
Experimenting rewilding on a former cropland in Central Italy

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Abstract

Active rewilding is being experimented on former cropland close to Rome (Italy) in an effort to restore and conserve natural resources consistently with the policy initiatives aiming to mitigate climate change effects and protect biodiversity. The afforestation project will provide guidelines on the best practises and cost estimations to implement land use change from cropland to forest

The primary objectives of the experiment is to provide climate mitigation benefits, to test innovative planting and water retention techniques, prevent soil erosion and nutrient leaching through sustainable land management practices, improve soil functionality and water infiltration by increasing soil structure and organic carbon content, enhance ecological connectivity, landscape heterogeneity, biodiversity, and provide pollination services.

~4,000 tree seedling belonging to 10+ native species, from oaks to poplars were planted in spring 2024. A number of teams are in charge of the very diverse research objectives. Trees are monitored by stratified sampling by measuring their main structural parameters; soil erosion is monitored through radionuclides (¹³⁷Cs and ⁴⁰K) measures; soil nutrient status, its structure and carbon content is measured through classical soil sample and chemical analyses; fauna biodiversity is measured through on-the-field traps; landscape heterogeneity and ecological connectivity is monitored by remote sensing.

The experimentation aims at starting an open-air research facility allowing researchers to build knowledge on active rewilding and its ecological outcomes.

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