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THE POREM BIO-ACTIVATOR AS A SOLUTION FOR DEGRADED SOILS: RESULTS OF FIRST ITALIAN TRIAL

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Abstract

Recent studies have highlighted those European soils are subject to high rates of degradation. Therefore, new strategies to contrast the soil depletion are required. The European project related to POREM (POREM_LIFE17-ENV/IT/333) aims to be a valid solution to the problem with the production of an innovative bio-activator, named just POREM, cheap and based on two main natural raw materials, widely available: poultry manure and a natural enzymatic preparation, derived from plants. Indeed, POREM recycles the main waste of the poultry productions and hence represents a new idea of green fertiliser, which can provide nutrients and organic matter to the soil for their rehabilitation, placing itself in a circular economy strategy.

In this work, the outcomes of physico-chemical characterisations and field application tests, related to the first-year Italian campaign of POREM production at pilot scale, were presented. The characterisation results show the bio-activator maturation over the time and the struvite presence which is a nitrogen compound, useful for N retention and for reducing environmental impact. POREM activity under field conditions on several soils was studied by field tests in Northern and Southern Italy both on vegetable and arable crops. The outcomes demonstrated a significant fertility improvement. Indeed, there are a decreasing of the needed mineral fertiliser and an increase in the yield and crops quality. The field tests planned for the upcoming year campaign will focus on the soil restoration to reduce degradation.

Key words: bioremediation, bio-activator, industrial symbiosis, poultry manure, soil restoration

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