

Community Composting: Composting Site Management Levels

Solid Waste Management Fact Sheet No. 23

As local officials and citizens consider their options for yard waste management, they will face a choice between several general levels of yard waste management. Traditionally, the choice has been to treat leaves and other yard wastes in the same manner as other solid wastes, or at best, to divert some portion of them into an unmanaged but separate "leaf dump" or "rot pile." Such options are becoming increasingly less satisfactory for environmental, regulatory, and economic reasons.

But even if the need to actively and separately manage yard wastes is obvious, many factors will influence selection of the most appropriate level of management locally. Among them are the types and quantities of plant materials in the waste stream; the local costs of land and labor; the accessibility of financing and machinery at a reasonable cost; the time available to produce a finished compost product; the product requirements of markets or end-users; and many others. The resources that seem most often critical in these decisions are:

- * the availability of land for a site (and therefore the amount of time materials can remain onsite)
- * the amount and kinds of yard wastes to be managed
- * the equipment available for composting

To help local governments make informed choices, these options can be grouped into four basic management levels. These include Low, Medium, and High Intensity Management scenarios for yard wastes, as well as the Mixed Waste scenario that depicts situations in which yard wastes are composted in mixtures with other materials, such as sewage sludge or food wastes.

Note that the single most distinctive characteristic of Low Intensity Management sites is the low volume of yard waste. Medium Intensity Management sites are very similar to Low Intensity sites, but are distinguished by significantly higher volumes of yard wastes. Both systems depend on simple equipment, such as front-end loaders, for pile aeration.

The High Intensity Management sites are distinguished by their ability to handle larger volumes of yard waste because they make regular use of efficient windrow turning equipment. The Mixed Material Management sites are defined by the composting of wet, high-nitrogen materials. Typically these compost operations are constrained to meet the handling requirements of the high nitrogen material, with leaves or wood chips serving primarily as a bulking agent. This is particularly pertinent for composted sewage sludges, for which special regulations related to pathogen control and heavy metal compounds also come into play.

Low Intensity Management Sites:

Typically compost less than 3,000 cubic yards of yardwaste annually, mostly leaves and some grass. Piles are aerated with a front-end loader, often only as time permits. Compost site is typically 1-2 acres. Most yard waste compost sites in the state are likely to be under Low Intensity Management.

Medium Intensity Management Sites:

Typically compost 3,000-15,000 cubic yards of yardwaste, mostly grass and leaves. A few sites handle significantly larger volumes. Piles are aerated with a front-end loader, with staff and equipment fully or partially dedicated to the compost operation. Compost site is typically 2-5 acres, in a few cases much larger.

High Intensity Management Sites:

Typically compost more than 15,000 cubic yards of yardwaste, including grass and some leaves. Piles are frequently aerated with a specialized windrow turning machine, with staff and equipment fully or partially dedicated to the compost operation. Compost site is typically 5-30 acres, but the intensive management practices allow processing of more yardwaste per acre.

Mixed Material Management Sites:

These sites are distinguished by the co-composting of yard wastes with other materials that require more careful management for successful composting. Typically, chipped brush or leaves are used as a bulking agent for wet, high nitrogen materials like sewage sludges, manures, food wastes, or very large quantities of grass. More capital intensive systems involving enclosed vessels or static piles with blowers are likely to be used at a few sites incorporating yard wastes with other materials. A very few sites across the nation compost "whole" municipal solid waste.

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