

COMPOSTING TRENDS IN THE SOUTHEAST

Nora Goldstein
BioCycle
419 State Avenue
Emmaus, PA 18049
610-967-4135
610-967-1345 (fax)
noragold@jgpress.com

ABSTRACT

What does the future hold for composting in the Southeast region? The answer to that question is multifaceted, and revolves around factors such as the following: Disposal capacity and tipping fees; Need for alternative management of various residuals such as animal manures, food residuals, biosolids and mixed MSW; Demand for soil amendments; State of soils in the region; Bans on traditional pesticides and herbicides such as methyl bromide.

At this time, disposal capacity in the Southeast region is abundant. At the same time, the five Southeastern states -- Florida, Georgia, North Carolina, South Carolina and Virginia -- have all surpassed the recycling goals set by their legislatures. Therefore, what will drive more residuals to composting is the need for alternative management methods, consumer demand for soil amendments like compost, a need to remediate soils and stem erosion, and agricultural demand for products like compost that build soil organic matter and offer disease suppression.

Currently, Georgia reports the highest number of operating composting facilities, followed by North Carolina, South Carolina, Florida and Virginia.

INTRODUCTION

BioCycle magazine, Journal of Composting and Organics Recycling, has been covering recycling of organic residuals for over 40 years. Starting in the 1980s, *BioCycle* initiated nationwide surveys to track composting activity -- primarily composting of biosolids, municipal solid waste, and yard trimmings. In the mid-1990s, *BioCycle* editors also began tracking composting of source separated food residuals from the institutional, commercial and industrial sectors (ICI).

In addition to gathering nationwide data on composting projects, *BioCycle* conducts the annual "State of Garbage in America" survey (2000 is the twelfth year the survey has been completed). The survey questionnaire asks state recycling coordinators, solid waste managers and others for a wide range of data -- from the total number of landfills and remaining disposal capacity to the amount of solid waste

that is recycled and composted. The compiled data provides *BioCycle* editors with a good sense of trends in solid waste management, including composting.

This paper presents and analyzes survey data relating to composting projects, as well as information on overall solid waste management trends that will impact the growth of composting facilities over the next several years. In addition, the final paper presented at the October conference will discuss data gathered on manure generation, soil quality, population growth (and thus land development) and several other factors that will have an impact on the continuing evolution of composting in the Southeast.

STATE OF GARBAGE IN THE SOUTHEAST

In 2000, *BioCycle* split the survey into two parts. Part I focused on overall MSW generation and disposal and incineration -- the "State of Garbage." The Part I report appeared in the April, 2000 issue of *BioCycle*. Part II focuses on the recycling and composting side of the overall MSW management picture. Data has been compiled (as of 9/30/00) on states' recycling rates (which include composting), the amount of organics currently recovered versus what is still in the waste stream, and legislative and public policy initiatives -- including grant programs -- that are helping to stimulate composting and organics recycling. This paper for the proceedings only has the Part I results. The presentation at the conference will include data for Part II.

MSW Generation: Of the five Southeast states, North Carolina, South Carolina and Virginia provided data on total MSW generation. Florida only has the quantity of the MSW collected; Georgia's total comprises the amount of MSW disposed. The data is as follows: Florida -- 28.6 million tons; Georgia -- 11.4 million tons; North Carolina -- 13 million tons; South Carolina -- 9.4 million tons; and Virginia -- 8.1 million tons. All states but Virginia reported an increase.

Landfills, Incinerators and Capacity: The number of solid waste landfills in the Southeastern states breaks out as follows:

State	Total landfills (2000 survey)	Total landfills (1999 survey)	Average Tip Fee (\$)
Florida	57	95	43
Georgia	70	76	27
N. Carolina	39	35	31
S. Carolina	19	19	32
Virginia	65	70	n/a

Only Georgia provided an actual number of years for remaining landfill capacity -- 23 years. South Carolina reported that it has 76.3 million tons of capacity remaining. States were asked if they were adding landfill capacity and if there were any legislative restrictions on adding capacity. Florida, Georgia and South Carolina noted their states are adding capacity; North Carolina said no capacity was being added and Virginia didn't respond to this question. All states (except Virginia, which didn't respond) note there are no legislative restrictions on adding landfill capacity.

In terms of incinerators, Florida leads the Southeast region with 13, reporting a total daily throughput capacity of 19,200 tons. Virginia reports have six incinerators in operation; the remaining states only have one each. Daily capacity is as follows: Georgia -- 500 tons/day; North Carolina -- 380 tons/day; and South Carolina -- 700 tons/day.

Unlike a decade ago when landfill capacity was perceived as diminishing and tipping fees were on the rise, the Southeast -- like most other regions of the country -- seems to have adequate, if not abundant, disposal capacity. Florida also has a significant amount of incineration capacity. What does this mean for composting? First, there is no overt need to develop solid waste management alternatives such as composting. Second, and more importantly to how composting evolved in the 1980s and 1990s, there isn't any obvious pressure on state legislatures and policy makers to push for more aggressive composting and recycling -- at least from the standpoint of disposal capacity. That pressure ten-plus years ago led over 20 states in the country to institute bans on the disposal of leaves and/or grass, which was a significant stimulant to development of composting capacity.

