Fact Sheet

Oregon Food and Yard Debris

State of Oregon
Department of Environmental Quality

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Overview

Food waste and yard debris are both highly compostable materials but currently generated and managed quite differently from each other. Yard debris is vegetative and woody material generated from residential property or from commercial landscaping. It includes grass clippings, leaves, hedge trimmings and similar vegetative waste. Yard debris that is home composted is not included in Oregon's recovery rate.

Woody material my be accepted at compost facilities but is often sent to businesses that burn it as hogged fuel. The material burned in hog fuel burners is counted as energy recovery in the state's recovery rate. (See Figure 2)

Food waste includes peelings, meat scrapes, grease and other residue from preparing food. It also includes food that has spoiled or has been discarded. State recovery tonnage do not include food that is home composted, food produced by agricultural operations, major food processors or food that is disposed in sewers.

Oregon generates about 810,000 tons of food waste and yard debris each year. That is about 500 pounds per person per year. This makes up 19.5% of the total waste stream disposed. While almost equal amounts of food waste and yard debris are typically generated, in 1998 only 26,487 tons of food waste were recovered compared to 278,780 tons of yard debris. (See Figure 1). Organic material is bulky, take up space in landfills, and produce methane gas that must be recovered or burned and produce liquids that contribute to leachate.

Yard Debris

Most yard debris comes from residential and commercial landscaping activities. The vast majority is generated in relatively small quantities at each site throughout the year. Yard debris is either delivered directly to the composting facility by the generator or is collected on-route by a solid waste collection service.

The tonnage disposed in this manner has dropped steadily over the past decade, as curbside yard debris collection programs have become fairly common, and as landfills and transfer stations develop other options for collecting and composting yard debris. In 1998 the following counties collected at least 500 tons of yard debris through curbside programs: Multnomah, Washington, Clackamas, Benton, Linn, Marion, Polk and Coos.

Before yard debris can be composted, it must be free of contaminants which can damage the processing equipment, the composting process, or final compost product. Common contaminates are metal, plastic, rocks and concrete, and residential garbage. Generally these contaminants are sorted out before the yard debris is collected and delivered to the composting site. Most of the yard debris processors inspect the material as it comes in and then again as it is processed.

Food Waste

Businesses and residences generate about the same amount of food waste. Most food waste is currently disposed of at landfills, through garbage disposals into local sewers systems, or through back yard compost. Grease is collected from businesses for rendering. There are no permanent curbside collection programs in Oregon for food waste.

A number of projects have begun in the state to collect food from grocery stores, restaurants, hotels, florists, institutional cafeterias, bakeries, food processors and wholesale warehouses for donation to food service providers and composting.

Permits for Composting Facilities

Regulations for composting facilities were developed in response to odor and water quality problems. With the help of a compost work group, and extensive public involvement, regulations were adopted by the Environmental Quality Commission (EQC) in 1997 and implemented by DEQ in 1999.

Regulations are minimal for small composting facilities handling only green feedstock considered to be low risk to human health and the environment. Examples of green feedstock includes yard debris, animal manures, produce waste, etc.

Large facilities and those handling non-green feedstocks must comply with more human health and environmental protections because of the

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greater risk. Examples of non-green feedstocks includes, meat, grease, and dairy products. See Compost Regulation Fact Sheet at: **http://www.deq.state.or.us/wmc/solwaste/compostfaq.html**

There are 31 permitted yard debris composting facilities in Oregon. These do not include agricultural composting operations regulated by the Oregon Department of Agriculture or facilities composting biosolids.

Presently, the Columbia Ridge Landfill in Arlington is the only facility permitted to handle non-green feedstock. However, it is anticipated that additional facilities will come on line within the next few years.

Economics of Organic Recovery

The markets for yard debris recovery are relatively strong. Oregon diverted about 68% of its yard debris from landfilling in 1999. Total yard debris collection and transportation program costs are estimated to be $66/ton for residential and $77/ton for the commercial sector.

Composting and diversion of food waste are in the developmental stage, with only 0.4% being composted in 1999, primarily from two pilot programs. An additional 6% of food waste was recovered as animal feed and through rendering plants.

Yard debris collection does not require special container or trucks. Estimated costs for yard debris collection are $40-$60 per ton of material diverted. Yard debris collection is stimulated by the availability of collection programs and by the cost of garbage tipping fees. Yard debris tipping fees are up to 75% less than garbage disposal fees and range from about $15 to $40 per tons. The actual estimated cost of yard debris and food waste processing are equivalent (about $20 to $50 a ton); therefore, processing costs are split between the amount charged to receive materials and the amount charged for the finished compost.

Food waste collection may require specialized containers and trucks to control liquids and minimize odor. A national study of food collection programs estimates the collection costs in the commercial sector range from $60 to $77 per ton. An important factor when considering food waste collection is that the high costs make it difficult for the generators to realize a saving over solid waste disposal unless they are generating large quantities. National research reveals that large quantity generators generally save 20% to 50% on disposal by separating out food waste, but small quantity generators realize little, if any, savings.

Recycling Market Capacity

Green House Gasses (GHG): An EPA 1998 study using two types of GHG including methane from anaerobic decomposition and non-biogenic CO2 from transportation of compostable materials, and turning compost piles concluded that composting is a process that produces virtually no greenhouse gas emission and is not likely to represent a significant carbon sink. For centralized yard trimmings composting, the transportation emissions are probably balanced (and could well be exceeded) by additional carbon storage.

Compost can play a significant role in safeguarding water quality from farm and urban runoff. Land clearing at new construction sites removes much of the topsoil. Compost can improve soil to control loss at new development sites, improve health of new plants, reduce erosion and reduce the need for fertilizers and pesticides.

Application of compost to farm crops can reduce the use of pesticides and fertilizers and protects farm workers from pesticide application.

Alternative Formats

Alternative formats of this document can be made available. Contact DEQ's Office of Communications and Outreach, Portland, for more information, at (503) 229-5696

Figure 1

1999 Statewide Disposal and Recovery of Compostable Materials				
Material	**Recovered Tons**	**Disposed Tons**	**Generated Tons**	**% Recycled**
Yard debris (Recovered Tons includes materials composted, chipped or burned for energy recovery)	278,780	131,185	409,965	68%
Wood (Recovered Tons includes materials that has been composted, chipped, or reused)	326,668	284,032	610,700	53%
Food and Grease (Recover Tons include vegetative and non-vegetative food waste and restaurant grease.)	26,487	373,756	400,243	7%

Figure 2

Sources of Yard Debris Composting 1999		
Tons	**Percent**	**Collection Method**
139,720	49.2	Private companies/self haul
103,733	36.5	Residential curbside/multifamily
23,222	8.1	Disposal site recycling depots
11,156	3.9	Commercial garbage hauler
4,843	1.7	Other hauler/municipal-sponsored recycling
.11	0.3	Other & Unknown
Uses of Yard Debris 1999		
Tons	**Percent**	**Use**
193,584	68.2	Composting
53,272	18.7	Energy recovery
36,578	12.9	Recycled (chips, etc.)

These recycled material fact sheets are working documents produced by the Oregon Department of Environmental Quality Solid Waste Policy and Program Section. For questions, comments, or further information please email **solwaste@deq.state.or.us** *or contact the Department of Environmental Quality, Solid Waste Policy and Program Section, 811 SW Sixth Avenue. Portland, OR 97204, 503-229-5913 or toll-free in Oregon 1-800-452-4011.*