LIFE RECORGFERT PLUS

Organic-mineral fertilizers by using recovered sulphur & orange wastes as sustainable soil recovery from desertification

LAYMAN'S REPORT

Co-funded by the European Union

With the contribution of the LIFE Programme of the European Union.
LIFE20 ENV/IT/000229

PROJECT NAME:
Organic-mineral fertilizers by using recovered sulphur & orange wastes as sustainable soil recovery from desertification

PROJECT ACRONYM:
LIFE RECORGFERT PLUS

PROJECT REFERENCE:
LIFE20 ENV/IT/000229

TOPIC:
Environment and resource efficiency

START/END:
1 September 2021 - 28 February 2025

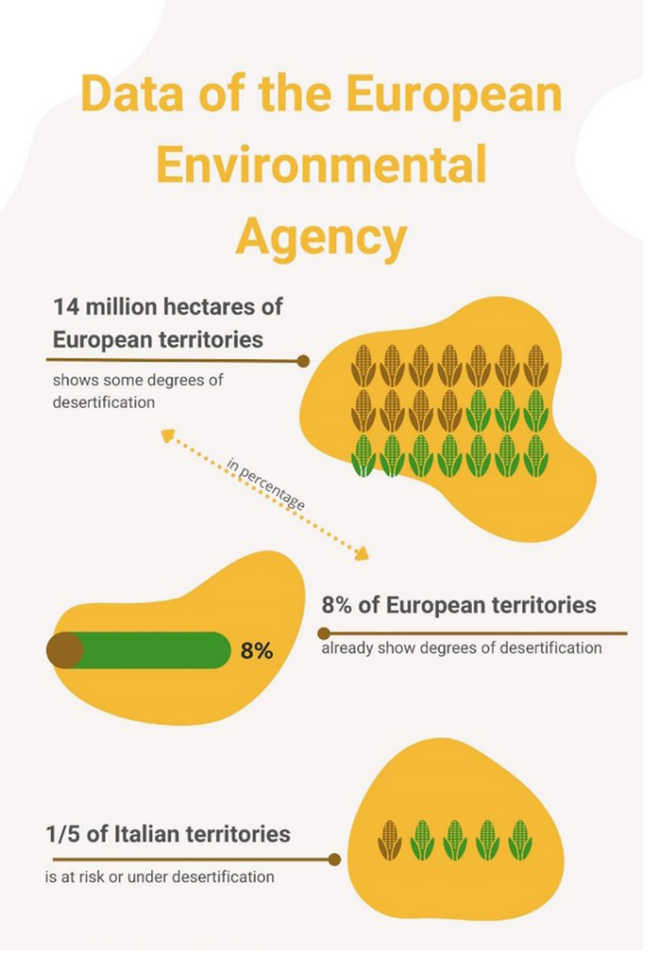
Co-funded by the European Union

With the contribution of the LIFE Programme of the European Union.
LIFE20 ENV/IT/000229

Table of Contents

The problem

Climate change and intensive agriculture, with the extensive use of chemical fertilizers, are causing a substantial loss of soil fertility, leading to **desertification**. There is an urgent need to restore degraded areas, especially in arid and semi-arid regions where desertification is a major issue. According to the European Environmental Agency, 8% of European territory — about 14 million hectares —already shows signs of desertification. The situation is particularly serious in southern EU regions: in Italy alone, more than one-fifth of the territory is at risk or already affected by desertification."



The results of preliminary experiments led SBS Steel Belt Systm S.r.l. and Università degli Studi Mediterranea di Reggio Calabria to launch the LIFE RecOrgFert PLUS project with the following objectives:

1. Testing the **new type of fertilizer** in extended open-field trials;
2. Fine-tuning a **scalable and modular industrial pilot line** for continuous production.

The experiments demonstrated the potential for recovering alkaline and infertile soils through the final development and market deployment of a new fertilizer, produced using a patented technology that combines sulfur finely mixed with bentonite and locally sourced polluting agricultural waste, specifically orange peel and pulp, commonly referred to in Sicily as 'pastazzo'.

