



# **Opportunities for Farm Business**



Leading the way in Agriculture and Rural Research, Education and Consulting

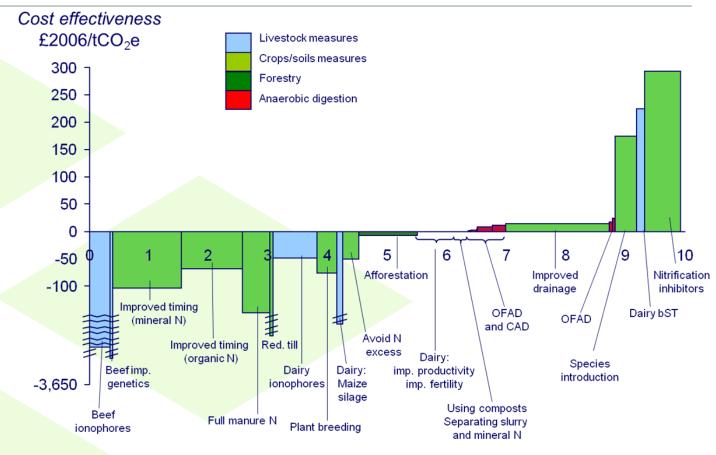
## Economic approaches



- Our analysis the farm business impacts of SOC measures followed two strands:
- Cost-effectiveness analysis:
  - Simple static analysis
  - Ranks measures and crop combinations in terms of the impact on farm gross margin per tonne SOC
  - Considers yield and implementation costs
- Farm-level modelling:
  - Dynamic multi-year optimisation of gross margin
  - Three case-study regions: Aragon, Scotland and Tuscany

# Cost-effectiveness –the 'Agri-MACC'



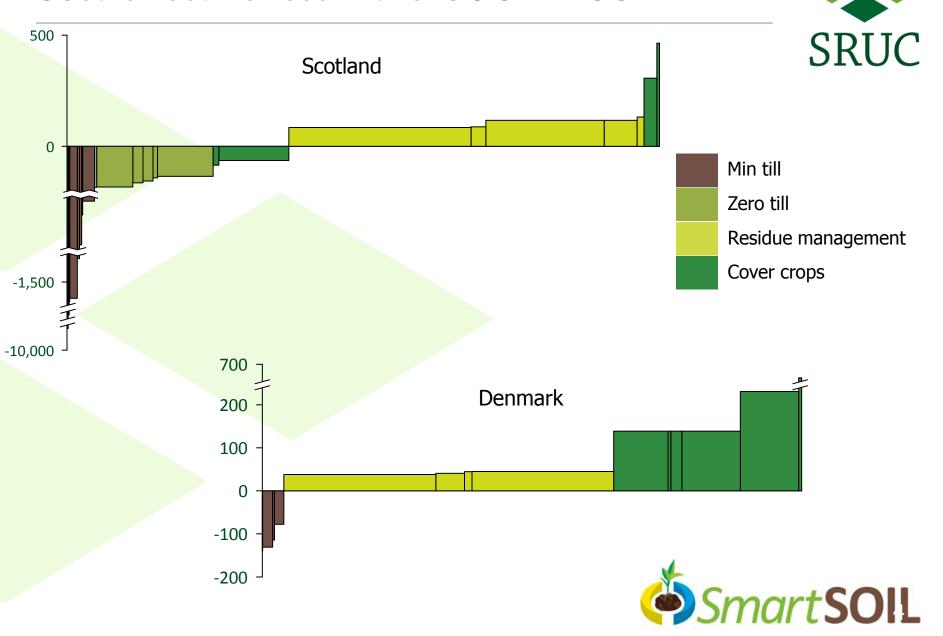


Abatement potential (MtCO<sub>2</sub>e/year)

- 1. The total mitigation possible (width of the bars)
- Cost-effectiveness (height of the bars)
- 3. The total cost/benefit (area of the bars)

