



Acronym	SMART-OAK
Full Title	Seeding vs. planting: a collaborative network of climate-smart restoration plots with oaks
Partner(s)	University of Granada, Spain (<i>coordinator</i>) Università degli Studi dell'Insubria, Italy
Grant Theme	Establishing Climate-Smart Forestry and forest restoration pilots in Europe
Start Date	April 2025
Duration	18 months
Description	SMART-OAK builds upon a collaborative European network of restoration sites with native oak species, in which experimental plots with seeded individuals intermingled with plots planted with nursery-grown plants are being monitored for seedling survival and growth SMART-OAK measures diverse indicators of restoration outcomes after the induced loss of aboveground biomass to assess and compare the effectiveness of revegetation treatments in the face of natural disturbances. This will provide insights into the resilience of restored vegetation throughout the network, i.e., at dozens of sites sampled by voluntary participants across Europe with 12 oak species. In-depth sampling by SMART-OAK members at eight selected Core Sites in Southern Europe will assess the response to revegetation treatment of one major deciduous (<i>Quercus cerris</i>) and one evergreen (<i>Q. ilex</i>) oak in terms of cover, total above- and belowground biomass, C content, and root architecture, with functional implications for resistance to mechanical disturbance plus associated soil C content and fungal and bacterial diversity with functional implications at the community level and for the contamination of soils through restoration practices. To achieve this, the team at UGR manages the project and coordinates the network by producing and communicating protocols, managing the resulting datasets, and coordinating the production of scientific outputs. The team at UNINS samples the Core Sites to obtain plants including complete root systems and soil samples. The plants are sent to UNINS, where they are analysed, whereas the soils are analysed at UGR.



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