Every year in the EU, approximately 1.3 million tons of pastazzo are produced as a byproduct of processing around 2.5 million tons of harvested oranges (2017 data from the EU database).

The LIFE RecOrgFert PLUS project transformed recovered sulfur and orange waste into **high-value fertilizers** that help restore soil fertility. These fertilizers lower the pH of alkaline soils and increase crop yields, particularly in arid and semi-arid regions.

Furthermore, the project addressed key environmental challenges:

- **Excess sulfur**: In line with the Kyoto Protocol, reusing sulfur in sustainable applications like fertilization is a green and effective solution.
- **Chemical fertilizers**: Their widespread use contributes to groundwater pollution. The project offered a more sustainable alternative.

LIFE RecOrgFert PLUS introduced an innovative approach to managing pastazzo and recovered sulfur. It demonstrated that combining organic and mineral components in a single fertilizer can sustain crop productivity while offering an **environmentally friendly substitute for chemical fertilizers.**

Project OVERVIEW

42 months
Duration

2021
Starting year

5
Partners

1,743,850euro
EU Contribution

The specific objectives of LIFE RECORGFERT PLUS were:

1. **Turning orange waste and recovered sulphur into high-quality innovative new fertilizer**, which can be used in alkaline and degraded lands to improve soil fertility and productivity to help solving the increasing food demand and waste accumulations: therefore, slowing down and reverse degradation & desertification while rehabilitating worn-out environments.

2. **Setting-up and correctly sizing the innovative pilot process** for the new type of new fertilizers. At the end of the project, a right-sized, tested and "ready-to-go" pilot continuous process production line (up to 3.0 ton/h) is ready to produce the new fertilizers of pelletized sulphur-bentonite with orange waste.

3. **Verifying the new fertilizer positive effect on germination and plant growth** for a complete 2-year seasonal vegetation cycle of different crops: pepper, tomato, onion, broccoli and durum wheats with extended open field tests on 26 hectares in South Italy and in Central Macedonia (Greece).

4. **Reducing the GHG emissions and improving soil health** due to the substitution of chemical fertilizers with new ones: -20% in GHG compared to chemical fertilizers, +70% increase in Soil Organic Matter.

5. **Verifying** in a "Life Cycle Approach" the **low environmental impact** of the new fertilizers which could be used for biological agriculture.

6. **Giving an opportunity for economic and social development in Sicily** (and in other Southern European Countries, as replication) with the expansion of the pilot line and the required employment.

7. **Demonstrate the business model profitability**.

The Project aimed at recovering alkaline and infertile soils through the final development and fine-tuning for the market of a new organic-mineral fertilizer.
This new organic-mineral fertilizer is produced with a patented technology using Sulfur fine-mixed with bentonite clay (to make it friable and easy to be absorbed by plants) and dried orange peels, locally sourced from polluting agricultural wastes, such as orange peels.

LIFE RecOrgFert PLUS contributed to United Nations Sustainable Development Goals (SDGs) related not only to climate change and environment but also to poverty, inequality and quality of life, specifically:

The new organic-mineral fertilizer, mitigating the phenomenon of desertification, contributed to **avoid migration of people** from one place to another searching for fertile land.

The new organic-mineral fertilizer had no chemical components, and it was produced with only physical combination of basic materials, therefore there is **no percolation of chemical components in the underground water** such as the chemical fertilizers do.

The new organic-mineral fertilizer **prevented the reduction in soil biodiversity**, maintaining a natural equilibrium and a multi-functionality ecosystem, re-introducing organic matter in the soil at the same time.

The new organic-mineral fertilizer helped to **reverse the desertification process**, which is an on-going process in many poor countries, therefore creating better opportunities of life locally.

Pilot plant

The pilot production line was engineered & pre-assembled in Venegono Inferiore (Varese), and it was then installed in Villafranca Tirrena near Messina (Sicily, Italy) on July 2022 for a capacity of pellet production **up to 3 ton/h - 4800 tons/year**.

It will produce **sulphur-bentonite with orange waste in pellets** in standardized pads of **diameter 2.5/3.5 mm**, **thickness 1.2/1.5 mm** and **weight 0.02/0.03 gr**.

