

# The Importance of Rapid Manure Incorporation

Utah State University

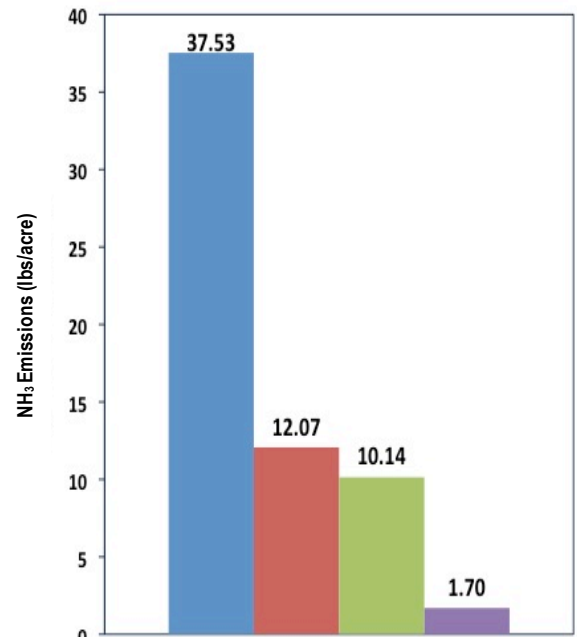
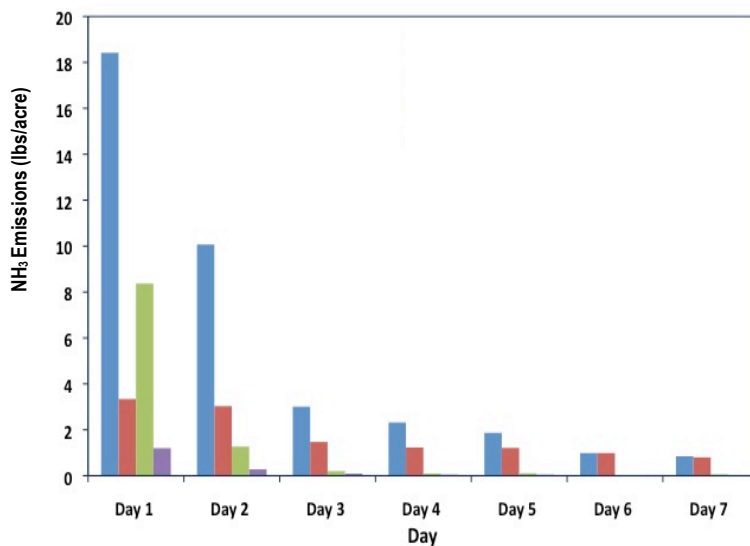
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Manure was applied to the soil and incorporated either immediately, or not incorporated, and ammonia emissions monitored. Both dairy manure from a sand bedding operation (no straw) and manure from a tie-stall barn (with straw) were utilized for the study.

Ammonia is rapidly lost after application. Manure from a sand bedding operation lost ~50% of the ammonia losses within 24 hrs, and ~76% within 48 hours. Manure with straw has much lower ammonia emissions as the carbon helps trap the ammonia.

Any nitrogen (N) that is lost as ammonia is N that is not available for your crop. Immediate incorporation of manure will help save N for your crop, and reduce the need for inorganic N fertilizer, thereby saving you money.

- - Un-incorporated / No Straw
- - Incorporated / No Straw
- - Un-incorporated / Straw
- - Incorporated / Straw



## Not Incorporated

- ⦿ No Straw (sand bedding)
  - ~50% NH<sub>3</sub> lost within 24 hrs
  - ~76% of NH<sub>3</sub> lost within 48 hrs
- ⦿ NH<sub>3</sub> losses reduced by 86% when straw added

## Incorporated

- ⦿ No Straw (sand bedding)
  - Incorporation reduced NH<sub>3</sub> loss by 68%
- ⦿ NH<sub>3</sub> losses reduced by 73% when straw added