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.