The engineered pilot line is composed of 3 main modules:

1. Raw material inlet equipment
2. Metering and mixing equipment
3. Pastillation with solidification unit.

The fertilizer

RecOrgFert, composed of **sulfur, bentonite and orange powder from dried orange peels**, offered multiple benefits to soil and plants.

• Sulfur helped **lower the pH of the soil**, promoting the acidification necessary for the control of some plant diseases;

• Bentonite helped **optimize the structure of the soil**, positively impacting both drainage and the ability to retain water;

• Orange powder from dried orange peels **enriched the soil** with organic substances and essential nutrients, promoting an overall improvement in soil health.

RecOrgFert

Field testing

Extended open field tests were set up in **three different farms** that overall had covered an area of **26 hectares**. Two farms were located in Italy, **one in Apulia region** with wheat cultivation, and one other **in Calabria region** with vegetable cultivation. The third farm is located in **Greece** with wheat cultivation.

The farms were selected on the basis of soil characteristics: **alkaline soils** with a low content of organic matter, dry and hot summer with increasing desertification and degradation processes of soils. The two farms that cultivate wheat, were also chosen considering the pedoclimatic differences to verify if the new fertilizer is able to impact wheat independently from the climatic conditions.

American Farm - AFARM (Greece)

Falcone Carolina Farm | Reggio Calabria (Italy)

In Calabria, southern Italy, with dry and hot summer and increasing degradation process of soils, **2 hectares** were dedicated to test vegetables in seasonal crop rotation. Falcone Farm is located in San Lorenzo (Reggio Calabria) on soils with an alkaline pH poor in organic matter.

After 9 month of field experiments, after winter crop harvesting, researchers observed an **improvement in soil properties** in presence of the new fertilizer RecOrgFert. The soil pH was significantly lowered compared to the other treatments, and the **water content increased** in soil doubling its value. This means that the parcels treated with RecOrgFert, correct the soil pH allowing plants to efficiently take up nutrients and the increase in water holding capacity require soils less water from rainfall or irrigation, increasing their resilience and reducing the cost of irrigation and associated infrastructure. An **increase in organic matter content** has been also observed while no changes in soil enzyme activities has been observed.

Schiavone Farm | Lucera (Italy)

The experiment on wheat was carried on in **12 hectares** located in Lucera, Apulia region (Italy), to test durum wheat productivity. Soils belonged to the following textural classes: sandy-loam, loamy sand and sandy.

The soil analysis evidenced that the soil treated with RecOrgFert **decreased the pH** conversely the other treatments increased the pH values, and the new fertilizer **increased the water holding capacity of soils**. Soil organic matter decreased in all treatments.

Project RESULTS

LIFE RECORGFERT PLUS project focused on promoting a circular economy by transforming agricultural waste, specifically orange waste (pastazzo) and recovered sulfur, into innovative organic-mineral fertilizers.
This sustainable approach aimed to maintain crop yields while offering an alternative to traditional chemical fertilizers.

Key Achievements of the Project:

1. Development of **High-Quality mineral-organic fertilizers** aimed at reducing agricultural waste and mitigating environmental degradation.

2. Field Validation Across Multiple Crops and Regions: comprehensive two-year field trials both in Greece and Italy, demonstrating the **effectiveness of the fertilizers** on key crops including onion, broccoli, tomato, pepper, and durum wheat.

3. Environmental Impact Mitigation: **reductions in greenhouse gas emissions,** alongside a significant increase in soil organic matter content, contributing to more sustainable agricultural practices.

4. Enhanced Soil Health and Crop Productivity to confirm the **agronomic and ecological benefits** of the developed fertilizers.

The results of composition optimization led to an optimized fertilizer using **80% elemental sulphur, 10% betonite clay and 10% dried pastazzo**.

Elemental sulphur, which is insoluble in its raw form, was slowly released into the soil when combined with betonite and dried pastazzo. This optimized formula was able to **ensure a slow release of sulphur** and **enhanced effectiveness of the fertilizer** while preventing potential contamination risks.

