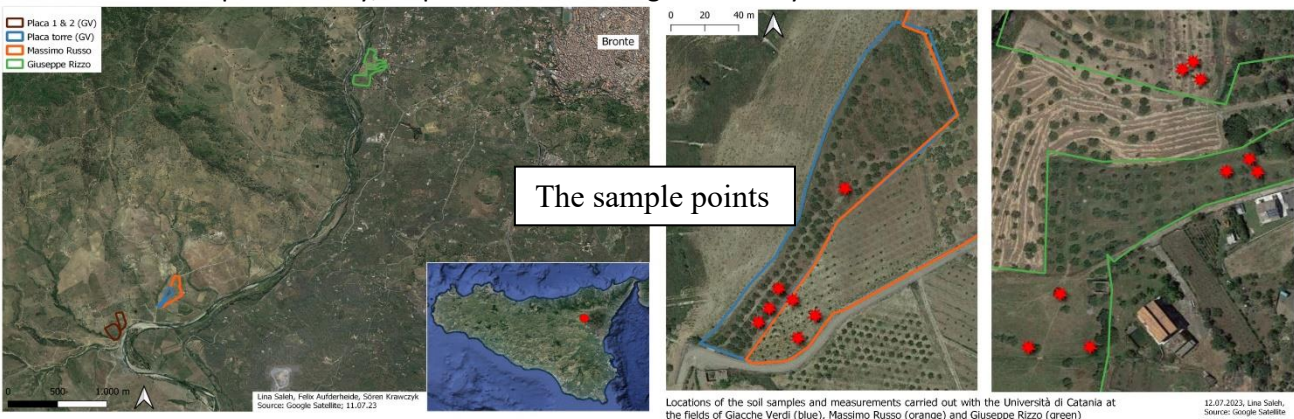


## EUKI-Project "Humus per la Biosfera" Q 1-2 2023 – Scientific researches concluded

The scientific field surveys as well as a vegetation based study of our trainee Felix Aufderheide continued until summer. Now they have finished their data recording in the field and have to elaborate them.



Two professors, one biologist and three students from the Agriculture University of Catania were involved in the field activities and taught them to our volunteers. A total of 7 soil samples were taken at 4 representative farms in the area (2 non-certified conventional, 1 conventional, 1 certified organic). The main measurements concerned permeability, respiration and soil organic activity.



The German trainee Felix Aufderheide studied during his internship the vegetation on the University's sampling points and still is about to determine the soil quality according to the Ellenberg method. He explained his researches during our **Agriculture webinar on 15.03.2023 with 111 views.**

15  
MAR  
2023  
ORE 11:00

WEBINAR

In diretta sulla pagina Fb  
Giacche Verdi Bronte

"AGRICOLTURA RIGENERATIVA TRA CAMPI SPERIMENTALI E POLITICA AGRICOLA COMUNE"

PROGETTO "HUMUS PER LA BIOSFERA"

**Prof. Paolo Guaraccia, Dipartimento di Agricoltura, Alimentazione e Ambiente - Università di Catania**  
"Il suolo, un organismo vivente fondamento per la salute dell'uomo e del pianeta"

**Giuseppe Rizzo, Ufficio Intercomunale Agricoltura Bronte**  
"Sostegni economici agli agricoltori rispettosi dell'ambiente"

**Felix Aufderheide, tirocinante Erasmus GV**  
Presentazione studio "Piante spontanee come indicatore di salute del suolo"

Aiming to promote the humus building regenerative agriculture, the agrarian expert Prof. Paolo Guaraccia, who conducts our field studies Giuseppe Rizzo from the agrarian department of Sicily and active organic farmer and our trainee Felix held lectures, moderated by Andrea Aidala.



## EUKI-Project "Humus per la Biosfera" Q2 2023 – Organic waste handle

**30  
MAG  
2023  
ORE 11:00**

**WEBINAR**

In diretta sulla pagina Fb  
Giacche Verdi Bronte

**"COMPOSTIERE DI  
COMUNITÀ:  
DAL PROGETTO AL  
CANTIERE COLLETTIVO"**

**PROGETTO  
"HUMUS PER  
LA BIOSFERA"**





**A cura del Dr. Chim. Danilo Pulvirenti**  
Responsabile del Laboratorio "Progetto Ambiente" (Catania)  
Collaboratore Giacche Verdi Bronte

