APPLICATION: TESTING THE STABILITY OF COMPOST

METHOD

A full-scale compost plant was faced with the need to determine the stability of the compost in the active bays during the compost operation. Samples were collected at 24-ft intervals (2 days of operation) through the length of one bay of the in-vessel compost system and placed into sealed glass reactors. Air was recirculated through the compost material using a peristaltic pump. A caustic scrubber was placed in the recirculation line to remove carbon dioxide (Figure 1). The reaction vessels were connected to a Challenge AER-200A respirometer system for measuring the oxygen uptake.

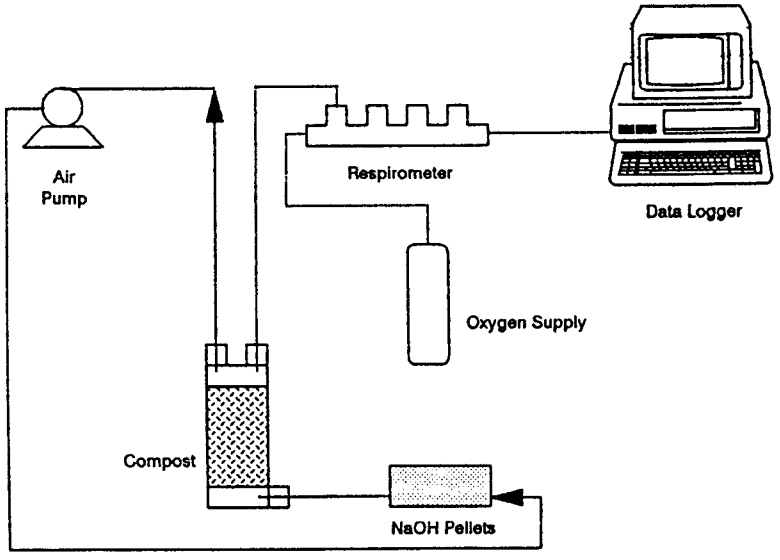

FIGURE 1

ANALYSIS

The respirometer tests showed a significant relationship between oxygen uptake and distance along the compost bay (Figure 2). These measurements indicated that adequate stability occurred in about 12 days of composting. Additional respirometer testing indicated that stability was improved by maintaining the moisture content above 45%.

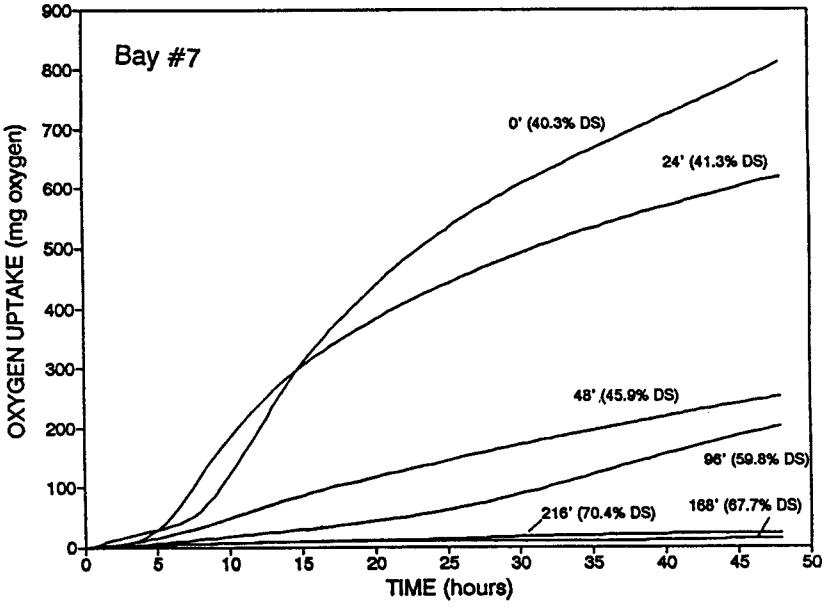

FIGURE 2