The fertilizer was tested in pots, in a climate chamber, and in open field conditions using both winter crops (onion and broccoli) and spring crops (tomato and pepper). Results were compared to those obtained with horse manure (HM) and conventional nitrogen-phosphorus-potassium (NPK) fertilizers.

The climate chamber experiments, by eliminating the effects of extreme environmental events, helped isolate crop performance from seasonal climate stresses, particularly the high temperatures and drought conditions typical of summer.

Across the experiments, **winter crops showed significantly better growth when treated with RecorgFert**. Furthermore, under crop rotation with tomato or pepper, both winter crops consistently outperformed those treated with HM or NPK over the two experimental years when using RecOrgFert.

Results on winter crop GROWTH PARAMETERS **in climatic chamber**

Broccoli	Inflorescence Weight (gr)	Plant Height (cm)	Leaf number
CTR	30.35	32.4	9
NPK	21.75	33.3	10
HM	40.35	34.3	11
Recorgfert	41.23	34.8	10

Onion	Total Weight (gr)	Leaf Weight (gr)	Bulb Weight (gr)	Root Weight (gr)
CTR	49.2	10.4	37.6	1.2
NPK	140.6	54.9	82.2	3.5
HM	142.3	43.8	94.5	4.0
Recorgfert	180.3	44.4	134.6	1.3

Results of climatic chamber evidenced that broccoli and onion cultivated with RecOrgFert had the best growth and productivity.

Winter crop QUALITY **in climatic chamber**

Broccoli	TP	TF	VIT C	VIT E	TAC	DPPH	Abts*	T CARB	T PROT
CTR	41.1	4.67	31.8	5.6	1.6	21.3	4.5	123.4	49.9
NPK	43.1	5.34	32.4	6.3	1.7	23.4	5.1	161.3	59.3
HM	42.7	5.67	31.9	6.4	1.7	24.4	5.2	187.2	65.5
Recorgfert	44.8	5.00	33.1	6.7	1.8	25.3	5.3	201.3	68.8

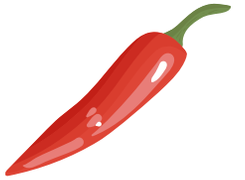
Onion	TP	TF	VIT C	VIT E	TAC	DPPH	Abts*	T CARB	T PROT
CTR	12.1	2.52	5.9	11.3	0.8	31.3	6.3	79	7.1
NPK	21.5	4.81	6.3	16.4	0.9	46.7	6.4	83	7.9
HM	16.8	3.47	6.1	15.6	0.8	44.4	6.7	86	6.9
Recorgfert	21.1	4.79	6.5	16.7	1	47.1	6.7	89	8.1

*TP (Total Phenols, mg GAE*g^{-1}); TF (Total Flavonoids, mg QE*g^{-1}); VIT C (Vitamin C, mg ASA*100g^{-1}); VIT E (Vitamin E, mg -tocopherol*100g^{-1}); TAC (Total Antioxidant Capacity, mg -tocopherol*100g^{-1}); DPPH (DPPH assay, % inhibition); ABTS (ABTS assay, µM TE*g^{-1}); T CARB (Total Carbohydrates, mg glu*g^{-1}); T PROT (Total Protein, mg BSA*g^{-1}).*

Summer crop PRODUCTIVITY in rotation with winter crop, **in climatic chamber**

Tomato	Post O (kg/plant)	Post B (kg/plant)
CTR	49.2	10.4
NPK	140.6	54.9
HM	142.3	43.8
Recorgfert	180.3	44.4

Pepper	Post O (kg/plant)	Post B (kg/plant)
CTR	37.6	1.2
NPK	82.2	3.5
HM	94.5	4.0
Recorgfert	134.6	1.3



POST B: crop rotation broccoli; POST O: crop rotation onion

Results of climatic chamber evidenced that tomato and pepper grown in crop rotation with both broccoli and onion showed the best growth and productivity in presence of RecOrgFert.