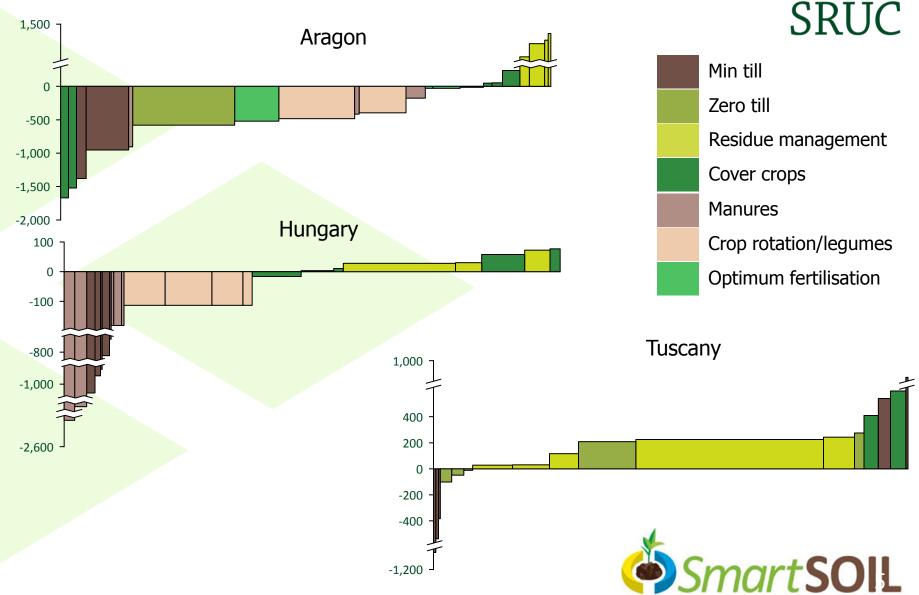


# Cost-effectiveness – the 'SOC MACC'



#### Cost-effectiveness – the 'SOC MACC'





#### Farm level models

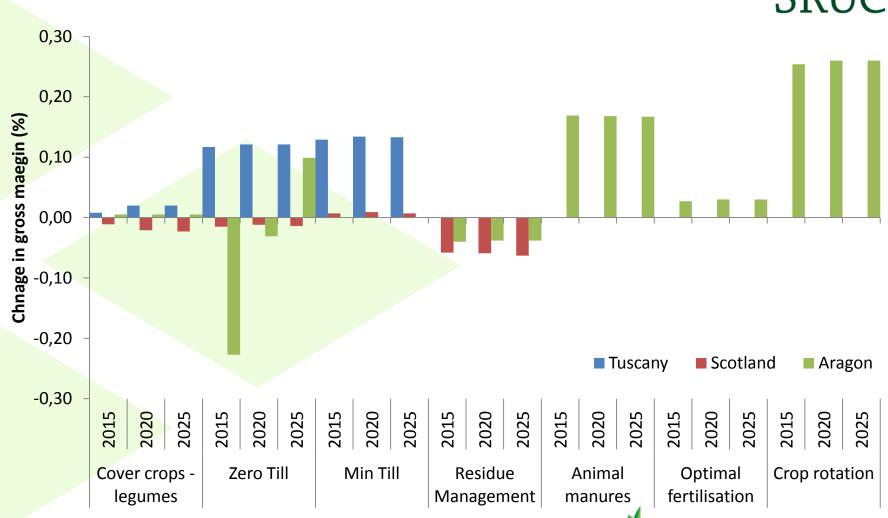


- More in-depth analysis of implementation including time paths to benefits
- The cost-effectiveness analysis was static and didn't consider the changing impacts of measures over time, e.g. initial reductions in yields followed by improvements in later years



## Farm-level model summary







## Messages



- Many measures have private benefits for farmers:
  - Possible increase in yields
  - Can reduce costs relative to 'conventional' management
  - Other benefits such as improved drainage, better workability may not be captured
- Public benefits:
  - Carbon sequestration
  - Water quality improvement
  - Water flow regulation
  - i.e. links to several policy areas further incentives for uptake