Composting: Stabilization, Dewatering, Volume Reduction and Pathogen Kill. (A05-sikora132540-Oral)

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Abstract:

Treatment of manures usually have the objectives of reducing the volume, reducing the water content and stabilizing the organic matter. Composting is a treatment process that produces a relatively dry, stabilized product with significantly lower mass. Composts are more stable or less biologically active than uncomposted material. Composting reduces moisture content of organic byproducts. Thermophilic temperatures attained during composting lead to evaporative cooling that changes the water from liquid to a vapor. Dry materials can be screened to produce additional byproducts having different size and quality characteristics. Stabilized composts can be stored with low potential of odor generation. A significant benefit derived from compost is sustained high temperatures that kill human and plant pathogens. Temperatures maintained at 55 C from 3-14 days are adequate to kill pathogenic microorganisms. It is difficult to find a treatment process that accomplishes these goals without chemical additions or significant energy inputs. Therefore composting generally would be less costly than other innovative manure treatment methods

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