Summer crop QUALITY in rotation with winter crop, **in climatic chamber**

Tomato	TP	TF	VIT A	VIT C	VIT E	TAC	DPPH	Abts+	T CARB	T PROT
CTR	3.49	16.1	0.0081	35.6	0.47	1.27	36.1	43.9	7.40	1.09
NPK	3.76	17.1	0.0098	36.9	0.51	1.39	36.9	59.5	8.43	1.23
HM	3.81	19.9	0.0091	37.8	0.49	1.49	37.6	61.5	8.45	1.38
Recorgfert	3.99	19.6	0.0097	38.9	0.57	1.56	38.3	62.3	8.87	1.65

Pepper	TP	TF	VIT A	VIT C	VIT E	TAC	DPPH	Abts+	T CARB	T PROT
CTR	45.2	5.70	0.0007	108.60	0.72	2.08	36.94	56.72	166.04	7.61
NPK	41.2	6.25	0.0006	114.45	0.68	2.04	39.23	44.89	218.83	7.92
HM	40.2	5.89	0.0009	116.45	0.76	2.35	39.59	55.26	228.42	8.58
Recorgfert	40.1	5.32	0.0008	116.91	0.81	2.13	38.93	56.18	209.23	8.72

*TP (Total Phenols, mg GAE*g^{-1}); TF (Total Flavonoids, mg QE*g^{-1}); VIT A (Vitamin A, µg RE*g^{-1}); VIT C (Vitamin C, mg ASA*100g^{-1}); VIT E (Vitamin E, mg -tocopherol*100g^{-1}); TAC (Total Antioxidant Capacity, mg -tocopherol*100g^{-1}); DPPH (DPPH assay, % inhibition); ABTS (ABTS assay,% inhibition); T CARB (Total Carbohydrates, mg glu*g^{-1}); T PROT (Total Protein, mg BSA*g^{-1}).*

Results evidenced that tomato and pepper with RecorgFert had the greatest antioxidants activity, and contained more total carbohydrates and total proteins as well as Vitamin A, E, C.

Winter crop and summer crop PRODUCTIVITY **in open field**

The experiment carried on in Calabria, in open field for two consecutive years, evidenced the positive effects of RecOrgFert on soil. **RecOrgFert increased the amount of organic carbon and decreased the pH value in open field**.

The productivity of broccoli and onion in crop rotation with summer crops was higher than control, comparable to HM. Quality of broccoli increased in crop rotation more after tomato than pepper and more in respect to the other fertilisers.

RecorgFert increased onion quality in crop rotation with pepper and tomato more than the other treatments. Productivity of pepper at the end of the second year of rotation was greater with RecOrgFert comparable to NPK. The same was observed for tomato.

Results evidenced that RecOrgFert, in pepper increased Vitamin E, Proteins and ABTS. In tomato increased also Vitamin C as well as ABTS, DPPH, TAC and Carbohydrates.

Wheat growth parameters and quality

The wheat experiment was conducted on 12 hectares in Lucera, Apulia region (Italy), to evaluate durum wheat productivity and quality. The soils used were classified as sandy loam, loamy sand, and sandy. Soil analysis from the first cycle (2022/2023) indicated no pH changes across treatments. Organic matter, electrical conductivity, C/N ratio, cation exchange capacity, and total nitrogen all decreased in treated soils compared to the control. In the second cycle, however, these parameters showed increases both relative to the control and to the previous year, suggesting a time lag for fertilizer effects to become apparent in the soil.

RecOrgFert demonstrated the most substantial impact, **increasing soil organic matter by approximately 188%** compared to the previous year, whereas NPK increased organic matter by 96% and HM by 110%, though HM had a lower absolute organic matter content than other treatments. Overall, RecOrgFert showed the **most pronounced positive effects on soil quality**.

Wheat physiological parameters indicated that the growth was similar better with NPK and RecorgFert in both years respect to the other treatments. Overall, wheat quality improved with treatments in the first cycle compared to the control, although differences among treatments were not significant. In the second cycle, **RecOrgFert notably enhanced seed quality**, increasing flavonoids, carbohydrates and slightly raising protein content, DPPH and ABTS activity.

