



Effects of compost and digestate additions on soil quality.

Anne Bhogal, Fiona Nicholson, Paul Newell-Price, Matt Taylor, Anna Becvar, Audrey Litterick and John Williams

Methodology

Sites

- 7 sites established in 2010 (2 sites with 6-17 year history of organic material application)

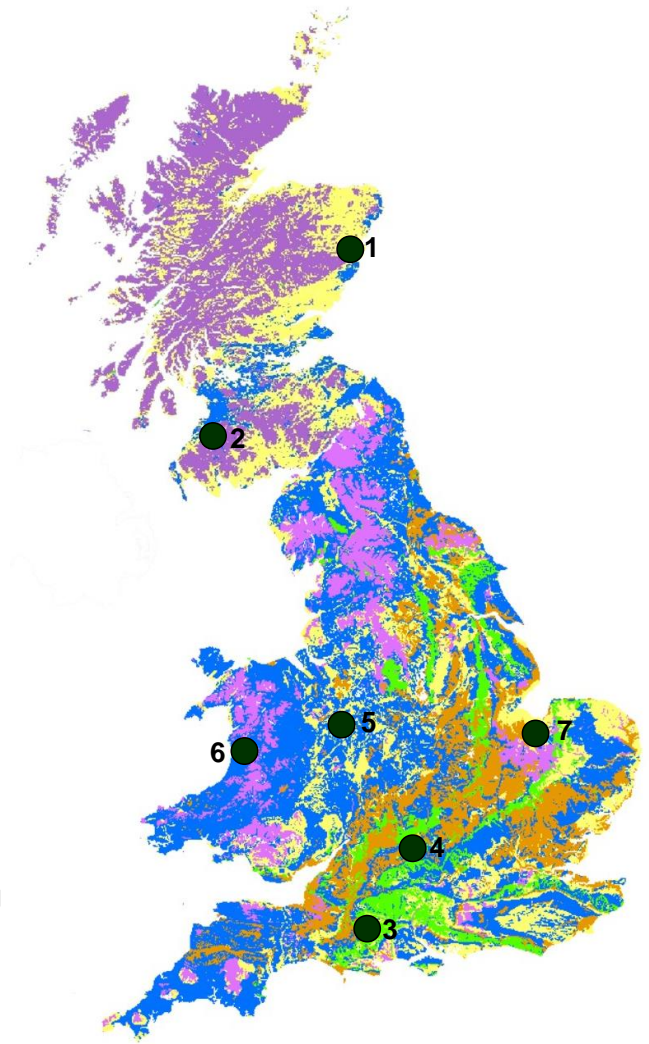
Treatments

- Control (manufactured fertiliser only)
- Green compost
- Green/food compost
- Food-based digestate
- Farmyard manure
- Livestock slurry

Applied in 2010, 2011 and 2012 at rates equivalent to c.250 kg/ha N and balanced with fertiliser N

Measurements

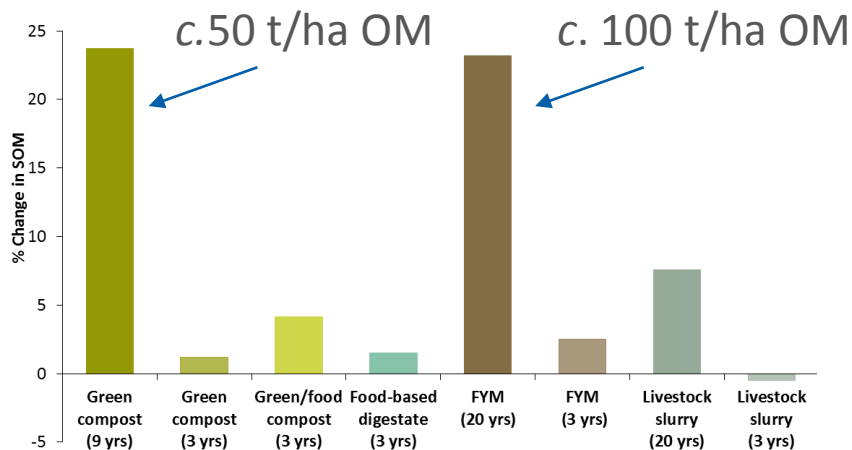
A range of soil and crop quality parameters measured in 2013, including soil organic matter (SOM), bulk density, nutrients, biomass C and N, earthworms etc.



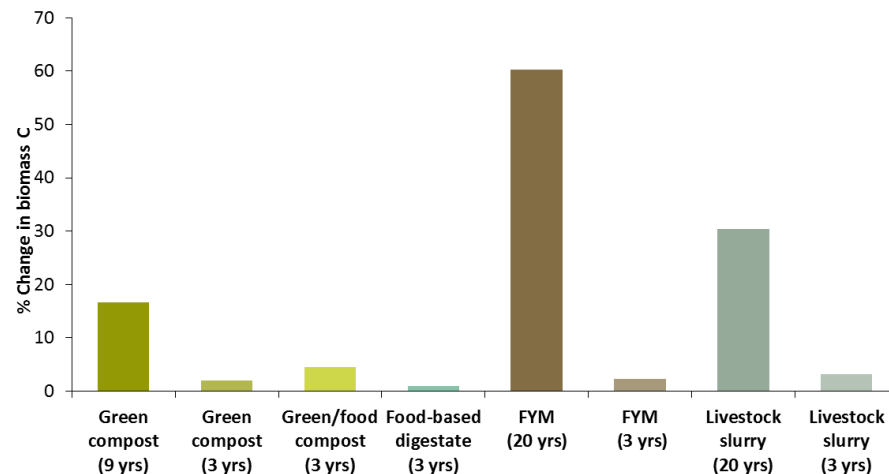
Key results

- Long-term compost and FYM applications increased SOM by 20-25%. Digestate had little impact on SOM.
- Retention of the OM from green compost (20-24%) was almost double that from FYM (12%) – related to lignin content.

% Change in SOM



% Change in biomass C



- Increases in SOM were associated with increased microbial biomass, earthworm numbers and nutrient supply, and decreased bulk density.