



REPLICABILITY AND TRANSFERABILITY PLAN



Life ZEOWINE

**ZEOLite and WINERy waste
as innovative product for wine production**



LIFE17 ENV/IT/000427

www.lifezeowine.eu



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1. LIFE ZEOWINE Project

The LIFE ZEOWINE Project (2018-2022) was a demonstration project aimed to improve the protection and management of vineyard soil and the well-being of the vine through the application to the soil of an innovative product "ZEOWINE" deriving from the composting of wastes from the wine sector and zeolite.

Starting from the results of previous experiments, which aimed to evaluate the effectiveness of zeolite and compost in a separate way in other production chains, the project has defined protocols for the production of ZEOWINE product and its application in productive and in new vineyard plant fertilization.

The activities performed within the project were planned to evaluate and prove the synergy of the positive effects of the application of ZEOWINE on soil and vine plants in terms of:

- **improvement of the vine nutrition management**, reducing dependence from organic and mineral fertilizers and increasing the fertility of soil;
- **improvement of the characteristics of grapes and wines produced** which will better preserve the fruity and vegetable aromas, and will increase the polyphenolic and antioxidant supply;
- **offering a solution to the problem of waste management by closing the company production cycle**, since the production of ZEOWINE starts from wine processing of waste compost with zeolites.

The application of ZEOWINE product in the vineyard, moreover, confirmed the results also in the vineyard, at vine plant and final production levels. Specifically, ZEOWINE application has shown improvement in:

- **SOIL ORGANIC MATTER CONTENT**: ability to maintain the reserve of nutrients and stabilized organic matter in the soil (carbon sequestration);
- **FUNCTIONAL BIODIVERSITY**: increase in enzyme activities linked to nutrient cycles and in total microbial activity;
- **MICROARTHROPOD BIODIVERSITY**: microarthropods particularly adapted to edaphic life (QBs-ar INDEX);
- **INCREASE IN WATER RETENTION CAPACITY and AGGREGATE STABILITY** of soil;



- REDUCTION OF BIOAVAILABLE COPPER
- BETTER LEAF GAS EXCHANGE CAPACITY
- BETTER PERFORMANCE IN THE MORE STRESSED YEAR (2021): higher stem water potential
- EFFICIENT RIPENING: simultaneity between technological and phenolic maturation
- INCREASE IN YIELD AND IMPROVE QUALITY BOTH AS SUGARS AND POLYPHENOLS

LIFE ZEOWINE has also contributed:

- **to increase the sustainability and competitiveness of the wine supply chain**, implementing nutritional and water efficiency and reducing energy consumption, closing the production cycle of waste material from the supply chain and ensuring higher stability in yields and quality of the grapes, obtaining product more suited to modern market demands;
- **to improve consumer health protection**, creating ideal growth and development conditions for crops capable of determining improvements in terms of resistance, healthiness and plant production.

Another important result reached during the project was the **successful registration of ZEOWINE as «soil improver»** (Beneficiary in charge: DN360 Reg. n. 03006/21 - 31/05/2022) in the Italian register of fertilizer producers (Regulation CE 2003/2003 and D. Lgs. 75/2010).

2. Results achieved

LIFE ZEOWINE production and protocols of application both in the pilot productive vineyards as well as in young/new vineyard plants was based on:

- **the development of ZEOWINE**: production and application protocols through the composting of wastes from viticultural production and zeolite;
- **vineyard soil treatment with ZEOWINE**: application of ZEOWINE compost to productive and young vineyards in areas with different topographic and climatic



conditions to demonstrate the effectiveness of ZEOWINE fertilization on selected local varieties of vine plants;

- **the fine tuning of final application protocols** according to the outcomes of the above-mentioned actions.

The implementation of the project allowed to demonstrate that the presence of zeolite in composting process of winery wastes improved the quality of the final compost in terms of:

- electrical conductivity,
- nutrient content,
- phytotoxicity,
- microbial activities and
- physical properties.

In particular, zeolite increased the adsorption of ammonium ions of compost, thus resulting in higher total nitrogen content in zeolite-based compost with respect to control compost without zeolite. The retention of ammonium when natural zeolite is added in the composting process is a very important aspect to increase the agronomic value of compost and reduce the environmental pollution.

Finally, the py-GC results demonstrated that integration of zeolite in composting process offered the benefit of the higher carbon humification with respect to control compost.