The results of two years of experimentation at the American Farm School in Salonicco (Greece) based on durum wheat production in presence of the different fertilisers, evidenced that the data from the first year closely aligned with those from the second year of experimentation, showing consistent outcomes in both soil conditions and crop yield and quality. The study was conducted on a 12 hectare non irrigated cropland with a northeast orientation cultivated with the durum wheat variety Julio (250 kilogrammes per hectare).

RecOrgFert, for its cumulative effects, points to sustaine improvements in soil health over time; although these benefits emerge more slowly than those observed with other treatments, RecorgFert appears to stimulate soil functioning and resilience over time. The fertilizations on wheat productivity showed that RecOrgFert, even in the short term, had positive effects on wheat productivity.

RecOrgFert increased seed bulk density and seed moisture content.

In both years the application of **RecOrgFert** significantly **enhanced key soil properties** both in the climatic Chamber and in open field trials across various experimental locations.

IN CONCLUSION:

The application of RecOrgFert significantly enhanced key soil properties both in the climatic chamber and in open-field trials, across various experimental locations. The improvements in organic matter and water content and the pH reduction are particularly important for mitigating the effects of soil degradation.
RecOrgFert demonstrated resilience even in the severe 2024 drought and is recommended for regions with severe drought climatic conditions to sustainably improve soil health and boost crop yield.

Environmental impact

LIFE RecOrgFert project has successfully developed an innovative mineral-organic fertilizer, demonstrating significant environmental benefits through a dual approach of waste valorization and sustainable agricultural practices.

During the project, approximately **60 tons of RecOrgFert fertilizer were produced** by recycling **60 tons of orange peels and pulp waste** ("pastazzo") and nearly **50 tons of sulphur waste** streams from industrial activities (e.g., oil refineries).

This new fertilizer's production process boasts a substantially **lower environmental footprint** compared to traditional chemical fertilizers like NPK, achieving a remarkable reduction in greenhouse gas (GHG) emissions of approximately **2,000 kgCO2eq per kg of fertilizer** used, lower virgin material consumption and reduced eutrophication potential due to the slower and controlled release of the macro- and micro-nutrients to the soil.

Agronomic trials, utilizing 14 tons of RecOrgFert across 26 hectares of pilot farms, resulted in about 28 tons of avoided CO2eq emissions. Beyond emissions, the trials notably improved soil parameters and reduced desertification risk; **Soil Organic Matter**, for instance, **increased from around 2.7%** in untreated areas **to almost 4% with RecOrgFert**, outperforming even NPK-treated areas (approx. 3.7%).

While the initial environmental impacts were constrained by the pilot plant's limited 60-ton operation, planned replication, involving the sale of full production plants to interested customers, is projected to enable an **annual production of about 1,800 tons**. This scaling up will multiply the demonstrated environmental benefits proportionally, achieving a far greater positive ecological impact.

The market

LIFE RecOrgFert PLUS project has yielded extraordinary results, and the consortium is now actively working to **bring this innovation to the market**. SBS Steel Belt System S.r.l. firmly believes in the potential of RecOrgFert and its Modular Production Line.

SBS Steel Belt System S.r.l. is ambitious and confident: its aim is to sell **the first production line by the end of 2025** and at least o**ne more by 2026**. SBS commercial office has already held numerous meetings and sent proposals to interested companies. SBS is focusing more intently on **Spain and Portugal**, while further developing contacts in **Greece**. SBS will expand its network in the coming years also beyond Europe, concentrating on areas where pre-desertification is a critical problem and where LIFE RecOrgFert PLUS solution can make a real difference.

This is an exciting new sector for SBS, and even is developing the marketing and sales activity for such an innovative product takes time, its confidence is strong thanks to:

Positive Field Test Results

Concrete data proves RecOrgFert's effectiveness.

In-house Know-how

Design and manufacturing are managed internally at SBS, ensuring quality and control.

Attractive Profitability

SBS Business Plan forecasts excellent profitability, making this a highly appealing investment for industrial companies.

