Net Mineralization of liquid dairy manure organic N. (C07-pettygrove151631-Poster)

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Abstract:

Dairy farmers in the western US commonly collect and store liquid manure (lagoon water) in dilute form (<2% solids) in anaerobic storage ponds, and then apply the liquid to crops through the irrigation system. Residence time in ponds can range from hours to years, and degree of decomposition of the manure organic matter prior to land application is unknown. We conducted a batch aerobic incubation study with destructive sampling using a sandy loam soil at 25 deg C to compare filtered and unfiltered liquid manure. Filtering (0.45 micron) removed 97% of organic N. Cumulative net N mineralization reached ~19% of initial organic N applied (32 micrograms N/g soil) within 20 d of initiation and did not increase any further up to 80 d. Comparison of net N mineralization rates to lagoon water physical and chemical properties will be reported.

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