NMR Spectroscopic Investigations of Chemical Forms of Phosphorus in Alum Amended Poultry Litter. (S02-hunger144736-Poster)

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Abstract:

Run-off from agriculture has been recognized as one of the most important non-point sources for phosphorus in lakes and streams. As the limiting nutrient for eutrophication to occur in fresh-water, its management on farm level is important, especially in areas with intense life-stock production and the accompanied problem with the disposal of animal wastes. Several amendments have been employed to reduce the water solubility of phosphorus in poultry litter, of which aluminum sulfate (alum) seems to be the most promising. In this work, results from a solid-state 31-P NMR investigation are presented, major chemical forms of phosphorus in alum amended poultry litter are identified, and the mechanism of phosphorus stabilization is discussed.

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