

# CONTEXT PROFILE

 PORTUGAL



## FARMER

Diogo Pinho – Monte da  
Silveira Bio



## INNOVATION

High-quality composting – “compost tea”



Video



## MAIN DOMAIN OF THE INNOVATION

Improvement of plant protection



## SOIL TYPE

Clay



## FINANCE/INVESTMENT

Mid



## AGROCLIMATIC AREA

Atlantic south



## MANAGEMENT

Ley farming



## MARKET

Local-rural



## CLIMATE

Moderate rainfall



## TECHNICAL

Easy



## SOCIAL

full-time farmer

# CONTEXT PROFILE

 PORTUGAL

Case Study: PT_06	Agroclimatic Zone								
Item (Key Innovation Elements)	Alpine	Atlantic Central	Atlantic North	Atlantic South	Boreal	Continental North	Continental South	Mediterranean North	Mediterranean South
Integrated crop-livestock systems (silvopastoral systems) - montado	+++	++	++	++	++	++	++	++	++
Compost production	+++	+++	++	++	++	+++	+++	+++	+++
Extensive know-how of manure & compost management	++	+++	++	++	++	+++	+++	+++	+++
Rotational grazing & cover crop management	+++	+++	+++	+++	++	+++	+++	+++	+++
Water access & adapted machineries to inject liquid compost in compacted soil	++	+++	++	++	++	++	++	++	++
Intensive landscape planning leading to improved agricultural ecosystem services - inject liquid compost in compacted soil	++	++	++	++	++	++	++	++	++

+++ Strong transferability
 ++ Slightly limited transferability
 + Very limited transferability
 × Generic information/not relevant

## Implementation Gaps

- Access to know-how for manure & compost management;
- Machineries adapted to different soil types & altitude regions

## Research Gaps

- Positive & negative effects on groundwater and biodiversity;
- Soil quality improvement & grass production improvement;
- Emission of nitrous oxide and other trace gases during composting
- Effects of different kinds of manure from different animal species on soil and plant species

## Suggestions to Adapt

# COST-BENEFIT ANALYSIS

## INVESTMENT COSTS

Total initial investment costs at start up:	high
• Initial authorisation costs (e.g. sanitary, veterinary, etc.)	high
• Initial advisory costs	mid
• Initial buildings and machineries	high
• Initial certification costs	high
• Initial working capital (personal qualification, marketing and promotion, etc.)	high

## ON-GOING COSTS

On-going advisory costs	low
On-going certification costs	mid
On-going buildings and machinery costs	high
On-going working capital	high

## BENEFITS RELATIVE TO ORIGINAL SYSTEM

### ◦ Economic

Reduction in energy consumption (electricity; fuel consumption)	none or low
Reduction in input use (fertilizers; pesticides; feed) etc.	mid
Payback period	high
Product value added	none or low
Additional farm income through agroecological/agri-environmental payment schemes	mid

### ◦ Environmental

Animal feed self-sufficiency increase	mid
Biodiversity increase	none or low
Improved nitrogen cycling	high
Soil regeneration	mid
Animal health and welfare improvement	high

### ◦ Social

Workload reduction	high
Engagement of young generation	none or low

# Literature

## English

- [Field and laboratory evaluation of soil quality changes resulting from injection of liquid sewage sludge](#) S Stamatiadis, JW Doran, T Kettler - [Applied Soil Ecology](#), 1999 - Elsevier
- [Effect of subsoiling and injection of pelletized organic matter on soil quality and productivity](#)LA Leskiw, CM Welsh, TB Zeleke - [Canadian Journal of Soil ...](#), 2012 - [cdnsiencepub.com](#)
- [Assessment of manure compost used as soil amendment—A review](#)E Goldan, V Nedeff, N Barsan, M Culea... - [Processes](#), 2023 - [mdpi.com](#)
- [Nitrogen availability from composts for humid region perennial grass and legume–grass forage production](#) DH Lynch, RP Voroney... - [Journal of Environmental ...](#), 2004 - [Wiley Online Library](#)