



# Cornell Waste Management Institute

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## COMPOST FACT SHEET #5: Compost Bulking Materials

### COMPOST FACT SHEET SERIES 2004/2005

For these fact sheets and other  
compost information:  
<http://cwmi.css.cornell.edu/composting.htm>

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**Wood chips such as those pictured here are ideal for use as a bulking agent in compost piles.**

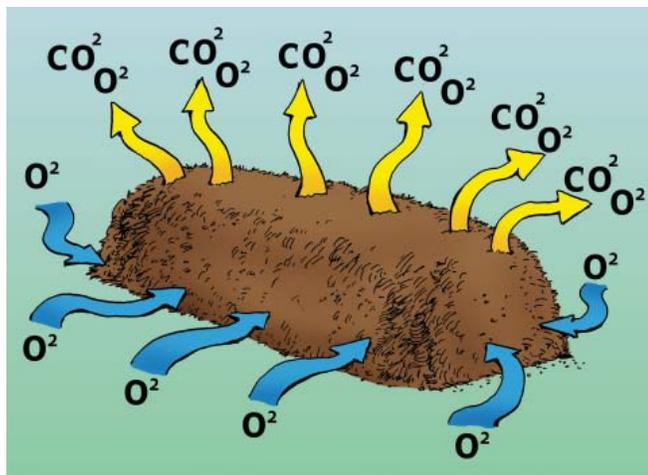
### Bulking Materials and Carbon Sources

The ratio of carbon to nitrogen in feedstocks is an important consideration in optimizing the composting process. Composting high nitrogen materials like manure and food scraps, requires the addition of a carbon source in order to provide the microbes with an energy source. Carbon sources can also serve as a bulking material, allowing air movement through the pile.

When securing bulking materials, remember that, "All carbon is not created equal." Wood chips are not the same as shavings, shavings are not saw dust. All carbon sources can be used, but which to use depends on the situation and goals of the producer.

### Wood chips

These can be in the form of chips from a chipper (2" fairly consistent) or tub grindings (variety of sizes, some long pieces). Their purpose is to promote natural air flow in the pile. When using bulky material, less turning is required, saving time and money. Depending on the end use of the product, the chips may need to be screened out. (They can be reused in the next pile.)



**Bulkier feedstock materials promote better airflow through a compost pile, which in turn will speed the natural degradation process.**

#### NOTE!

When using a static pile composting method, it is important to use bulkier material to keep the pile aerated.

### Shavings

Shavings have more surface area than saw dust, but because of their structure they tend to clump when wet, providing a carbon source but not promoting good airflow.

### Saw Dust

This carbon source has a very fine particle size, providing a good carbon source. However, it is very poor in providing air circulation. It is also quite absorbent, and when moisture fills the spaces, air has a hard time circulating. If using fine materials like saw dust, it will need to be turned frequently or air will need to be forced through the pile which is hard with dense material.

### Hay/Straw

These dried grasses are a good carbon source. They tend to mat if not well broken up and mixed in. They require more turning, but if mixed in proper ratios can work well.

#### CAUTION!

Be sure carbon sources do not come from pressure-treated or painted wood products!

### Paper Products

Cardboard and newspaper are occasionally used as bedding on dairy farms and thus become part of the compost pile. They provide carbon, good absorption, but not much airspace. Some farms using corrugated cardboard that has gone through a bedding chopper have been successful composting it with the manure without other bulking materials.

### Corn Cob/Stalk

These materials can be used to provide a carbon source and provide for more air flow. Stalks can be size reduced in a bedding chopper. Spoiled feed tends to add both carbon and nitrogen as well as converting the spoilage into a usable product.

### Leaves and Yard Trimmings

Leaves and yard wastes (small sticks, waste produce and garden residuals) can be used as a bulking material and carbon source. They can add structure to the pile and are readily available from municipalities. Farmers have directly incorporated leaves into fields to increase organic material, composting will make the nutrients and organic matter more available to crops.

One caution with leaves: When they are collected, they are vacuumed or picked up with a loader. With these collection methods you can get more than leaves; watch for rocks, garbage, glass and other contaminants that may be hidden in the leaves. Avoid grass clippings unless you are in need of more nitrogen. Unless well managed, they can cause the pile to become anaerobic and odiferous.

#### HELPFUL HINT!

Ask road/tree crews working in your area if chipped brush and branches are available.

Have a convenient place for workers to drop material off.