The underlining assumption is that for a sustainable agriculture we need to have organic farming and the organic fertilizer **RecOrgFert is the right product to treat the soil,** substituting the chemical NPK fertilizers.
This kind of sensibility is surely under development in all the different contacts SBS has worldwide.

Italy is a European leader in organic farming by both area and number of producers and is a key player in the European organic market.

With LIFE RecOrgFert PLUS, project partners provide the right organic fertilizer for the organic farming community. The trend is set to continue in the coming years, and SBS will leverage on this trend to develop business related both to machinery for production of organic fertilizers and the production of organic fertilizers such as RecOrgFert.

Market data confirms what was stated at the beginning of the project: the organic fertilizer RecOrgFert is a viable **long-term alternative** to chemical NPK fertilizers.

However, the chemical fertilizer industry is dominated by powerful lobbies that often downplay the importance of organic fertilizers or acquire organic companies to reduce their presence in the market.

A concrete example? An article on organic fertilizers written by Antonio Scialletti, Project Coordinator of LIFE recOrgFert PLUS, was initially rejected by World Fertilizer Magazine with the explanation:

"Our customers don't want to hear about organic fertilizers because they produce NPK fertilizers."

Antonio Scialletti
LIFE RecOrgFert PLUS Coordinator

Only after several clarifications and conference calls the article was finally accepted and published.

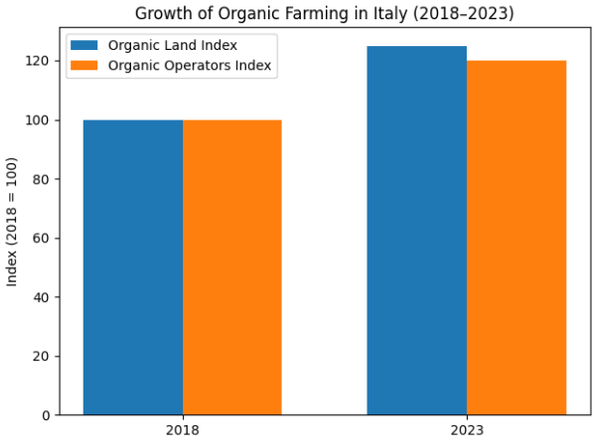
ITALY AND ORGANIC FARMING: A EUROPEAN LEADER

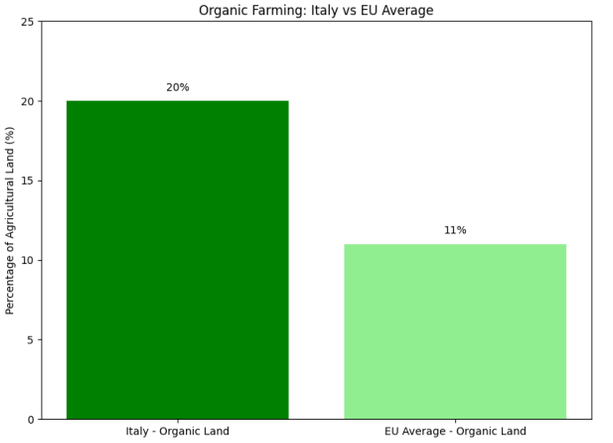
Although organic farming still represents a smaller share of the global agricultural market, Italy stands out at the European level:

- **2.46 million hectares** cultivated using organic methods
- About **20% of total agricultural land is organic** (twice the EU average of 11%)
- **3rd in Europe for total organic area**, after Spain and France
- **1st in Europe** for percentage of organic land and number of organic producers

In recent years, the sector has shown remarkable growth:

- **+25%** increase in organic land (+500,000 hectares)
- **+20%** increase in organic operators (from 2018 to 2023)





The European ADDED VALUE

LIFE RecOrgFert PLUS project promoteed collaboration with government institutions, EU programs, and policymakers at European, national, and regional levels, with the goal of **encouraging policies that support the use of organic fertilizers** as a replacement for chemical ones.