CURRENT COMPOSTING ACTIVITY IN THE SOUTHEAST

As noted earlier, *BioCycle* collects data on an annual or biannual basis on the number of composting projects nationwide that are handling the following residuals: Food, MSW, yard trimmings and biosolids. The following table represents composting activity in the Southeast. While *BioCycle* has not surveyed composting activity in the agricultural sector, the number of farm-based projects handling agricultural residuals has definitely been increasing, not only in the Southeast, but across the country.

State	Food ¹	MSW ²	Yard Trimmings ³	Biosolids ⁴
Florida	0	1	35	9
Georgia	2	2	169	6
N. Carolina	5	0	120	11
S. Carolina	1	0	69	7
Virginia	1	0	11	5

¹2000 data; does not include on-site composting projects, e.g. at correctional facilities or universities

²1999 data

³1999 data

⁴1998 data

The nine food residuals composting projects in the Southeast are all fairly small. The two in Georgia take a total of 600 tons/year of food residuals. The five in North Carolina process the most -- over 13,000 tons/year -- while the South Carolina and Virginia projects are handling a very small amount. At

this time, North Carolina is most active in developing new food residuals composting projects, although interest appears to be growing in Georgia.

The three MSW composting facilities in the Southeast all process mixed solid waste consisting of residential and commercial feedstocks. The Sumter County, Florida and Cobb County, Georgia facilities both cocompost MSW and biosolids.

The number of biosolids composting projects in the Southeast has remained pretty stable over the past few years. That may change, as more local governments in states such as Virginia and North Carolina consider and/or implement bans on land application of biosolids. As of late 1999, there were ten bans or ordinances prohibiting or limiting land application in Virginia, and four in North Carolina. Over 50 percent of the biosolids generated in Virginia are land applied at this time; 30 percent are incinerated and 10 percent are landfilled. Florida land applies over 65 percent of the biosolids generated; 17 percent are landfilled and 8 percent are incinerated. The state reports that only a handful of bans or ordinances have been adopted to restrict land application. As land application becomes more difficult, it is expected that there will be more movement to composting biosolids.

COMPOSTING DRIVERS

Because disposal capacity and high tipping fees are eliminated as driving factors toward increased composting, other factors need to be analyzed. Some are more immediate, whereas others are expected to evolve over the next decade. These factors are discussed below:

Public policy commitments toward recycling and composting: Despite the lack of legislative and capacity pressures, quite a bit of momentum was created over the past ten years toward maximizing the amount of diversion through recycling and composting. Local governments and state recycling and composting officials continue to explore ways to pull more materials out of the solid waste stream. Some funding -- in the form of grants and/or loans -- is still available to help programs get started or expand. The 1999 State of Garbage in America survey (and the questionnaire for Part II being mailed out in late August) asked states to estimate recovery rates for yard trimmings, food residuals and wood. Three of the five Southeastern states provided estimates of recovery rates:

State	Yard Trimmings (%)	Food Residuals (%)	Wood Residuals (%)
Florida	>50	<10	n/a
N. Carolina	>50	<10	>50
S. Carolina	10-20	<10	20-30

Without a doubt, there is room for growth of diversion through composting and mulch production in these three states. Increased diversion through composting -- both in development of new facilities and increased throughput at existing processing facilities -- is a very viable option.

Need for alternative management of various residuals: In the next five to ten years, it is expected that composting will play an increased role in the management of animal manure and animal mortalities from confined animal feeding operations. The large quantities of manure generated can tax an area's capability to absorb those nutrients in an environmentally sound manner that is protective of public health. Composting is a viable alternative to managing manure and mortalities.

Opportunities also exist for composting food processing residuals that currently are land applied. The potential for increased composting of biosolids was discussed earlier.

Demand for soil amendments: The Southeast region, like so many areas of the country, is experiencing rapid development and population growth. With that development and growth comes a need for soil amendments to establish lawns, green spaces and golf courses, plant gardens, and establish and stabilize roadways. Compost can be a competitive product in the soil amendment marketplace. As markets are established, composting facilities must be positioned to meet that demand on a consistent basis (which thus requires a steady flow of feedstocks to the plants).

State of soils in the region: Compost is playing an increased role in the remediation of contaminated soils as well as building valuable organic matter in depleted agricultural soils. Some data will be gathered on the state of soils in the Southeast, to be presented at the October meeting.

Alternatives to traditional pesticides, herbicides: Compost's role as a disease and weed suppressant is expected to lead to increased demand for compost over the next decade. For example, researchers and growers in Florida are using compost as part of a strategy to replace methyl bromide, which will be banned from use in several years. Others are successfully using compost to suppress plant diseases.

CONCLUSION

Factors that led to a surge in composting in the 1980s and 1990s are less prevalent in this decade. New factors, such as a need to manage problem residuals such as manures, will fuel development of composting capacity over the next few years. Demand for compost products will help move that development along.