PATHOGEN ASSESSMENT OF PASSIVELY AERATED COMPOSTING OF ROADKILL

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DOT is charged with managing over 25,000 dead deer on NYS highways annually. Current practice includes contracting with service providers, dragging animals off the road or placing them in pits/depressions off road sides. This is costly and inefficient for DOT and service providers do not always have legal or environmentally sound plans for disposal. Contractors are paid between $30 and $80 per deer for pick-up (Rick McKeon NYSDOT) and which costs $1-2 million annually. Landfills generally will not take carcasses and when they do it is limited, so the DOT is left with limited and costly disposal.

Passively aerated composting is a good method of managing these wastes. But questions surfaced regarding the reduction in pathogens, worker health and safety and use of the end product. Some spot sampling of pathogens has been done, but there was enough monitoring and data collection of pile temperatures, pathogen reduction or compost use parameters.

NYSDOT worked with CWMI to develop a research project that would investigate the reduction in pathogens in static pile composting of road killed deer and develop guidance for best management practices, compost use, and protection of worker health. Collaborators included Cornell School of Industrial and Labor Relations; Woods End Research Laboratory, Cornell College of Veterinary Medicine; NYS Department of Environmental Conservation.

Through a literature search targeting possible pathogenic organisms a sampling strategy was developed and periodic sampling was conducted throughout 2005-06. Six piles were monitored, 3 research piles at Cornell University were seeded with hardy field generated organisms. Three replicates were set up in three different DOT locations to account for different climatic conditions. Temperature data was continually collected at all locations. Pathogen monitoring included Fecal Coliform, E coli, Salmonella, Fecal Streptococci, Enterococci, Mycobacterium avium paratuberculosis. Compost parameters have also been monitored to answer proper use questions.