By comparing the two zeolite-based composts (ZEOWINE 1:10 and ZEOWINE 1:2.5), we can conclude that **the ZEOWINE 1:10 compost is the most suitable practical application for improving the winery wastes composting process and, at the same time, for saving on the cost of providing zeolite.**

Considering the production of about 210 tonnes of ZEOWINE during the project at CMM and Col D'Orcia and its application on 0,35 ha of a new



plant (CMM) and 3,5 ha of vineyard in production (0,4 CMM + 2,4 Col D'Orcia + 0,3 Tenuta delle Ripalte + 0,4 Tenuta Santo Spirito) with a single application of ZEOWINE at a dose of 30 t / ha, LIFE ZEOWINE has shown that the production and application ZEOWINE's innovative product is effective and beneficial in the biological and biodynamic viticultural chain and in the improvement of soil quality with reference to the following application parameters:

- **ORGANIC SUBSTANCE CONTENT** – Organic carbon increased from 42,6 to 56,7 t / ha; Total Nitrogen from 3.75 to 5.01 t / ha; Humic carbon increased from 8.4 to 15 t / ha; total Potassium from 10 to 12.5 t / ha.
- **BIODIVERSITY**, in terms of enzyme activities linked to the nutrient cycles, microbial activity and pedofauna. Specifically: QBS-ar index increased from 85 to 117; microbial activity from 880 to 1400 mmmolMUB/kg/h; beta-glucosidase activity from 223 to 349 mmolMUB/kg/h; phosphatase activity from 131 to 158 mmolMUB/kg/h. Such variations indicate an increase of about 45% of the enzymatic activities.
- **SOIL IDRIC RETENSE CAPACITY** is 13,7%. In the soil treated with ZEOWINE, we registered an increase in the water retention capacity of 1%, corresponding to 24 m³/ha/year.
- **SOIL STRUCTURE** The soil aggregate stability increased from 1.5 to 2 %.
- **REDUCTION OF THE BIOAVAILABLE COPPER**, from 18 to 11 mgCu/kg.

The project, moreover, demonstrated an impact on greenhouse gas emissions GHG generated by specific agricultural activities - composting and application of the product itself, which contributes to increasing the ability to fix and maintain the reserve of mineral



elements in the soil, reducing the need for fertilization, increasing the water retention capacity of the soil, and reducing the no. of soil fertilization processes with consequent reduction of emissions related to the use of agricultural machinery. The total reduction in GHG is approximately 6,5 t / ha CO₂ per year. Increased APA content (in grapes of about 50 mg / L, this increase results in a better course of alcoholic fermentation and an aromatic kit of the most complete grapes).

Therefore, we can recap that in terms of Environmental benefits, the project demonstrated and confirmed its impact in reference to:

Improved Environmental and Climate Performance: confirming the expected reduction of GHG (CO₂ and N₂O) and waste reduction

Better use of natural resource, in terms of reduced resource consumption, and reduced water consumption, which was almost double the value expected;

Sustainable land use, agriculture and forestry, in terms of soil surface improved and agricultural land under sustainable management.

The proposed solutions have been shown to have a positive impact on the aspects characterizing the vineyard soil management and the wine production and on other relevant environmental aspects as recapped in the table below:

ENVIRONMENTAL BENEFITS	VARIATION
Increase in Soil Organic Carbon	+ 30%
Increase in microbial functionality	+50%
Increase in biodiversity (QBS-ar Index)	+38%
Increase in stable aggregates	+33%
Increase in Soil Water Retention Capacity	100% (= 24 m ³ /ha/year)



Reduction of the bioavailable copper	-40%
Reduction of GHG emissions:	
CO2	16.3%
N2O	13.86%

Furthermore, the vineyard soil management strategies of ZEOWINE have made it possible to maintain and improve the qualitative levels of the productions, without modifying their commercial value.

In fact, with regard to **all the parameters analyzed (productivity of the plants, organoleptic/product characteristics of the grapes and wines), there were positive differences between the productions obtained with pilot vineyard farms method and those obtained with the ZEOWINE application. .**

In fact, although with slightly different values between the 3 vegetative seasons (2019, 2020, 2021) the improvement of ZEOWINE treatments on final productions (grapes and wine) were analyzed for CMM for all the 3 years, and for COL D'ORCIA for 2020 and 2021 and have shown:

- **GRAPE QUALITY:** slow maturity in Zeowine, witnessed by lower sugar content and lower total acidity, which allowed a **better balance between sugar content and anthocyanins;**
- **GRAPE QUANTITY:** higher yield and higher berry weight;
- **WINE CHARACTERISTICS:** higher alcohol content.

