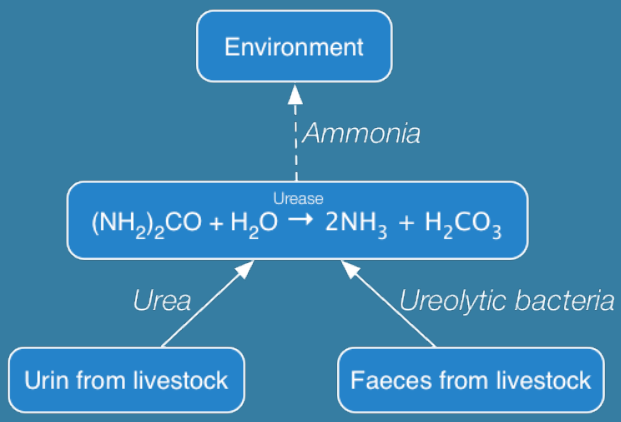
Identification and Development of Novel Strategies to Reduce Formation of Ammonia in Animal Manure

PhD student: Jens Jakob Sigurdarson Gade
Supervisor: Henrik Karring
Department of Chemical Engineering, Biotechnology and Environmental Technology

Introduction

The emission of anthropogenic ammonia to the environment is a serious problem that threatens both local vegetation, aquatic eco systems and human health [1]. The majority of anthropogenic ammonia emmission comes from agriculture [1]. As a result an increased political focus has been put on reducing the emission of ammonia from agriculture. Ammonia is produced when ureolytic bacteria digest urinary urea. This digestion is possible because of the enzyme urease [2].



Objectives

1. Identify ureolytic bacteria in pig faeces
2. Develop urease activity assay
3. Screen urease inhibiting compounds
4. Investigate the mechanism behind the inhibition

Methods

- Objective 1 → *Using variations of Christensen's Media*
- Objective 2 → *Measuring absorbance on Plate Reader*
- Objective 3 → *Method from objective 2*
- Objective 4 → *Depends on the results from objective 3*

References

[1] Aneja, V. P., et al., Effects of agriculture upon the air quality and climate: Research, policy, and regulations. Environmental Science and Technology.

[2] Krajewska, B. Ureases i. functional, catalytic and kinetic properties: A review. Journal of Molecular Catalysis B-Enzymatic

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