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COMPOST FACT SHEET #1: Marketing Composts and Meeting Consumer Needs

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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Overview

With increasing regulation in the areas of nutrient management planning (NMP) and concentrated animal feeding operations (CAFO's) over the past decade, pressure on farmers to develop better and more comprehensive means of handling agricultural wastes has grown significantly. Seasonal and environmental limitations on land spreading of manures are driving many farm managers to rely on alternative management options.

Composting has proven to be a feasible and practical manure management option for farmers. It can be implemented with existing farm equipment, dedicated turners or in-vessel systems. Composting stabilizes manure and other agricultural wastes, reducing odor, volume, pathogens, and environmental impacts. If a farm uses compost on site, fertilizer costs may be offset and soil health improved. There is potential for compost sales and collection of tipping fees for composting of off-farm residuals as well.

Time and Money

A dilemma that many compost producers face is finding a market for their compost product. Some farmers producing compost will choose to use it on their own land to

Use the Co-Composter Model for help with compost calculations!

Download the free MS Excel application at:
<http://compost.css.cornell.edu/CoCompost.html>

Co-Composter was developed to help managers understand the different facets of operating a compost facility. Space requirements, input volumes, economic costs, equipment, and more are taken into consideration by the model.

improve soil health and provide nutrients. Other farmers will establish markets for the compost they produce, generating income, or offsetting manure management expenses. In the context of CAFO and NMP regulations, the sale of compost also serves as a way to export excess farm nutrients.

Marketing compost can be a formidable challenge for many farm managers, in the context of already busy schedules. Often, a producer does not have enough time, lacks marketing knowledge, or is isolated from potential compost buyers.

Income from compost sales is an important incentive, but is only one potential economic return. A farm may experience even greater economic benefits from a reduction in manure handling and spreading costs, and better management of nutrients and odors, as a result of composting.

To address the challenges faced by compost producers when trying to sell compost products, the Cornell Waste Management Institute (CWMI) completed a survey of both current and potential markets for composts in New York State. In addition, CWMI compiled a list of market-specific guidelines for compost use. This fact sheet provides an overview of findings obtained from these surveys and provides a discussion of factors that are important when marketing compost.

Understanding Compost Markets

In the Northeast, sale prices for composts range from \$8 to \$35 per yard. Product quality, market proximity, type of feedstock, bag or bulk sales, and marketing skills account for the price variance.

Choose a Market or End-use

What are the qualities of the compost produced and how do those match the needs of different end users? Will the product be sold or used on site? The difference in compost quality requirements for different end uses can be significant. Targeting a market is critical. Some uses require careful attention and management in order to meet consumer needs. Others are much less demanding. Some compost producers are creating and selling compost products such as topsoil or potting mix by blending with other materials. Certain aspects of compost quality can be adjusted by changing the compost feedstocks and processing of compost. To learn more, read Fact Sheet #3 in this series.

COMPOST FACT SHEET #3: Improving and Maintaining Compost Quality

<http://cwmi.css.cornell.edu/compostfs3.pdf>

Greenhouses and nursery operations require higher quality composts. Though this market pays more, it's also a high-risk outlet. If the nutrient content or maturity of a product cause problems, the compost producer could be liable for plant damage, so careful management is important.

Other markets are more forgiving. Field crops, turf maintenance crops and roadside erosion control may be able to use compost that isn't fully stable, or has pH or nutrient values that would not work in other settings.

To Bag or Not to Bag

Many compost producers believe the highest return comes from selling bagged compost to the home gardener market. To cover the cost of making this compost product, a producer typically needs to sell bagged compost at a unit price that covers costs of production, plus extra to make a profit. Unfortunately, competition is intense in the home gardener market, and though farm compost may be a superior product, many other bagged composts sell for only \$1 to \$2 per 30- to 50-pound bag, a price that could limit the price that agricultural compost product could command.

Costs to produce the stable product required for bagged compost can be high. Screening and bagging requires equipment and labor, and there needs to be a dry place to store the finished product before screening. While chain stores, or "box" stores seem to offer an impressive distribution network for bagged compost, marketing a product to these companies is often quite difficult and requires a large and inexpensive amount of product.

Compost Volumes

Being able to meet consumer needs for the quantity of compost required is sometimes a challenge for farmers and others producing limited amounts of compost. It is important not to distribute compost that has not reached a level of maturity appropriate for the end use, since problems for users might arise. Once a consumer has a bad experience with an inferior product, they are not as likely to use that compost again. One option being explored by some farms to address the volume issue is the formation of a cooperative venture with other local farms. Contact CWMI for more information.