The effect of ZEOWINE on the qualitative characteristics was very significant; all the quality parameters have improved following the treatment, indirectly demonstrating



an improvement in the characteristics of the wines that will be obtained.

Another important result reached during the project was the **successful registration of ZEOWINE as «soil improver»**.

In fact, fertilizers placed on the market in Italy are subject to control to ascertain compliance with the provisions of Regulation (EC) No. 2003/2003 and Legislative Decree 75/2010.

ZEOWINE falls within the regulatory classification of “Green Composted Soil improver” as defined by Legislative Decree 75/2010 All 2.

DN360 has carried out the registration of the Company in the Register of Fertilizer Producers (National Agricultural Information System (SIAN) 11 April 2022; Registration number: 03006/21) and is now registered in the list of Fertilizer Producers by the National Agricultural Information System (SIAN).

The ZEOWINE registration to the category of amendments in the Register of Fertilizers has been carried out the 12 May 2022 (Registration number: 0036556/22).

REGISTRO FERTILIZZANTI

Menu Funzioni

REGISTRO DEI FERTILIZZANTI

Uso Convenzionale

Ricerca per Nome Commerciale

Ricerca Guida

Elenco Fertilizzanti

Ricerca per: ZEOWINE
Totale Fertilizzanti: 1

Codice	Nome commerciale	Denominazione tipo	SeI.
0036556/22	ZEOWINE	All. 5.3.6 - Ammendante compostato verde	

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Dettaglio

For the placing on the EU market, the new Regulation 1009/2019, which will come into force from July 2022, ZEOWINE will be considered to belong to the Constituent



Materials Category (CMC) 3.

For the first time, the EU legislation will allow the conformity and thus the free marketability throughout the EU and the CE marking of organic recycled products. However, in order to be classified as compost in the **CMC 3 category**, the concentration of zeolite has to be reduced to 5% by weight.

In view of this, an additional composting cycle using zeolite at 5% by weight and winery wastes derived from 2021 harvesting has been carried out, confirming equivalent results.



3. LIFE ZEOWINE Replicability and Transferability Plan

The aim of this document is to analyse the potential of the project to be replicated and transferred after its implementation by other end users (vineyard managers, farm manager, vine nurserymen, wine makers and wine growers) stakeholders such as local/regional authorities, governmental institutions, association of entrepreneurs in the viticultural sector, research centres, active in the agricultural and viticultural sector, in Italy and in other regions in Europe where viticulture has its important role in the overall agricultural sector.

The goal of the replicability and transferability strategy is to multiply the impact of the Project results reached during its implementation and to replicate and transfer its findings after its end, in order to reach a wider audience and implement its results in further sites and regions, other than the Project demo sites.

The replicability and transferability strategy of the project include:

1. Sustainability **activities** aimed at ensuring the continuation of the project after its end
2. Specific replicability and transferability **tools**, produced during the project, which aim to ensure that the project results will not only be continued in the context of the project after its end, but will also be transferred in other contexts and multiplied.
3. Specific **monitoring action** to quantify the project diffusion and use of ZEOWINE product and/or production and application protocols, as vineyard sustainable soil management practice in viticulture beyond the project end.
4. Continuation of **training, communication and dissemination activities**, having a transversal function and important role in enhancing the replicability and transferability strategy by enabling to reach a wider audience and by providing long-term dissemination and technical tools.



4. Sustainability activities

Feedbacks from the involved stakeholders have been collected during the dissemination, training and networking activities planned under actions D.2 in particular in the workshops, training activities and webinars, Networking activities at national and EU level. Feedbacks were gathered to improve the development of supporting materials (ZEOWINE characterization, composting process, ZEOWINE application protocols, Guidelines) as well as to evaluate the potential willingness of potential end-users to use an apply LIFE ZEOWINE strategies, referred to composting, production and application of ZEOWINE product.