**Table 1. Contact List for Sources of Bulking Materials for Composting**  
 (Fill in the blanks and post in an easily accessible location as a reference.)

Local Highway Department	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
State Highway Department	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
Utility Company	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
Landscapers	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
Logging Companies	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
Arborists (Tree Care Specialists)	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____
Local Parks Department	Contact: _____ Phone: _____ Fax: _____ E-Mail: _____

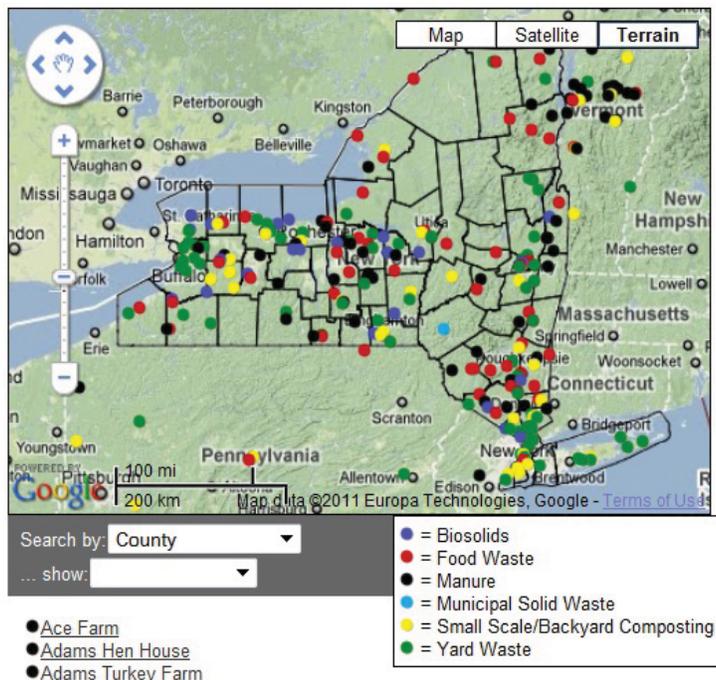
**Acknowledgement**

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Map of a database of NYS Compost Facilities can be accessed at: <http://compost.css.cornell.edu/maps.html> (see example below).

## New York State Compost Facilities Search

Please check the map and help us update the information by letting us know of additional facilities or other changes.



### Cornell University Farm Services Compost Facility

Website: <http://cwmi.css.cornell.edu/farmservices.pdf>

County: Tompkins  
 Owner: Public, College/University  
 Contact: Bill Huizinga  
 Address: Stevens Rd, Ithaca, NY 14850  
 Phone: 607-257-2235  
 Fax: 607-257-2237  
 E-mail: [gl4@cornell.edu](mailto:gl4@cornell.edu)

#### Feedstocks

Food Waste (Pre and/or Post Plate): Yes  
 Floral waste and trimmings/plants: Yes  
 Manures: Yes, research animal bedding - ; Cow, Poultry, Horse  
 Other Feedstocks: compostable serviceware

#### Source of Feedstocks

Greenhouses/Florists: Yes  
 Restaurants: Yes  
 Manure: Yes  
 Additional Information: All material comes from Cornell University campus facilities, no waste is accepted from outside the University. A tipping fee is charged to fund the site operation. The food waste includes pre and post consumer waste along with a large amount compostable paper and dinnerware items.

#### Compost Process

How is waste composted? Piled in windrows

#### Finished Compost

Is compost for sale?: Yes  
 Is compost used on site?: Yes

### Composting Resources:

- **Farm-Based Composting: Manure & More video** - <http://hdl.handle.net/1813/14193>
- **Natural Rendering: Composting Livestock Mortality & Butcher Waste:**  
 Fact Sheet - <http://compost.css.cornell.edu/naturalrenderingFS.pdf>  
 Video - <http://hdl.handle.net/1813/7870> (English) and <http://hdl.handle.net/1813/22942> (Spanish)
- **Co-Composter:** <http://compost.css.cornell.edu/CoCompost.html>
- **Compost...because a rind is a terrible thing to waste** - <http://compost.css.cornell.edu/FoodCompostpr.htm>
- **On Farm Composting Handbook** - [http://www.nraes.org/nra\\_order.taf?\\_function=view&ct\\_id=6](http://www.nraes.org/nra_order.taf?_function=view&ct_id=6)

For more composting resources see CWMI's web site: <http://cwmi.css.cornell.edu/composting.htm>