FARMSCOPER
A TOOL TO OPTIMISE DIFFUSE POLLUTION MITIGATION

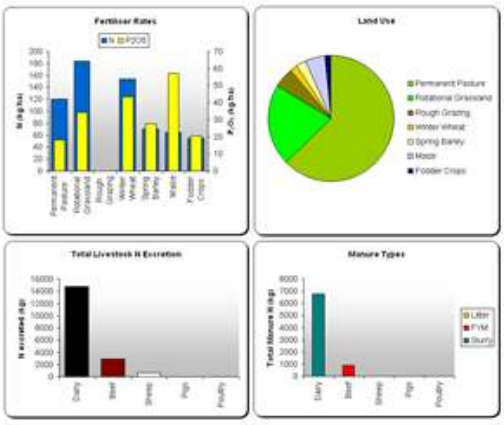
There is a pressing need to reduce agricultural pollution in many river catchments, and to do so in the most cost-effective manner. ADAS has recently developed a software tool to help guide the selection of appropriate farm based mitigation methods in order to achieve this goal.

The pollutant pressures in catchments vary by location, and the pathways and sources responsible for the pollution will also differ. Therefore, the selection of appropriate mitigation methods to use in a catchment needs to reflect both the local priorities as well as the local environment.

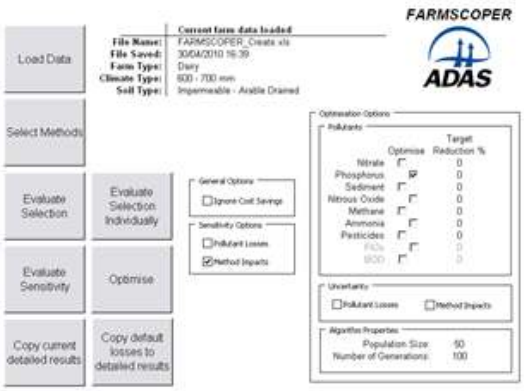
As part of a Defra funded project, ADAS has created Farmscoper, which is a tool designed to:

- Quantify diffuse pollution losses occurring on recognisable farm types
- Show a detailed breakdown of pollutant sources and pathways
- Quantify the impact and cost of a range of mitigation methods
- Find cost-effective suites of methods through optimisation

By being able to evaluate the cost and effect of different combinations of mitigation methods on different farms, stakeholders in river water quality management will be able to focus their attention on the most effective methods and locations.



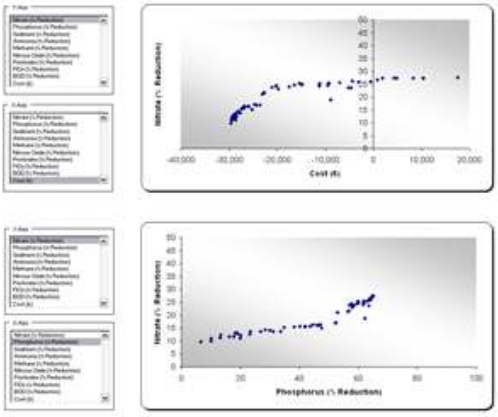
Graphs of farm data from the Farm Design Workbook



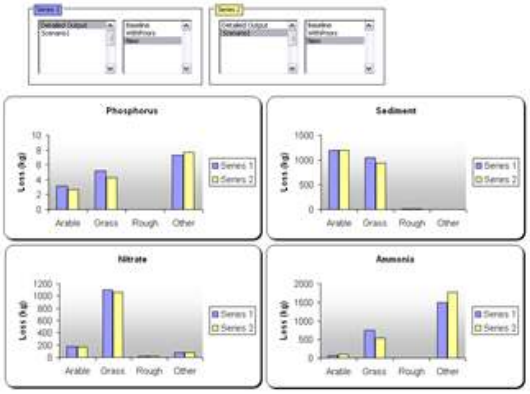
User interface from Farm Solver Workbook

Farmscoper contains over 60 mitigation methods, taken from the Defra User Guide which can be applied to one of 17 different farming systems in 18 different environments. The intensity of the farm systems can be modified to better reflect local practice, and the list of mitigation methods can be easily expanded or updated.

The tool currently predicts losses of nitrate, phosphorus, sediment and plant protection products (pesticides) to water, and also emissions of the greenhouse gases nitrous oxide and methane, plus ammonia emissions. Thus, as well as targeting local water priorities, mitigation methods can be chosen that help the country to meet its gaseous emission targets set by European directives and protocols.



Optimisation results for cost-effective mitigation for multiple pollutants



Comparison of the results of different suites of mitigation methods from multiple pollutants from different source areas

The Hampshire Avon DTC is being led by Professor Adrian Collins from ADAS. The first phase of the project runs until 31st March 2014. For further details please contact:

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If you would like to join the Hampshire Avon DTC and be part of this project, please get in touch. Your local knowledge, experience, expertise and advice will be invaluable in helping to develop the right catchment and farm management solutions for reducing pollution in the Hampshire Avon catchment.