

LIFE ZEOWINE: ZEOLite and WINERy waste as innovative product for wine production

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Mediterranean vineyards are exposed to fertility decline due to continuous tillage and repeated applications of fertilizer and phytopharmaceutical products.

Although there are many potential benefits to the use of compost in vineyard soils, the long term negative impact of high rates of organic inputs is the over application and mineralization of nitrogen, which largely exceeds the vine requirements, with an important risk of N leaching.

A promising option to reduce fertilizer requirements in vineyard soils and to favorably affect nutrients balance for growth and health of grape vines is the implementation of the use of natural zeolites. Zeolites are considered to be one of the widely used natural inorganic soil conditioners to improve water holding capacity, infiltration rate and cation exchange capacity of agricultural soils, making the efficiency of fertilizers greater and the leaching losses lower.

Starting from the proven efficacy features for both compost and zeolite, the LIFE ZEOWINE project (LIFE17 ENV/IT/000427) will demonstrate the improvement of soil protection and sustainability, grape quality, and yield stability through the development and application of an innovative by-product derived from the composting of winery wastes and natural zeolite.

The project, at the same time, recycling the wastes from wine-making process, will provide a solution to the problem of waste management by closing down the company's production cycle.

The LIFE ZEOWINE project will optimize the fertilizer use efficiency and promote the long-term sustainable productivity of the vineyard. The synergism of the positive effects on the soil and the plant will consequently positively affect the characteristics of the grapes and the wines that will retain more fruit and vegetable aromas, and will increase the polyphenolic and antioxidant kit.