Exercise 2. Data analysis

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28 February, 2024

Overview

In this exercise you will analyze emission of methane from pig slurry samples incubated in a laboratory experiment. Multiple bottles were used as reactors in a completely crossed factorial experiment with 2 temperatures and 2 headspace gases. Measurement data were kindly provided by Frederik Dalby.

1. Read and check data

Read in the data in the file `slurry_emis.csv`. Check the data. The relevant columns are

- `reactor` bottle key
- `ch4` methane concentration in bottle exhaust
- `flow` rate of gas flow through the bottle
- `day` time of measurement from setup
- `gas` headspace gas
- `temp` incubation temperature

2. Data analysis

Use an appropriate approach to determine if the data show that incubation temperature and headspace gas affect methane emission. Quantify any effect.