Marketing and Advertising

There are some inexpensive ways to market compost locally. First, identify the potential markets for your compost.

There is a Cornell Cooperative Extension (CCE) office in every New York State county and they often have lists of locally available composts that they provide to people who inquire. If there is not a current list, suggest that one be developed.

Uses for Composts

Some major markets for compost are summarized below. Many producers also find niche markets, and sales expand as availability becomes more widely known.

Potential Consumers

- ✓ Homeowners
- ✓ Landscapers
- ✓ Construction Companies
- ✓ Nurseries
- ✓ Vegetable Farmers
- ✓ Local and State Highway Departments
- ✓ Greenhouses

How to Let People Know...

- ✓ Local Newspapers
- ✓ Local Home and Garden Centers
- ✓ Farmer Cooperatives
- ✓ Direct Mail to Targeted Audiences
- ✓ Industry-specific Publications
- ✓ Newspaper Columns
- ✓ Television Shows
- ✓ Trade Shows
- ✓ Yellow Pages
- ✓ Personal Web Site
- ✓ Word of Mouth
- ✓ Garden Clubs
- ✓ CCE List

Backfill for Trees and Shrubs

Backfill is loose soil or substrate used to fill gaps around the root ball, or root network of a tree, or shrub in a landscaped setting. Roots need a firmly packed growing medium capable of retaining moisture to properly supply the rest of the plant with nutrients and water as they grow. Compost is effective at promoting these conditions and can be used as an amendment mixed with backfill materials.

Container Mix or Potting Soil

Nursery stock, house plants, and most types of flowers require certain blends of growing medium to grow well and stay healthy. Many of these soils have specific requirements for parameters such as pH and organic matter. Some composts are well suited for use as a component in container mix. However, care must be taken to ensure that a compost is compatible with consumer needs and requirements. A fully mature compost without excessive salts is needed.

Nursery Beds

Compost is often mixed with soil in nursery beds that are used to produce ornamental plants. It is important for these nursery beds to have a high water holding capacity and suitable levels of organic matter to maintain plant health. Using compost as a component of nursery bed media can improve conditions for plant growth.

Erosion Control

Studies have shown that compost is an effective medium for minimizing soil loss and erosion in areas where surface soils have been disturbed. Erosion control applications include compost blankets (a topdressing of 2-4 inches of compost on a slope) and filter berms (a triangular berm perpendicular to the flow of water). Landscaping, construction, and road work are examples of settings in which compost might be useful as an erosion control product.

State Department of Transportation

The New York State Department of Transportation provides specifications for the use of "organic materials" as a component of various landscaping materials. Manure-based products are listed as an acceptable type of source-separated compost. Compost requirements are determined by the landscape architect managing a given DOT project.

Topsoil Component

Additions of organic material are often made to soils or subsoils having low organic matter or low water holding capacity. Compost may be used to enhance these qualities and, in turn, improve growing conditions. Compost requirement will vary depending on consumer needs. Large quantities (1/3-1/2 by volume) may be needed to amend soils for the top 8-12 inches on construction sites.

Turf Establishment & Maintenance

Turf requires a suitable substrate that will promote growth and healthy plants. Compost may be used to amend soils that will serve as a growing medium for the establishment of turf from seed, sprigs, or sod. Topdressing can help maintain established turf.

Fruit and Vegetable Crops

Many fruit and vegetable crops benefit from the addition of compost to the soil as an amendment. In some situations, fruit and vegetable farms are deficient in the same nutrients that are in excess on livestock farms.

Organic Production

Use of compost is an important component of sustainable organic production systems. Compost that meets processing requirements and follows requirements for what can be composted (no sewage sludge, for example) can be used without restriction in organic agriculture. Restrictions on harvesting of certain crops are placed when the requirements are not met.

Guidelines for Compost Use

A few sets of guidelines have been developed by various organizations to help compost users identify compost that meets their needs. These may be useful to compost producers in producing a compost suitable for the desired end market.

Compost Qualities of Interest to Consumers

Weed Seeds

Consumers have shown a high level of concern regarding weed seed content in compost products according to surveys carried out by CWMI. Weed seeds are undesirable in gardening and potting soils, as well as other applications. Knowing viable weed seed content is valuable for both management and marketing purposes.

Compost guidelines are available online at the CWMI website. Visit:

<http://compost.css.cornell.edu/market-label/guidelines/home.htm>

Soluble Salts and Maturity

Soluble salts and maturity can influence the health of plants. If soluble salts are too high, plant toxicity may occur depending on the tolerance of a particular species. Compost with low maturity may have a similar effect. Volatile substances may still be present in immature composts and may influence plant health.

