Phosphorus Runoff and Ammonia Volatilization from Poultry and Swine Fed Phytase Diets. (S11-smith103508-Oral)

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Abstract:

Reducing total phosphorus (P) in feed may reduce the impacts of manure fertilization by decreasing the total P in manure. Four studies have been conducted to determine the effects of dietary modification with phytase on P runoff from pastures. Three of these studies have shown increased P runoff (by as much as 100%) when compared to plots fertilized with litter from animals fed normal diets. Data from these studies suggest that decreasing dietary P levels in diets alone may not be an adequate solution to problems associated with P runoff. One study indicated that ammonia (NH3) loss was reduced by as much as 25% when phytase was incorporated into swine diets. Two of these studies coupled dietary modification with manure amendments (alum or AlCl3). These studies demonstrated that synergy exists between the use of these two forms of treatment at reducing both P runoff and NH3 volatilization. These studies indicate there are questions that need to be answered before widespread adoption of dietary modification in the animal industries, however, if incorporated with the addition of manure amendments, the risk of nutrient losses from manure is reduced.

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