



## Farm Composting for Profit

Cathleen LaCross, Student Assistant of Agricultural Engineering  
 Robert E. Graves, Professor of Agricultural Engineering

C-5

Composting farm and off-farm wastes could be a profitable business for some farmers. The demand for compost—a rich, humus-like material formed when organic wastes decompose under controlled conditions—is increasing. Compost, when added to soil, enhances tilth, nutrient-holding capacity, water-retention, and organic content.

Whether or not farms should start composting for profit depends on a numbers of factors, including the local market and the quality of compost the farm produces.

### Compost Quality

The most important factor to consider before deciding to sell compost from your farm is whether you will be able to produce a consistently high-quality compost.

While there are no official standards for what makes good compost, the quality of compost is generally determined by particle size, pH, soluble salt content, stability, and the amount of weed seeds, phytotoxins, or other contaminants in it. Quality is also determined by the compost’s consistency from batch to batch.

For ideal compost, the particle size in a batch should be less than one-half inch in diameter. You can test particle size by using a half-inch sieve. The pH should fall between 6.0 and 7.8, and the compost should be free of weed seeds.

Aging the compost for three to four months will lower its pH and increase the ratio of nitrate-nitrogen to ammonium-nitrogen. Nitrate-nitrogen is more stable than ammonium-nitrogen—that is, it’s less likely to volatilize or leach out. To age compost or store it while it is awaiting the market, keep it dry and in small piles to allow oxygen to circulate through it.

Although the material is stable, it must still remain aerobic.

### Measuring Quality

Compost should be regularly tested by an independent laboratory for contaminants that could damage crops or lead to environmental problems. Lab tests will also determine the nutrient content of compost—information that most prospective buyers will want to know.

The amount and nature of contaminants depends on what raw materials were used to make the compost. Sewage sludge, for example, might be contaminated with heavy metals, and the adhesives in cardboard might contain boron.

The raw materials used to make compost will also affect its nutrient quality. Generally, yard waste compost has less nutrients than manure and sewage-sludge compost. Different manures vary in nutrient content as well.

### Potential Markets for Compost

Landscapers, nurseries, home gardeners, lawn and garden centers, greenhouses, golf courses, cemeteries, parks, and public works departments are all potential buyers of compost. Conduct a survey to find out if local residents and businesses are interested in compost. You should generally limit the market to within a 25- or 50-mile radius of the farm—if you go much farther, transportation costs climb. In the survey, ask prospective buyers such questions as whether or not they would buy compost, how much they would use, what quality they would expect, and how much they would be willing to pay. (See Figure 1.)

Company name \_\_\_\_\_

Contact person \_\_\_\_\_

Address \_\_\_\_\_

Phone number \_\_\_\_\_

Best time to call \_\_\_\_\_

Type of business \_\_\_\_\_

1. What are your annual purchases of the following?

|                        | Tons  | Amount Used | Amount Sold | Cost per Ton | Tons of Bulk Purchases |
|------------------------|-------|-------------|-------------|--------------|------------------------|
| A. Composted manures   | _____ | _____       | _____       | _____        | _____                  |
| B. Fresh manures       | _____ | _____       | _____       | _____        | _____                  |
| C. Dried manures       | _____ | _____       | _____       | _____        | _____                  |
| D. Peat                | _____ | _____       | _____       | _____        | _____                  |
| E. Loam                | _____ | _____       | _____       | _____        | _____                  |
| F. Organic fertilizers | _____ | _____       | _____       | _____        | _____                  |

2. At what percentage are your annual needs for the above items increasing or decreasing? \_\_\_\_\_

3. What are your current terms of purchase? \_\_\_\_\_

4. If compost were available in quantity, on an ongoing basis, how much would your purchase? Would the purchase terms differ? \_\_\_\_\_

5. Under what conditions would you be prepared to negotiate a purchase agreement for compost? \_\_\_\_\_

6. What are your major concerns when purchasing a compost product (such as odor, price, NPK, fineness, packaging, contract)? \_\_\_\_\_

Additional comments \_\_\_\_\_

Please return to: J. Compost Farmer  
100 Dairy Road  
Poultryville, MA 00000  
(123) 456-7890

Figure 1. Sample compost marketing survey. (Source: NRAES-54 On-Farm Composting Handbook. Reprinted with permission from the Northeast Regional Agricultural Engineering Service Ithaca, NY 14853. 607-255-7654.)

