



## **Does soil organic matter deliver benefits to arable farmers in England and Wales?**

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Soil organic carbon (SOC) is increasingly recognised as an important component in the global carbon cycle and as a potential C sequestration pool for mitigation of the enhanced greenhouse effect. Recent appeals have prompted research into the potential of storing C in arable fields and the concomitant impact for on-farm economics.

A list of qualified 'SOM benefit' indicators was developed using an iterative process involving the scientific literature and interviews with 'expert farmers'. Perceptions of the indicators were investigated within a stratified random sample of commercial farmers. On balance, farmers perceived that benefits of SOM outweighed the disbenefits (i.e. lodging, weeds, and slugs). N fertiliser reduction, increased yield quantity, and enhanced ease of tillage were recognised as the most valuable benefits. However, the values were low to moderate, and perceived to be influenced substantially by physiotope, crop type, and SOM management type.

Farmers' perceptions and valuations were investigated for 101 fields on commercial farms, selected from the NSI database to represent the attainable SOC content ranges. No correlations were found between SOC and any performance indicator. The full range of reported performances was found for fields with similar SOC contents. This implied that SOC contents and SOM management may have little importance to on-farm economics when compared to the quality of overall farm management.

These results expose the marginal extent of on-farm benefits from increased SOC contents and SOM management. Implications for future research and policy are discussed.