The potential for technical application have been supported by several information actions delivered under action D2 with the participations to events and fairs/exhibitions of the sectors involved which allowed to reach and create awareness in a consistent number (1.318) of specific target group of end-users and stakeholders with potentially high project visibility either at local (Tuscany) and national (Italy) and European levels. At EU level the actions carried out were mostly focused on the scientific and technical aspects of the project, thanks to participation with scientific poster and presentation in international conferences and symposia on the aspects of soil management and protection, biodiversity and microbial activities, organic matter improvement of soil and overall environmental impact of the project.

During the project implementation, thanks to dissemination and training activities and events targeted either to potential beneficiaries (farmers, vine-growers and vine nurserymen) as well as to key actors for potential future implementation of the strategies and techniques proposed - such as agricultural operators/consultants/agronomists enrolled in the national professional board of Agronomists -, it was possible to implement and widen the use alternative treatments in vineyards and vine nurseries to these extents:



- **in partner and support partner vineyard farms:** about 210 tonnes of ZEOwine during the project were produced starting from
CMM: 22,5 tons first cycle+22,5 tons second cycle+22,5 tons third cycle+**15 tons fourth added cycle** with consequent application on 0,35 ha of a new plant + 0,4 ha of vineyard in production linked to the first cycle and 0,5 ha linked to the fourth added cycle;
Col D'Orcia: 64 tons first cycle + 64 tons second cycle; and its application on 2,4 ha linked to the first cycle and other 2,4 ha linked to the second cycle
Tenuta delle Ripalte: application to 0,3 ha linked to the second cycle produced at CMM;
Tenuta Santo Spirito: application to 0,4 ha linked to the third cycle produced at CMM;
All with a single application of ZEOwine at a dose of 30 t / ha
- An important indirect action of **training for professional operators** aimed at the illustration of innovative recommended protocols, was performed as potential vehicle to further dissemination and to widespread the use of ZEOwine protocols in viticulture. Although it is not possible to directly connect to this training activities the results reported in terms of further application in other vineyards of the ZEOwine protocols, it is important to highlight the number of professional operators reached. Only considering the events which were recognized by the National/Regional/Local Board of Agronomists (ODAF) and allowed to agronomists accredited to the professional board to have their participation recognized as training credits, we have reached:
 - 12 Agronomists during the Life Zeowine workshop - Results of the first year, realized in San Miniato, Pisa, 28 January 2020;
 - 63 Agronomists during the Webinar₁ realized on the 18/03/2021;
 - 47 Agronomists during the Webinar₂ realized on the 08/04/2021;



- 14 Agronomists during the Webinar³ realized on the 03/06/2021;
- 15 Agronomists during the Final Conference in Florence on the 09/06/2022

for a **total of 151 Agronomists/professional operators trained.**

Agronomists, being professional consultants usually for more than one vineyard farm each, supporting decision to improve vineyard management and production, are susceptible to generate a cascade effect of the dissemination and use of the project product and protocols of application.

The project's likelihood of replication can be considered in the light of the all the vineyard farms directly involved in the ZEOWINE Project, with an estimated areas as reported in *Table 1a) "Companies applying the techniques developed in the Life ZEOWINE Project"*

Further projections of the project's likelihood of replication can be considered in the light of the all the vineyard farms that are potential end users of the ZEOWINE Protocols estimated as reported in *Table 1b) "Companies applying the techniques developed in the Life ZEOWINE Project"* which considers, as exemplificative projection, the involvement of other support partners which had expressed their interest in the project since the proposal stage.



Table 1a) Companies applying the techniques developed in the Life ZEOWINE Project 3 years beyond the end of the project

NAME	Estimation of areas convertible to ZEOWINE	HA
CMM	At CMM, considering the production of 55 tons / year of waste from stalks, skins and seeds and pruning residues, it will be possible to obtain approximately 42 tons of ZEOWINE per year when fully operational. This means that it will be possible to treat every 1.4 hectare per year at a dose of 30 tons / hectare . In three years from the end of the project it will be then possible to treat a maximum of 4,2 ha .	4,2
COLD'ORCIA S.r.l.	Considering the production of 95 tons / year of waste destined for the production of ZEOWINE, it will be possible to obtain 72 tons of ZEOWINE per year . This means that it will be possible to treat 2.4 hectares per year at a dose of 30 tons / hectare. In three years from the end of the project it would potentially be possible to treat 7.2 ha . In the case of Col D'Orcia, the area is so large (540 ha) and its cultivation typologies are so diversified that the production of compost should not be a limiting factor and therefore this estimate could increase.	7.2
Tenuta Santo Spirito	It is estimated to convert to ZEOWINE an overall minimum surface of 1ha . Considering the 0.4 hectares already treated during the project , in three years from the end of the project it would potentially be possible to treat 0.6 ha .	0.6
Fattoria delle Ripalte	It is estimated to convert to ZEOWINE an overall minimum surface of 1ha . Considering the 0.3 hectares already treated during the project , in three years from the end of the project it would potentially be possible to treat 0.7 ha .	0.7
Total convertible hectares after 3 years beyond project end		12.7

