



ROTHAMSTED
RESEARCH

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

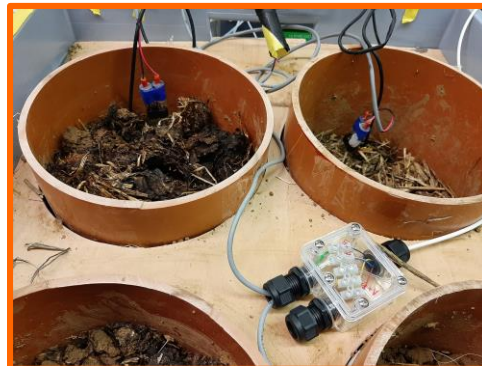
Soil origin – 2 different long-term field experiments at the Rothamsted Research experimental farm – Foster and Broadbalk experiments (<https://www.rothamsted.ac.uk/long-term-experiments>)

Treatments

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

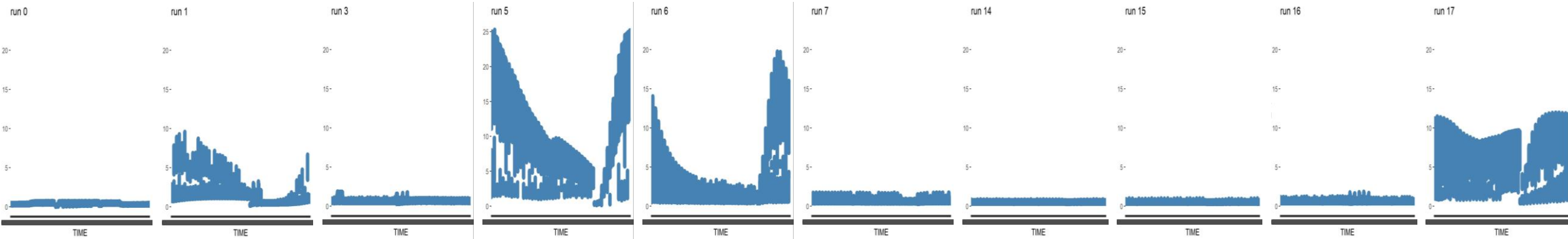
Gas emissions measurements

- **Nitrous oxide**
- **Carbon dioxide**
- **Methane**
- **Oxygen**
- **Ammonia**
- **Water vapour**

