THE POWER OF COLLABORATION

The background to the
White Rose
Sustainable Agriculture Consortium

Prof Les Firbank
School of Biology, University of Leeds
Post 2007 food price rises ...

- Concerns about global food security
- Renewed interest in agriculture-related r & d
- Context of declining research and teaching for agriculture
- Potential to reboot agricultural research by bringing together people from across disciplines and institutions
Why White Rose Sustainable Agriculture Consortium?

- Brings critical mass in agriculture and soil sciences
- Creates a new, credible, vibrant science community with around 20 PIs
- Lots of opportunities for teaching, research and KE
- At the heart of UK’s food industry
- It’s fun
The University of Leeds Farm

- Centrally-located farm-scale research resource for White Rose and other Universities
- Owned by University but managed commercially
- Critical Zone Observatory status
- Networked to other CZOs and research farms
- Basic lab and meeting space
Yorkshire Integrated Catchment Solutions Programme (iCASP) study area
Vale of York lowland mixed farming landscape
MycoRhizaSoil addressing interactions between soil management, cereal variety and application of soil mycorrhizae
Chamber for measuring GHG fluxes, MycoRhizaSoil
Mycorrhizal structures in wheat roots
White Rose Collaborative Fund 2011

• “Towards more nutrient, carbon and energy-efficient agricultural systems”
• Universities of Leeds, Sheffield and York
• Requested £12K – spent £9K!
• Collected data on biodiversity, carbon cycling, soil quality on transects from hedges into fields
Our approach

- ‘Omics to global
- Blue skies to applied
- Trans disciplinary
- Embedded in research networks
- Highly connected with industry, policy and other stakeholders
Key issues

• Understanding the functional relationships between beneficial and harmful organisms in farming systems
• Enhancing the resilience of crop production using biological approaches
• Managing the multiple ecosystem services from farmland
The story so far

MycoRhizaSoil £1.3M
SoilBioHedge £1.7M
Using Critical Zone Science to support Peri-Urban Agriculture in China £0.9M
White Rose DTPs 6 PhD studentships £16M
N8 Agri-Food Resilience Programme £5M
iCASP, Integrated Catchment Solutions £5M