

ABSTRACT

AMMONIA EMISSIONS FROM NITROGEN APPLIED IN A SITE-SPECIFIC MANNER

Ammonia emissions are known to occur from the application of nitrogen fertilizers. The effects of nitrogen rate on ammonia volatilization. A nitrogen trial was conducted in 2003 and 2004 on a cotton crop (*Gossypium hirsutum L.*) evaluating a low, medium, high, and variable rate of nitrogen. Ammonia sampling was conducted within some of the nitrogen trial plots in order to detect the ammonia emissions from differing rates nitrogen. An active denuder filter pack was used to measure ammonia in this study. The method employed to detect differences in levels of ammonia emissions was successful in quantifying higher concentrations of ammonia in the plots with the highest nitrogen rates. Variable rate fertilizer decreases the net loss of ammonia volatilized as less fertilizer is applied when compared to a blanket application of a high rate.

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