Table 1b) Companies potentially applying the techniques developed in the Life ZEOWINE Project –5 years beyond the end of the project

	NAME	Estimation of further potential areas convertible to ZEOWINE	HA
5	ALSIA-Agenzia lucana di Sviluppo ed Innovazione in Agricoltura	Wide company of about 45 ha with a fruit-horticultural-cereal production orientation, it is estimated to convert 2 ha to ZEOWINE	2
6	Tenuta Fanti	Estate of 260 ha , 50 of which are vineyards , it is estimated to convert 2 ha to ZEOWINE	2
7	Fattoria di Montemaggio S.r.l.	Company farm of 80 ha of which 8ha of vines , it is estimated to convert to ZEOWINE 1ha	1
8	Azienda Poggiotondo S.r.l.	Company farm of 40 ha of which 28 ha of vineyards , it is estimated to convert 2 ha to	2
9	Tenuta di Bibbiano Societa	Company farm of 220 ha of which 27 ha of vines , it is estimated to convert 2 ha to ZEOWINE	2
10	Consorzio della denominazione San Gimignano	Consortium of 730 ha , it is estimated to convert to ZEOWINE 5ha	5
11	Antinori	Company farm of approx 750 ha distributed in different estates , it is estimated to convert to ZEOWINE 5 ha	5
	+ other 1-9 vineyard farms	It is estimated that that a max. of 9 vineyard farm convert on average 0.5 ha to ZEOWINE, for a total of about 4.5 ha	4.5
Total potential convertible hectares after 5 years beyond project end			23.5

Even though the name of the vineyard farms and consortia listed in Table 1b) might not be confirmed in the next 3-5 years, those vineyard farms and consortia are part of wider networks of end-users and stakeholders linked to some project partners (CNR, UNIFI, PRIMA FORMA) which have contacts for collaborations in several initiatives, researches, field trials and consultancy. Therefore the estimation can be considered applicable to an average number of 5-15 vineyard farms of medium-big dimensions and at least 2-3 consortia that project partners can involve in further application of ZEOWINE.



5. Replicability and transferability tools

Other important tools for further implementation and use of the ZEOWINE protocols are represented by:

- 1) the **different deliverables produced during the project implementation**, specifically useful to support autonomous implementation of the production and application of ZEOWINE, such as:

DELIVERABLE NAME/TITLE	DESCRIPTION
B1 - Technical report on ZEOWINE composting process	Technical report related to characteristics of the composting process performed for the production of ZEOWINE, which can support potential end-users to implement the same process in interested vineyard farms
C1 – ZEOWINE characteristics	Characterization and analysis of ZEOWINE Product
B2 – ZEOWINE Application Protocol for new vineyard plant	Description and characteristic features of the ZEOWINE application protocol in the case of new/young vineyard plant
B2 - Guidelines for the application of ZEOWINE product and protocols in new/young vineyard plant	Guidelines for the correct application of ZEOWINE product and protocols in the case of new/young vineyard plant, which can support potential end-users to implement the correct application on newly planted vineyard soils
B2 - Technical report on application of ZEOWINE on new vineyard plant	Technical Report related to the application of ZEOWINE product and protocols in the case of new/young vineyard plant, which can support potential end-users to implement the correct monitoring of progresses in interested vineyard farms
B2 – ZEOWINE Application Protocol for productive vineyard	Description and characteristic features of the ZEOWINE application protocol in case of productive vineyard plant
B3 - Guidelines on application of ZEOWINE on productive vineyard plant	Guidelines for the application of ZEOWINE product and protocols in case of productive vineyard plant, which can support potential end-users to implement the correct application on vineyard soils



