

# Crop Management Diagnostic Clinics

MacAfee

## **Use & Copyright**

The materials in this document were developed by and for use by University of Nebraska–Lincoln Extension in the Institute of Agriculture and Natural Resources. The materials are copyrighted by the Board of Regents of the University of Nebraska–Lincoln on behalf of the University of Nebraska-Lincoln Extension. All rights are reserved. Copies may be printed for individual personal use; however, these materials cannot be republished in print, on another Web site or used commercially without prior written permission. To seek permission to print a publication for educational use, please email us at [dpittman1@unl.edu](mailto:dpittman1@unl.edu).

## **Disclaimer**

Reference to commercial products or trade names in these publications is made with the understanding that no discrimination is intended and no endorsement by University of Nebraska-Lincoln Extension is implied.

© 2013 University of Nebraska–Lincoln

## N Loss from Sprinkler Applied Beef Effluent

### Background

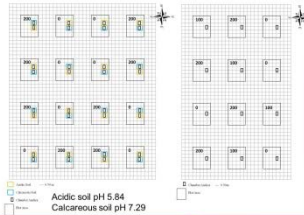
- $\text{NH}_4^+\text{-N}$ 
  - Losses from volatilization & drift
  - UNL's current estimate of loss from sprinkler application is 50%
- $\text{N}_2\text{O}$ 
  - Increase  $\text{N}_2\text{O}$  emissions (Greenhouse gas emissions)

### Why?

- Limited research on beef cattle effluent
- From this study:
  - More accurately account for  $\text{NH}_4^+\text{-N}$  loss
  - Reduce  $\text{N}_2\text{O}$  emissions
  - Manage applications to conserve N

### Objectives

- Determine the effects of:
  - Soil pH
  - Effluent  $\text{NH}_4^+\text{-N}$  concentration
  - Water filled pore space
  - Weather
- Quantify  $\text{NH}_4^+\text{/NH}_3\text{-N}$  losses during and after application
- Quantify  $\text{N}_2\text{O}$  losses following application



2013CMD-C-Mcafee