Can processed cattle and food-waste be the solution for nitrogen fertiliser overuse?  
A long-term experiment viewpoint

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Design of the experiment

**Soil origin** – 2 different long-term field experiments at the Rothamsted Research experimental farm – Foster and Broadbalk experiments (https://www.rothamsted.ac.uk/long-term-experiments)

**Treatments**
- High farmyard manure (soil from the Fosters experiment)
- High straw (soil from the Fosters experiment)
- High farmyard manure (soil from the Broadbalk experiment)

**Gas emissions measurements**
- Nitrous oxide
- Methane
- Ammonia
- Carbon dioxide
- Oxygen
- Water vapour
Gas 1

**Treatment**
- Baseline measurement
- Simulated rain event
- Application of organic amendments
- Simulated rain event
- Baseline measurement

**Control**
- Baseline measurement
- Simulated rain event
- Application of N fertiliser
Gas 2

Treatment

Baseline measurement
Simulated rain event
Application of organic amendments
Simulated rain event
Baseline measurement
Simulated rain event
Application of N fertiliser

Control
Gas 3

Treatment

Baseline measurement  Simulated rain event  Application of organic amendments  Simulated rain event  Baseline measurement  Simulated rain event  Application of N fertiliser
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