DELIVERABLE NAME/TITLE	DESCRIPTION
B₃ - Technical report on application of ZEOWINE on productive vineyard plant	Technical Report for the application of ZEOWINE product and protocols in productive vineyard plant, which can support potential end-users to implement the correct monitoring of progresses in interested vineyard farms
D₂ - POLICY RECOMMENDATION ON THE APPLICATION OF ZEOLITE IN COMPOSTING OF WINE WASTING	The document is a focused collection of legislative references that provide a solid ground for application and use of ZEOWINE as soil fertilizer/improver, demonstrating its legitimate insertion and classification as soil improver, and providing, therefore, the framework of Policy recommendations within which it can be used and applied. The document is useful for end-users and stakeholders/policy makers

This set of deliverables has been **made available and uploaded on 300 USB**, approx. 100 of these USB have been distributed during the last dissemination events realized (final conference) or participated by project partners, the remaining quantities will be distributed in further events and occasions foreseen by the AFTER – LIFE Plan.

These documents are also uploaded and shared on the project website.

This set of deliverables, representing almost a “toolkit” for the production and application of ZEOWINE product, together with further dissemination and training activities, represents another important tool for further implementation and use of the ZEOWINE protocols since it can support not only professional operators/agronomists, but also vineyard managers, wine growers and vine nurserymen to almost autonomously implement the protocols in their private farms.

- 2) **LIFE ZEOWINE Layman’s Report:** will be used together with the project brochures for dissemination to wider general public;
- 3) **Article, press and media releases and publications:** shared with participants to dissemination events and through the website;
- 4) **Project Website and the social media pages** will be maintained active for at



least 5 years by P.Ri.Ma Forma and CNR. The website (www.lifezeowine.eu) has a section with all deliverables produced during the project (protocols, technical reports, guidelines, report on environmental benefits and impacts, scientific articles, etc...) which can be furtherly consulted by potential users. Social media pages will be the main vehicle for project updates and participation to further technical and scientific events:

- [https://twitter.com/zeowine;](https://twitter.com/zeowine)
- [https://www.linkedin.com/showcase/life-zeowine;](https://www.linkedin.com/showcase/life-zeowine)
- <https://www.youtube.com/channel/UCQXDKO83TMFiyD8W8NK2MVw>

Specifically the YouTube channel is the mean to continue the dissemination of videos realized by the project coordinator and partners. Specifically significant are the full registration of the webinars realized between March and July 2021, an oral presentation in English in occasion of the GSOS, and the registration of a FB live stream broadcasted on Wine TV channel:

- Life Zeowine Webinar Life Zeowine #1 (18/03/2021) - <https://youtu.be/NMwwSFdaNr8>
- Life Zeowine workshop - Results of the 2nd year, online webinar (08/04/2021) <https://youtu.be/LauWNY8D-s>
- Life Zeowine workshop - Results of the 3rd year, online webinar(03/06/2021) <https://youtu.be/QWCx3gfuSko>
- An oral presentation of the project in English language, realized by the project coordinator Grazia Masciandaro in occasion of the "Global Symposium on Soil Biodiversity 2021" – FAO - has also been shared on the project YouTube channel <https://youtu.be/A266vzo5ecE>
- a live streaming on Facebook launch of the Progetti in Vigna info pills tv series, <https://www.facebook.com/winetvgroup/videos/progetti-in-vigna-life-green-grapes-e-zeo-wine-nel-programma-europeo-life/288809445521689/> which had over 2050 views, of which about 950 during the live broadcast;

Thanks to both the dissemination/training activities as well as the distribution of materials and deliverables:

- **it is expected that within at least 3 years from project end, project direct and support partners will implement the application of ZEOWINE to**



further 12,7 hectares

- **it is expected an increase in the use also in other existing productive vineyards by farm or vineyard managers, with a larger timeframe (5 years beyond project end, as estimated in table 1b) for approximately further 23.5 hectares.**

6. Specific monitoring actions to quantify the project diffusion

Specific monitoring actions to quantify the project diffusion and use as soil protection and improvement practice in viticulture beyond the project end will be carried out and a database of vineyard farms that will be implementing the project protocols, or continuing to implement the protocols after the end of the project will be yearly kept updated.

7. Continuation of training, communication and dissemination activities

Training, communication and dissemination activities demonstrated to have a transversal function and important role in enhancing the replicability and transferability strategy by enabling to reach a wider audience and by providing long-term dissemination and technical tools.