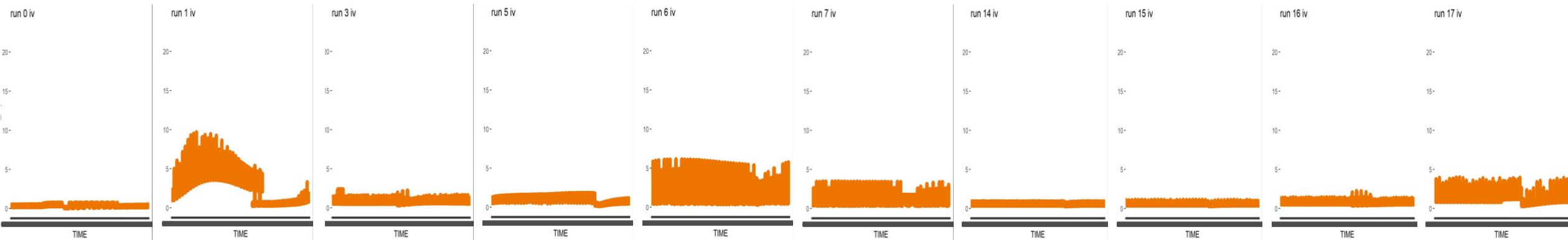


Gas 1

Treatment



Control



**Baseline
measurement**

**Simulated
rain event**

**Application of
organic
amendments**

**Simulated
rain event**

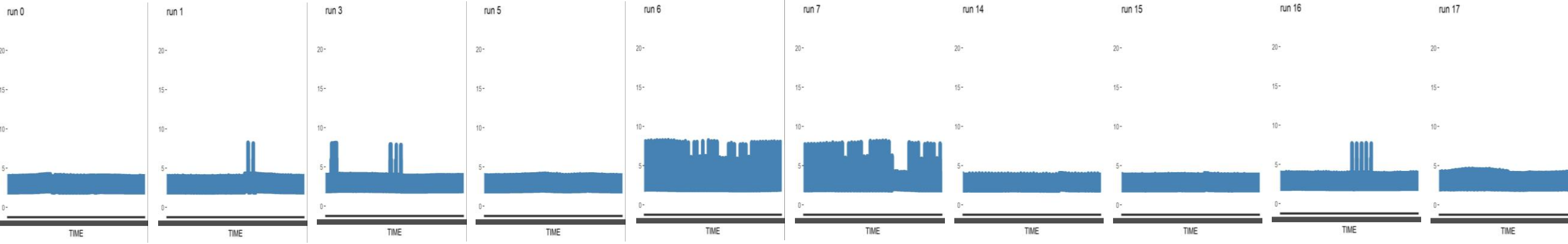
**Baseline
measurement**

**Simulated
rain event**

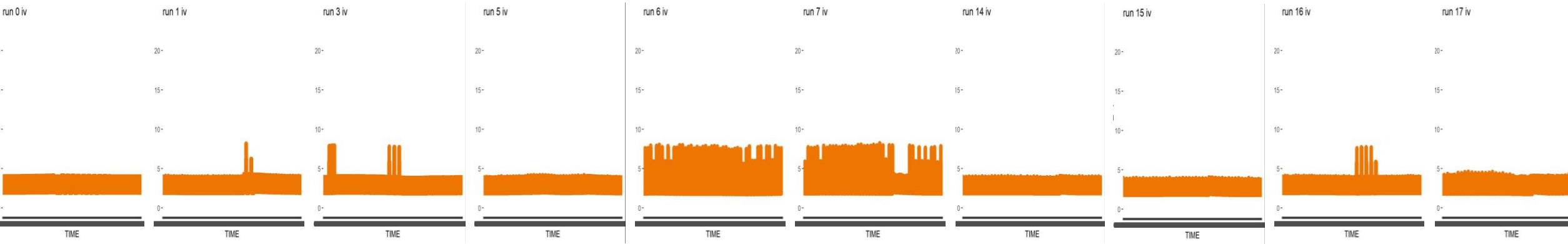
**Application of
N fertiliser**

Gas 2

Treatment



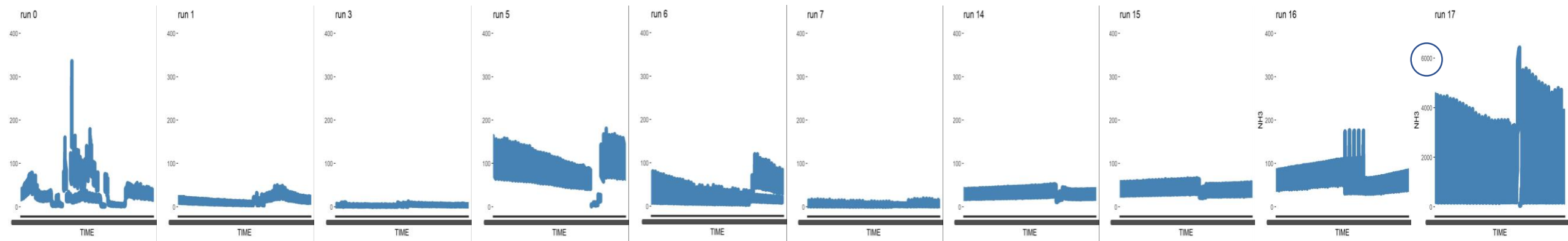
Control



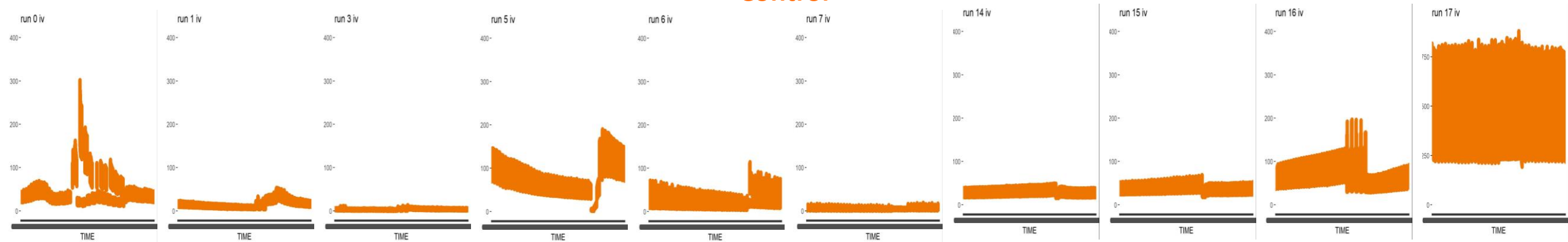
Baseline measurement	Simulated rain event	Application of organic amendments	Simulated rain event	Baseline measurement	Simulated rain event	Application of N fertiliser
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Gas 3

Treatment



Control



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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