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IESS PROJECT: QUANTIFYING THE ECONOMIC, SOCIAL, AND ENVIRONMENTAL IMPACT OF AGROECOLOGICAL TOOLS FOR SOIL CARBON SEQUESTRATION

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THE IESS PROJECT

IESS - INNOVATIVE AGROECOLOGICAL ACTIONS FOR REGENERATING SOILS

DEAFAL WITH FATTORIA TRIBOLI, CNR IBE, OPEN IMPACT, FATTORIA MAJNONI GUICCIARDINI, AZIENDA AGRICOLA PASSERINI IN THE **TUSCANY** REGION, **ITALY**

IS AN **APPLIED RESEARCH INITIATIVE AIMED** AT **VALIDATING AGROECOLOGY AS** AN EFFECTIVE **SOLUTION** FOR **CLIMATE CHANGE MITIGATION** AND **ECONOMIC RESILIENCE**

DEATAILS OF THE IMPLEMENTED PROJECT

THREE SPECIFIC REGENERATIVE PRACTICES ON REPRESENTATIVE FARMS

COVER CROPS IN ARABLE LAND

Why this approach?
– Increase and maintenance of soil organic matter (SOM)
– Increase in soil biotic activity
– Supply of mineral elements and mobilisation of nutrients such as phosphorus through stimulation of mycorrhizal activity
– Reduction of soil erosion and nutrient leaching
– Increase in soil moisture content
– Weed control

Expected results?
– Increased production
– Reduction in external inputs for fertilisation and weed control

POULTRY GRAZING IN OLIVE GROVES

Why this approach?
The rational grazing techniques involve frequently moving animals around the olive grove, ensuring the conservation and regeneration of the grass cover, and therefore the soil, protecting it from the risk of erosion and degradation.
In this system, there is an exchange between poultry (e.g., poultry manure release, weed and pest control) and olive trees (e.g., shade, protection from wind and predators).

Expected results?
– Increased production per unit area
– Reduction in external inputs
– Improvement in soil quality thanks to the presence of poultry

ON-FARM COMPOSTING

Why this approach?
– Increase in SOM in qualitative and quantitative terms
– Recovery of the chemical, physical and biological fertility of the soil
– Stabilisation of the yield quantity and quality
– Addition and activation of antagonistic microorganisms, antibiotic substances and resistance inducers
– Reduction of the use of external inputs for the fertilisation and pests and diseases control

Expected results?
– Increase in SOM and soil fertility
– Stabilisation of production and reduction in external inputs

QUANTIFY THE IMPACT OF THE PROJECT

ENVIRONMENTAL INDICATORS

Carbon focus
Soil Organic Carbon (SOC)

Soil multifunctionality
Soil compaction
Soil penetration
Soil chemical fertiliy
Soil biological quality

ECONOMIC AND SOCIAL VALIDATION

Social Return on Investment (SROI) framework*
*SROI monetizes non-market benefits (e.g., soil quality improvement, animal welfare)

OUTPUTS AND RESULTS OF THE PROJECT

SCAN THE **QR CODE** AND **DISCOVER** THE THREE **WEB APPS** PRODUCED BY IESS, **ONE FOR EACH REGENERATIVE PRACTICES** ON REPRESENTATIVE FARMS, **USEFUL FOR DISSEMINATING GOOD PRACTICES** IN **SIMILAR CONTEXT**

COVER CROPS IN ARABLE LAND

POULTRY GRAZING IN OLIVE GROVES

ON-FARM COMPOSTING

THE **RESULTS** OF THE **PROJECT**

SROI = 3.29*
*Each euro invested generated 3.29 euros of social, environmental and economic value

IESS provides a replicable impact infrastructure, demonstrating that agroecology ensures a positive Return on Investment through 'less input, more efficiency'

SCAN THE QR CODE AND DISCOVER THE INTERACTIVE DASHBOARD TO LEARN MORE, SPREAD AND SCALE THE CARBON FARMING PRACTICES APPLIED IN IESS PROJECT