On the basis of the experience matured during the project, the activities identified by the partnership and that are intended to be carried out after the conclusion of the project in order to support the project replicability are:

- a. **Participation in annual technical/scientific wider events, delivering**



information through presentations, submission of scientific posters and abstracts, info-desk; distribution of dissemination materials. As demonstrated by project partners, both the scientific as well as the technical areas are widely covered by annual participation of some partners to national, European and international events, such as: during its implementation such as:

- 1) BRIGHT
- 2) REMTECH
- 3) VINITALY
- 4) GLOBAL SYMPOSIUM ON SOIL PROTECTION AND BIODIVERSITY
- 5) ENOFORUM
- 6) ECOMONDO
- 7) General interdepartmental meetings at UNIFI and CNR

which have demonstrated to be relevant occasions to meet potential end users and furtherly disseminate the use of the project strategies

- b. **Delivery of further training for professional operators and agronomists** thanks to the fruitful collaboration with Ordine dei Dottori Agronomi e Dottori Forestali, which has expressed its interest in continuing the promotion of accredited training for its associated members;
- c. **Dissemination of project results to vineyard farms and vine nurseries**, thanks to the ordinary activities carried out by project staff of CNR, UNIFI, P.Ri.Ma. Forma, DN360 with vineyard farms and vine nurseries that can be a powerful vehicle to continue the monitoring of extension of project protocols to other areas
- d. **Project presentation and insertion into thematic platforms, such as, for example, the “Piattaforma delle Conoscenze” managed by the Italian MITE – Ministry of Ecological Transition-**



<https://www.mite.gov.it/pagina/lqs-piattaforma-delle-conoscenze-capitalizzazione-delle-esperienze-e-disseminazione-dei>

The activities will be addressed to the following targets:

Potential end users: wine-growers, vineyard managers, vine nurserymen, table and wine grape farms managers

Professional operators: agronomists and experts of the wine and vine nursery sector

Scientific communities: researchers, students, scientific research groups and associations, academic institutions;

Technical communities: sector related technical groups and associations, environmental and agricultural associations, sector-related social parties such as associations of producers, trade unions, association representative of the viticultural sector;

Stakeholders: policy makers, local and regional authorities, National authorities in the wine and agricultural sector

General Public

INFORMATION AND REPLICABILITY

All the material produced within the project **LIFE ZEOWINE** useful to know and replicate protocols can be found in the website (www.lifezeowine.eu) and on social channels. In particular you can find:

GUIDELINES FOR THE APPLICATION OF ZEOWINE PROTOCOLS, practical consultation tool for vineyard

managers and winegrowers who are ready to develop their environmentally sustainable approach

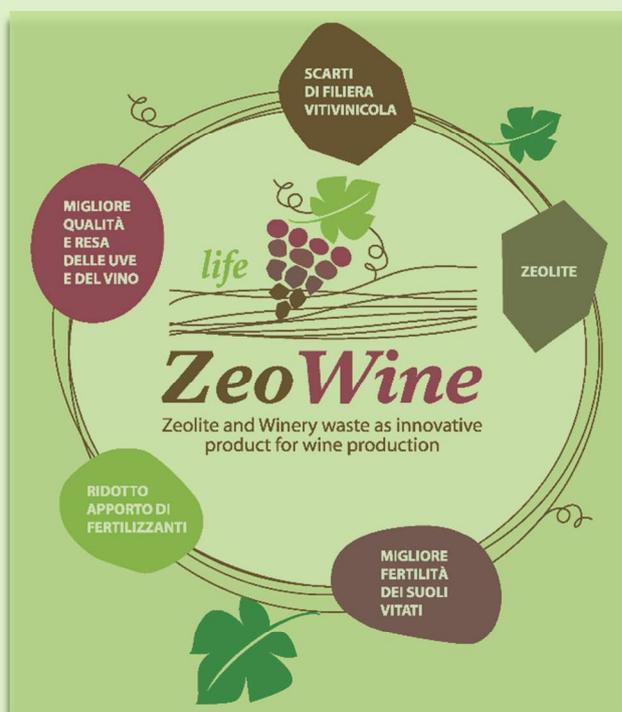
vineyard soil management with a strong environmentally sustainable approach
<https://www.lifezeowine.eu/deliverables/>

- **Articles and press releases** related to the project implementation and future activities
<https://www.lifezeowine.eu/publications/>
- **Informative and training videos**
<https://www.youtube.com/channel/UCQXDKO83TMFiyD8W8NK2MVw>
- **Contact email** lifezeowine@gmail.com



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