Interverrà:  
**Arch. Marco Terranova**  
Progettazione e realizzazione della prima "Casa del Compost in Italia"



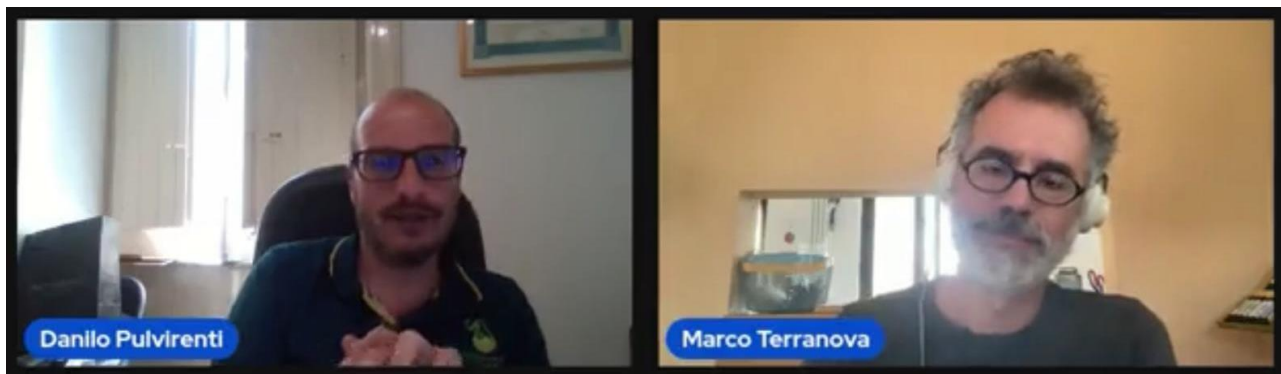


On 30.03.2023 the second webinar on communal composting took place. This time, the host Dott. Danilo Pulvirenti focussed on the practical realization of the compost sites and received professional help by the ecological architect Marco Terranova.

The webinar-series is dedicated to the municipalities within our planned Biosphere Reserve Terre della Biosfera.

Already the first webinar in November attracted 287 viewers; this time it was watched by 290.

When realized, communal compost sites will significantly help to reduce greenhouse gas.



Meanwhile, our school composters were so popular that we had to set them up in more schools and build 23 boxes instead of the planned 8. The extra work allowed the newly arrived volunteers to try out their manual skills. In the schools, they were a very popular training object for the children, which will certainly be put to good use.



Photos above: Volunteers Theresa Jäger, Merle Winterberg and Marvin Launert at construction work with GV staff Simone Marullo. Lidia Marullo explains the use at school.

Left: In those schools, which had created a vegetable bed while participating in our previous EUKI project Frutti per la Biosfera, we helped the children to clean them, using the weed for the first composter filling.



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**EUKI-Project “Humus per la Biosfera” Q1-2 2023 – Environmental education till summer holidays**  
**Till today, our theoretical indoor and practical outdoor lessons reached a total of 3.322 children!**



GV staff Paula Ferre Fornos and the volunteers Daria Wiene, Theresa Jäger and Lina Saleh at didactic work



Left: GV instructor Andrea Aidala and our Turkish volunteer Eylül Uslu during some extra lessons for kindergarten children. Eylül has worked enthusiastically with the children and took the decision during her stay to become a school teacher after returning to Turkey.

Left below: Further school class excursions to our didactic area Bosco Brignolo took place with a total of 200 children. Photo at webinar invitation: Milo Landsberg is one of our volunteers, who improve their educational skills during the excursions.



**GIO 06.07.2023**

ORE 17:00 - In diretta sulla pagina Facebook Giacche Verdi Bronte

**Webinar**  
**"Educazione ambientale, tra teoria e applicazione pratica all'aperto"**

Parteciperanno:

**Antonio Fresta - Dott. Forestale, educatore di Scuola Primaria, collaboratore Giacche Verdi Bronte**

**Silvia Grigoli e Lorenza Saitta - Responsabili Asilo nel bosco "Progetto Terra Felice" Bronte**



Progetto Humus per la Biosfera



The webinar on 06.07.2023 was dedicated to the experiential method of outdoor environmental education for children and interested 90 participants. Speakers were the three main environmental education staff members of Giacche Verdi, Andrea Aidala, Dott. Antonio Fresta and Lidia Marullo, as well as the director of Bronte's forest kindergarten Silvia Grigoli and her colleague Lorenza Saitta.



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