

## **Post-Relocation Analysis of Compost Runoff at the Intervale Composting Facility, Burlington, VT**

Catherine McGoldrick

Commercial composting is a renewable alternative to conventional waste removal and can convert organic wastes into a useable material through accelerated aerobic decomposition. Although compost is handled as a solid waste, little research assessing water quality of contaminated liquid runoff from composting operations has been published. The purpose of this project was to assess the potential for a commercial composting facility to output residual contaminated liquid runoff after the compost piles were removed. The experiment took place at the Intervale composting facility in Burlington, Vermont. The site accepted organic waste from the surrounding Chittenden County until June 30, 2011. The facility closed and moved its compost piles to a new facility in Williston, Vermont. After the compost piles were removed, water samples were collected from the onsite compost runoff collection pond and an offsite control pond from August 26-November 6, 2011. These samples were analyzed for concentrations of phosphate, chloride, nitrate, sulfate, and macronutrients (K, Ca, Na, S, Mg). In addition, the new samples measured total phosphorus and ammonium and were compared to historical data from the pond during composting operations. The results of the experiment showed that potassium and sodium concentrations decreased relative to the time after compost pile removal. While both the compost collection pond and the control pond exhibited significant concentrations of chloride, the collection pond concentrations were more than four times greater during all six new sample days. Insignificant levels of nitrate were measured in both ponds following compost removal. Finally, incorporating the historical data showed that following the removal of compost piles from the site, concentrations of total phosphorus and ammonium reduced. The results support the conjecture that following the removal of compost piles from the site, nutrients associated with compost production decrease.