You should also ask yourself whether or not you have a steady supply of the raw materials you plan to use. Also, do you have ample space to store compost during the off-season, when demand is low? Do you plan to deliver the compost or have buyers visit your farm?

To accommodate a variety of buyers, perhaps you could offer different qualities of compost at different price ranges. Offer mulch, a soil-amendment grade, or a nutrient-rich grade. *If you make any quality claims at all, however, the compost must meet Pennsylvania Department of Agriculture guidelines.*

## Bag or Bulk?

Whether you bag your compost or sell it in bulk has a lot to do with your potential buyers. Bags are convenient for local lawn and garden stores. You could place bags at different stores and advertise in the local newspaper.

There are, however, many drawbacks to bagging—the main one being cost. Quality control is also more important for bagged compost, because it will be sealed and could develop odors. The Pennsylvania Department of Agriculture has guidelines farmers must follow if they want to bag and sell compost; they

include obtaining a \$25 product license every fiscal year and labeling the product with information such as net weight, brand name, and a guaranteed analysis of the product's ingredients. With bagging you will also be forced to compete with large-scale companies who make composting their business.

If, on the other hand, you sell compost in bulk, you could operate a "bag-your-own" operation right on your farm, which would reduce your production costs and lower the price of compost for the buyer. You could also sell compost by the cubic-yard, either directly from the farm or delivered.

## Marketing Tips

---

Below are some points to stress in literature for potential buyers:

1. Compost is mainly a soil amendment. It does contain nutrients, but shouldn't be compared to chemical fertilizers.
2. Compost adds organic matter to soil, which increases its water- and nutrient-retaining qualities.
3. Compost releases nutrients slowly, so it won't burn plants like some chemical fertilizers. The nutrient benefits of compost last several years.
4. Composting kills most weed seeds.
5. Composting is an ecologically sound process—stable compost is less likely to leach nutrients into surface or groundwater.
6. Compost, unlike manure, has a pleasant, earthy smell.

## For More Information About On-Farm Composting

---

Complete information about starting and managing an on-farm composting operation is available in "On Farm Composting-NRAES 54," a 185-page manual published by the Northeast Regional Agricultural Engineering Service. In 11 chapters, the manual covers in detail the benefits and drawbacks to composting, the composting process, raw materials used in composting, composting methods and management, site and environmental considerations, and using and marketing compost. Also featured are: a glossary of terms, worksheets and formulas for building and managing compost piles, lists of equipment manufacturers and suppliers, and suggested reading lists corresponding to each chapter.

Copies of "On-Farm Composting-NRAES 54" are available by contacting NRAES (Natural Resource, Agriculture, and Engineering Service), PO Box 4557, Ithaca, NY 14852-4557 Phone 607-255-7654  
FAX 607-254-8770 Email [nraes@cornell.edu](mailto:nraes@cornell.edu)  
or visit their website at: [www.nraes.org](http://www.nraes.org)

Two additional Fact Sheets, "On-Farm Composting—C-3" and "Farm Composting: Plan Now to Avoid Problems Later—C-4," are available from the Agricultural and Biological Engineering Department at the address below.

For more specific information about Pennsylvania Department of Agriculture guidelines, contact Earl Haas, Bureau of Plant Industries, the Pennsylvania Department of Agriculture; 717-787-4843.

PSU/92

Agricultural and Biological Engineering Department  
246 Agricultural Engineering Building  
University Park, PA 16802  
[www.abe.psu.edu](http://www.abe.psu.edu)  
Telephone: 814-865-7685  
FAX: 814-863-1031

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 201 Willard Building, University Park, PA 16802-2801, Tel 814-865-4700/V, 814-863-1150/TTY.