Pathogens

Manure and other compost feedstocks may contain pathogens (disease-causing organisms). The heat generated in properly managed compost piles eliminate most pathogens. The finished compost would pose risks similar to potting mixes or garden soils. Consumers may want to know that pathogen risks have been minimized.

pH

Many plants grow optimally within a certain pH range. Knowing the pH of a compost will help consumers make decisions regarding how to use a product. Calculating the impact of compost additions on soil pH requires an understanding of the neutralizing value of the compost and is not simply based on compost pH.

Nutrient Value

Nutrients are almost always of value to consumers, since all plants have basic requirements to maintain health, and to grow.

Organic Matter

Organic matter is material in compost that came from, or is, living matter and is composed of plant residues, microorganisms, and humus. Humus is the stable end-product left after the decomposition of fresh organic materials. Living matter also contains minerals. As compost matures, the organic matter degrades so the proportion of organic mineral matter increases. Low organic matter content in a compost may indicate incorporation of mineral soil. End users are often using composts to increase the organic matter in their soil.

Sample Label for Compost Products

It may be important for those who sell compost to include a detailed information sheet or label (see table below) that provides sufficient information for end users to make informed purchasing choices. A survey of horticultural users indicated that they were most interested in seeing information on pH and NPK content followed by organic matter and carbon to nitrogen ratio. Other parameters of interest are feedstocks, maturity, density and conductivity (salinity). Since compost characteristics may change over time and with the feedstocks used, we propose testing composts be analyzed for at least the above parameters whenever a batch is completed as well as when feedstocks change. We further propose that the results of the last three tests, along with the average value be included in an information sheet or on a label along with the feedstocks used to create the compost.



Compost is applied to turf plots in a park to determine the most beneficial application rate.

COMPOST FACT SHEET #4: Testing Composts

<http://cwmi.css.cornell.edu/compostfs4.pdf>

Proposed information sheet (label) for agricultural composts

Compost characteristics:

XXX Compost is best used on: vegetable gardens, landscaping, top dress lawns

Feedstock: Dairy cow manure, straw, wood

Analysis:

Date	xx/xx/xx	xx/xx/xx	xx/xx/xx	Average
General Characteristics				
Maturity (Solvita rankings)	7	7	7	7
Organic Matter (%)	26.9	24.6	17.1	23.5
Density (lb/ft)	51	57	57	56
pH	7.8	7.7	8.2	7.8
Conductivity (mmhos/cm)	2.4	3.7	3.1	3.3
C:N Ratio	17.1	17.4	17.3	17.3
Nutrients				
Total nitrogen (%)	0.7	0.7	0.8	0.7
Total phosphorus (%)	0.3	0.3	0.3	0.3
Total potassium (%)	0.4	0.4	0.5	0.4

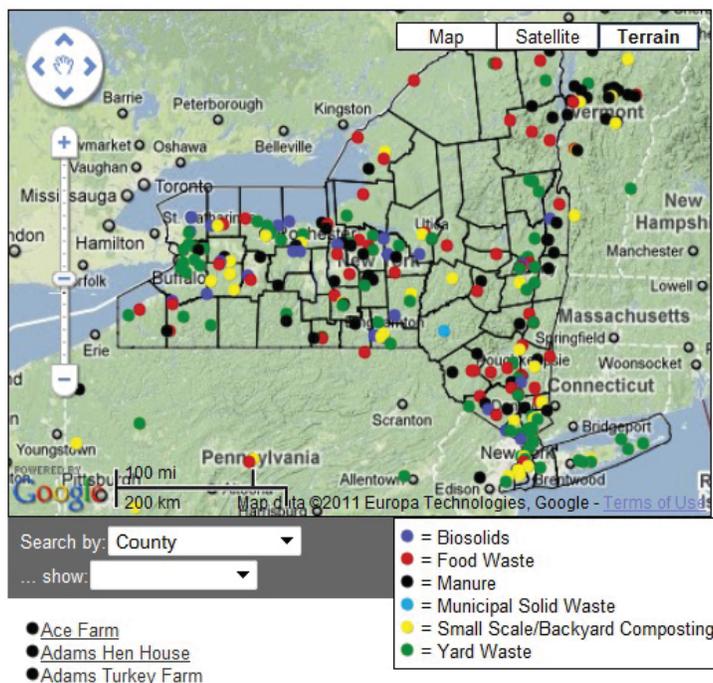
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Map of a database of NYS Compost Facilities can be accessed at: <http://compost.css.cornell.edu/maps.html> (see example below).

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: gt4@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

Some Additional 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>; Spanish version - <http://hdl.handle.net/1813/22942>
- **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.html>

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

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