

MSW Composting Glossary

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Extracted from a variety of sources or developed by the authors and presented for the convenience of the reader.

AERATED STATIC PILE: composting system that uses a series of perforated pipes (or equivalent) as an air distribution system running underneath a compost pile and connected to a blower that either draws or blows air through the pipes. Little or no pile turning is performed.

AERATION (for composting): bringing about contact of air and composting solid organic matter, by means of turning or ventilating to allow microbial aerobic metabolism (biooxidation).

AEROBIC: occurring in the presence of oxygen.

ANAEROBIC: occurring in the absence of oxygen.

BATCH COMPOSTING: all material is processed at the same time, without introducing new feedstock once composting has begun; windrow systems may be batch systems.

BIODEGRADABILITY: the potential that an organic component can be converted into simpler compounds by metabolic processes.

BULKING AGENT: material, usually carbonaceous such as sawdust, wood chips, or shredded yard trimmings added to a compost system to maintain airflow by preventing settling and compaction of waste.

COMPOSTABLE: organic material that can be biologically decomposed under aerobic conditions.

CONTAMINANT: unwanted material; physical contaminants of compost can include glass, plastic, and stones; chemical contaminants can include trace heavy metals and toxic organic compounds; biological contaminants can include pathogens.

CURING: the last stage of composting that occurs after much of the readily metabolized material has been decomposed. Provides for additional stabilization, reduction of pathogens, and allows further decomposition of cellulose and lignin.

DECOMPOSITION: the breakdown of organic matter by microbial action.

DEWATERED SEWAGE SLUDGE: municipal sewage sludge with a total solids content of 12% by weight or greater that can be transported and handled as a semi-solid material.

FOREIGN MATTER: non-biodegradable matter contained in MSW compost such as glass, plastic, metals, etc. They are permitted only at low levels in market compost. (Soil and sand are non-degradable but can be very desirable components in some market composts.)

HEAVY METALS; TRACE METALS: trace elements whose concentrations are regulated because of the potential for toxicity to humans, animals, or plants, and includes chromium copper, nickel, cadmium, lead, mercury, and zinc if present in excessive amounts.

HUMUS: a complex amorphous aggregate, formed during the microbial decomposition or alteration of plant and animal residues and products synthesized by soil organisms; principal constituents are derivatives of lignins, proteins and cellulose combined with inorganic soil constituents.

INERTS: non-biodegradable products contained in compost (glass, plastics, etc.).

INORGANIC: substance in which carbon-to-carbon bonds are absent; mineral matter.

LEACHATE: liquid which has percolated through or condensed out of mixed municipal solid wastes and extracted dissolved and suspended materials; liquid that drains from the mix of fresh organic matter.

MATURE COMPOST (synonym of COMPOST): the stabilized and sanitized product of composting. It has undergone decomposition and is in the process of humification (stabilization); it is characterized as containing readily available forms of

plant nutrients, poor in phytotoxic acids and phenols, and low in readily available carbon compounds.

MIXED WASTE PROCESSING: central facility for inspecting and sorting commingled waste materials generally for the purpose of recovering materials of value for recycling.

MOISTURE CONTENT: weight of water in material divided by weight of solids in material.

ORGANIC CONTAMINANTS: synthetic trace organics including pesticides and other synthetic chemicals.

PATHOGEN: an organism or microorganism, including viruses, bacteria, fungi, and protozoa capable of producing an infection or disease in a susceptible host.

PHYTOTOXIN: toxins which may endanger plant viability or functionality.

SOURCE SEPARATION: the practice, by primary waste generators such as households and businesses, of separating waste generated within the household or commercial operation into separate fractions, such as all newspapers together, all glass together, etc. and of placing them in separate containers for pickup by the waste hauler.

STABILITY: the degree to which the composted material can be stored or used without giving rise to nuisances or can be applied to the soil without causing problems.

STATIC PILE SYSTEM: like an aerated static pile except that the air source may or may not be controlled.

TOXIN: compounds that cause a reduction of viability or functionality in living organisms.

VOLATILIZATION: gaseous loss of a substance to the atmosphere.

WINDROW SYSTEM: composting mixture is placed in elongated piles, called windrows. These windrows are aerated naturally by a chimney effect, by mechanically turning the piles with a machine such as a front-end loader or specially designed equipment, and/or by forced aeration.

YARD TRIMMINGS: grass clippings, leaves and weeds, and shrub and tree prunings six inches or less in diameter, from residences and businesses.