

Progress report 2002

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Title

Technology for reduction of nitrogen loss and environmental effects of solid manure systems

Dates for start and end of the research scholarship

Start: 1 January 2002

End: 1 January 2005

Name and education

Name

Martin Nørregaard Hansen

Education

Agriculturist

Biologist

Short description

Aim

Investigation and development of technology that reduces loss of nutrients and environmental effects of straw bedded housing systems.

Content

- Influence of storage strategy on nitrogen conversion and emission products
- Influence of storage strategy on nitrogen loss and spreading evenness
- Influence of soil preparation technology on plant availability of nitrogen in field applied solid manure
- Development and documentation of equipment for measuring ammonia volatilisation from livestock manure systems.

Institution of registration

University of Aalborg. Institute of water, soil and environmental technology

Supervisors

Senior lecturer Kaj Henriksen, University of Aalborg

Senior scientist Sven G. Sommer, Danish Institute of Agricultural Sciences.

Status

- A brief plan for the project has been described
- There has been applied for external funding
- The influence of storage on ammonia volatilisation and spreading evenness of solid manure has been evaluated. Provisional results have been published
- A system for studying volatilisation of gasses from stores of solid manure and for evaluation of measuring techniques has been developed.
- A study for measuring nutrient loss and environmental impact during storage of solid manure is currently running.

Plans for 2002 - 2003

- Detailed project description
- Publication of a national report on nutrient loss from livestock manure
- Study of the influence of aerobic/anaerobic storage condition on nutrient loss and environmental impact during storage of solid manure
- International publication of results obtained from the study of influence of storage on ammonia volatilisation and spreading evenness of solid manure
- Evaluation and publication of results obtained from the study of nutrient loss and environmental impact during storage of solid manure
- Lab experiments to study the influence of oxygen on production of greenhouse gasses during storage of solid manure

List of publication

- Hansen M.N.; Sven G Sommer; Henriksen K. Methane emission from stores of solid manure – Effects of storage condition and climate. Proceedings of the NJF-seminar no. ???, Greenhouse gas inventories for agriculture in the Nordic countries Helsingør, Denmark. Olesen, J & Petersen S.O. (Edit.). (In press).
- Sommer S.G.; Hansen M.N.; Møller H.B. 2002. Optimal utilization of livestock manure (Fuld udnyttelse af husdyrgødning) (In Danish). Forskningsnytt No 2, April 2002. 18-21.
- Hansen M.N. 2002. Storage of solid manure improves spreading evenness, but increases loss of nutrients (Lagring af fast husdyrgødning forbedrer spredningen, men øger næringsstoffabet) (In Danish). Forskningsnytt nr. 2, April 2002. 16-17.