Effect of Dietary Modification on Manure Phosphorus: Implications for Water Quality and Regional Nutrient Management Planning. (S08-maguire101248-Poster)

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Abstract:

A positive mass balance for P on many farms and regions with intensive animal agriculture has led to increased soil test P levels, and non-point losses of P that can have a detrimental effect on surface waters. Adding feed amendments, such as phytase, can increase P digestibility, lower feed and manure P contents and therefore decrease the total amount of P that must be managed in watersheds dominated by intensive animal agriculture. Despite the lowered total P content of such manures, concerns have been raised that feed additives may increase P solubility in manures and lead to a greater risk of P loss from manure amended soils. We obtained manures from several animal studies that involved feeding combinations of phytase, citric acid and 25OH-D3 with different levels of total P, to swine, broilers and turkeys, and analyzed these manures for total and water soluble P. The results will be discussed in terms of the implications for the mass balance of total P on intensive animal farms and how the feed additives and varying total P contents affected P solubility in manures.

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