



FACCE MACSUR

## D-L2.3.1: Modelling Adaptation to Climate Change in Agricultural Systems

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## Abstract/Executive summary

Modelling agricultural adaptation to climate change presents a range of challenges for modellers, but is vital to enabling decision makers to understand the potential costs and benefits of applying adaptation measures on-farm (or not) including risks and uncertainties associated with different actions. Here, the first stages of collaborative work undertaken at a workshop held in Braunschweig, Germany in autumn 2015, and subsequent analysis of findings, are reported. Subsequently, a second report will detail the development of these actions into a coherent overview of the state-of-the-art in modelling adaptation. Modellers and experimental researchers from a variety of disciplines (including biophysical and economic modellers from livestock, crop and grassland systems backgrounds) were asked to consider major climate impacts and associated adaptation options, and the challenges to modelling adaptations. Key modelling challenges fell into four main categories: information availability, accessibility of model outputs for stakeholders, technical challenges, and knowledge gaps. Within these categories, lists of specific challenges were compiled. The workshop revealed the diversity of approaches to modelling adaptation, and highlighted the different challenges associated with biophysical versus economic modelling. Understanding the state-of-the-art and key priorities for the modelling of climate change adaptation in agriculture is shown to be a complex and multi-faceted challenge. However, such an overview would provide a road map for stakeholder-driven improvement in modelling, with the potential to inform increased uptake of adaptation measures on-farm in Europe.