# The biochar decreases the ammonia emissions of cattle slurry

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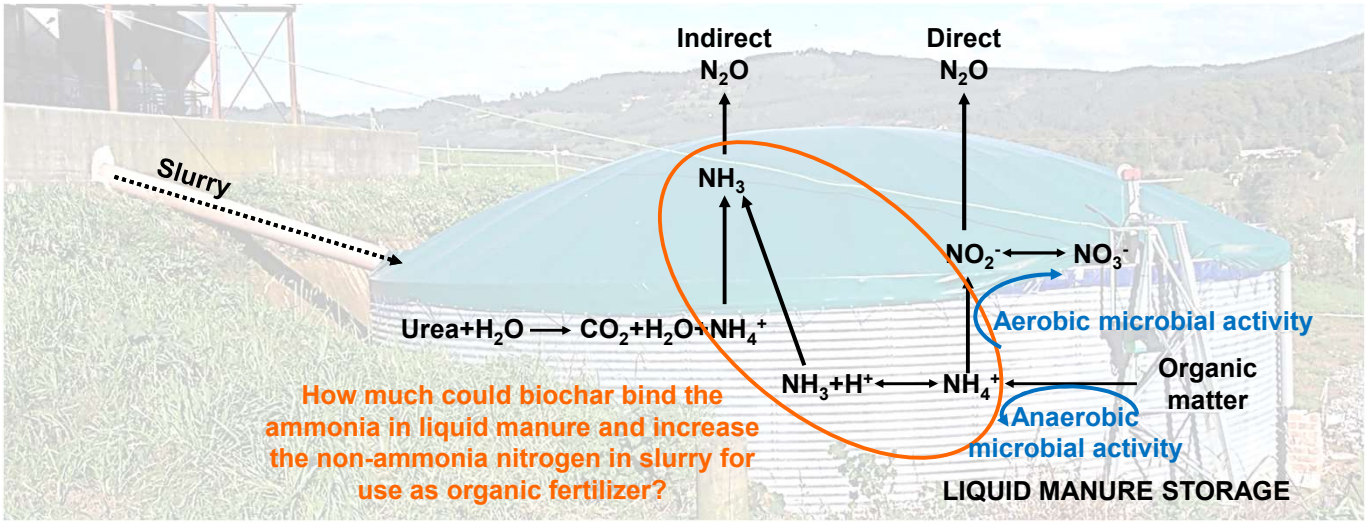
## Introduction

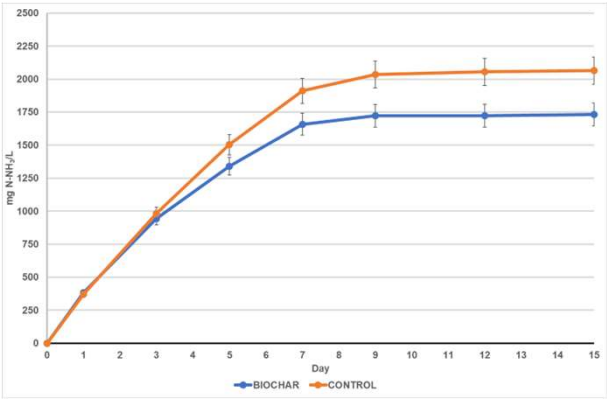



## Material and Methods


**Slurry with 2% of biochar**
***vs.***
**Slurry non treated**


- **Trial carried out in duplicate bottles with three incubation batches extended for 15 days each one**
- **$NH_3$ analysis every 2 days until the end of each batch**
- **Slurry dry matter, ash and nitrogen contents analyzed at the beginning and at the end of each batch**

## Results




**Ammonia emission evolution, in mg/L of slurry, according to treatment with or without biochar addition**

**Slurry composition (kg/m³) before start the study (Pre-treated, day 0) and after incubation period (day 15) with 2% biochar (Biochar) or without biochar addition (Control)**

| | Pre-treated | Biochar | Control | s.e. | P |
|---|---|---|---|---|---|
| **Dry matter** | 35.38 | 51.29 | 38.81 | 11.870 | 0.310 |
| **Ash** | 8.37 | 11.06 | 9.86 | 3.908 | 0.713 |
| **Nitrogen** | 0.82 | 1.05 | 0.89 | 0.252 | 0.555 |

## Conclusions

- **The addition of 2% biochar to cattle slurry reduces ammonia emissions to the environment by up to 16%.**
- **The nitrogen concentration of biochar-treated slurry was higher although not statistically significant.**
- **The biochar has potential as an ammonia binder in cattle slurry and thus as an agent to mitigate environmentally damaging nitrogen losses.**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