A NEW MODEL FOR A MORE CIRCULAR EUROPE

The project supported the adoption of new business and consumption models aligned with the Roadmap for a Resource Efficient Europe and the EU Action Plan for the Circular Economy, focusing on:

- Product durability
- Reuse, repair, and recycling
- Alternative processes to traditional product sales

Thanks to the project's results, it will be possible to **replicate the business model** in other European and non-European countries, such as North Africa, helping to spread sustainable agricultural practices.

ALIGNED WITH EUROPEAN AND ITALIAN GOALS

LIFE RECORGFERT PLUS is fully aligned with European and Italian regulations that promote:

- The transition **from chemical to organic** fertilizers
- The **reduction of CO_2 emissions**
- The European goal of achieving a **Net Zero Economy by 2050**

The Italian government is strongly committed to transforming agriculture towards organic methods to improve people's quality of life.

This project represents a key piece of the puzzle in this transformation.

A CONCRETE IMPACT ON CLIMATE AND THE ENVIRONMENT

The project has a significant environmental impact by:

- Drastically reducing CO_2 emissions
- Fully recycling waste materials, such as sulfur and orange peels, which are by-products of the oil refining and juice industries.

PARTNERS

SBS was established in 1984 and it designs and builds directly continuous machinery equipped with stainless steel belts for a wide range of applications in continuous industrial processes. Since 1984 SBS has been involved in the design, construction and after-sales service of stainless steel strip industrial plants and, specifically, continuous process machinery, equipped with stainless steel strip, for a wide range of applications in industrial processes, chemical, petrochemical, food, plastic and powder coatings.

F.lli Branca is a privately owned family company. It was founded in 1892 exclusively as manufacturer of citrate and lemon essential oil obtained manually with the traditional "sponge" extraction method. Following the initial success, the company extended its activity to include orange and mandarin processing for the production of juice concentrates, diced peels and the corresponding essential oils.

F.lli Branca SpA supplies dried orange peels to be used to produce the new organic-mineral fertilizer. The company is also in charge of the formulation optimization.

The American Farm School Post-Secondary and Training Association (the institute) is a private, not for profit organization that focuses in the agrofood sector with the mission to educate youth and adults to become professionally accomplished in the latest aspects of agriculture, ecology, and the life sciences, and to make Greece, and its neighbours, a better place.

The American Farm School is the executor of extended open field tests in an area of 12 hectares in Thessaloniki Greece with durum wheat following.

Università degli Studi Mediterranea di Reggio Calabria was born in 1968 and now it combines tradition with an orientation towards the future. Located on the Messina Strait, at the heart of the Mediterranean Area, it's an internationally reputed European research University and it provides high-quality education for both domestic and international students.

UNIRC and the Scientific coordinator use and test the new organic-mineral fertilizer, analyse chemical and biochemical characteristics of treated soils, focus on crop quality assessment and on characterization and certification of the fertilizer.

ZOLFITAL is the link between production of Sulphur and its use. It takes the Sulphur from refineries, where otherwise it would be burned producing SO2, and it solidifies & transforms it into a raw material which is useful for different industries.

The company has a big sulphur plant and warehouse in Priolo-Sicily, within the project ZOLFITAL exercises the essential function of link between the phase of Sulphur production (refineries, crude and natural gas extraction plants) and the utilization for the new organic-mineral fertilizer.

Contacts

PROJECT COORDINATOR

SBS STEEL BELT SYSTEMS S.r.l.
Legal seat: Via Roncaglia, 14 - 20146 Milano - ITALY
Factory and offices: Via E. Mattei, 3 - 21040 Venegono Inf. (VA) - ITALY
Tel.: +39 0331 864841
e-mail: info@steelbeltsystems.it
Internet: https://www.steelbeltsystems.it
C.F.- P. IVA e REG. IMP.di Milano: IT04642110961

This Layman's Report has been written by SBS STEEL BELT SYSTEMS S.r.l.
The author would like to thank all partners for their valuable input and cooperation working together in a very succefull project.

LIFE RECORGFERT PLUS

www.life-recorgfertplus.eu

Powered by Tinexta Innovation Hub S.p.A.

Co-funded by the European Union

With the contribution of the LIFE Programme of the European Union.
LIFE20 ENV/IT/000229