Effects of Freezing on contents of Molybdate Reactive Phosphorus in Poultry Litter Extracts. (S11-tasistro153011-Poster)

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Abstract:

Often observed undue variability in Molybdate Reactive Phosphorus (MRP) in poultry litter extracts appeared related to frozen storage. Acid (pH 2.0) water extracts from three broiler and one pullet litters were stored at -16 to -15oC for 60 to 62 hours or at 21 to 24oC. MRP levels in extracts kept at room temperature remained stable in time. Freezing lowered MRP concentrations measured immediately after thawing compared to values from extracts kept at room temperature. Reductions ranged between <1% and 42% and tended to increase with Fe and Al contents. Precipitates containing P, Fe and Al were observed in some vials kept at room temperature. MRP might complex with Fe and Al and low temperatures to further slow down MRP resolubilization upon thawing. Freezing effects were not permanent: after five days MRP levels were comparable to those of extracts kept always at room temperature. Total Dissolved Phosphorus (TDP) concentrations did not vary with storage temperature treatments or time, further indicating no reactions between MRP and scintillation vials walls. Storage at room temperature is recommended if analyses are scheduled within five days after extraction.

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