Status of Composting and Compost Utilization in the U.S. and Europe

Materials in U.S. MSW available for composting

Materials Targeted By Strategies Analyzed	Generation (thousands of tons)
Yard Trimmings	28,000
Food Wastes	21,900
Folding Cartons	5,390
Other non-packaging paper	4,120
Tissue paper/towels	2,980
Bags and Sacks	1,980
Other paper packaging	1,350
Corrugated boxes	7,300
Paper plates, cups	950
Milk cartons	460
Other paperboard packaging	230
Wrapping papers	50
Total organic materials	74,710
Total MSW	209,660
% MSW available for composting	36%

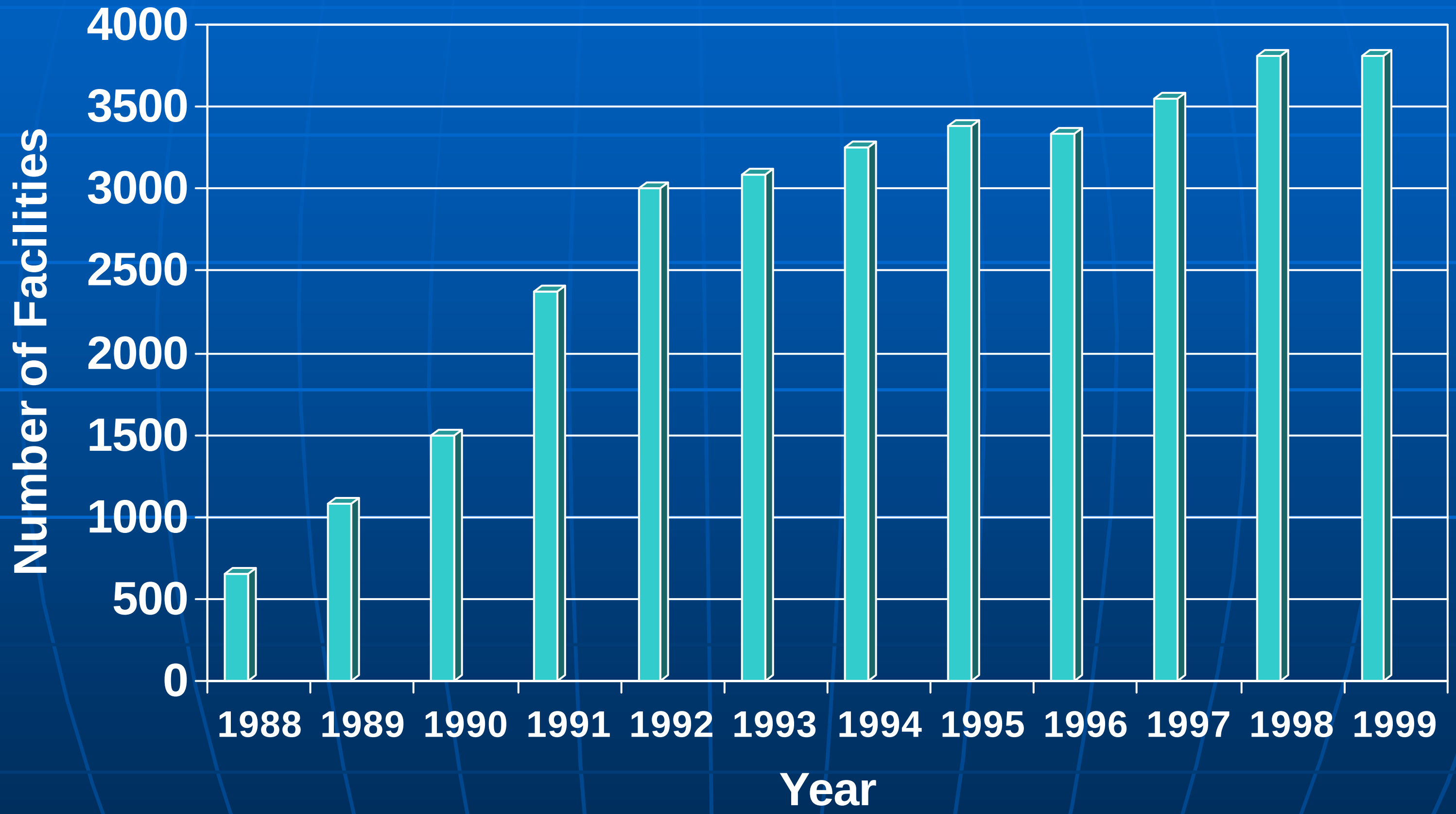
Source: Organic Materials Management Strategies and Characterization of Municipal Solid Waste in the United States: 1997 Update. In Ligon and Garland, 2001.

Status of Composting in the U.S.

Facility Type	Number of Facilities
MSW	16
Biosolids	274
Food Residuals	111[1]
Yard Waste	3,846

[1] *Does not include on-site institutional projects (Goldstein, et. al, 2000)*

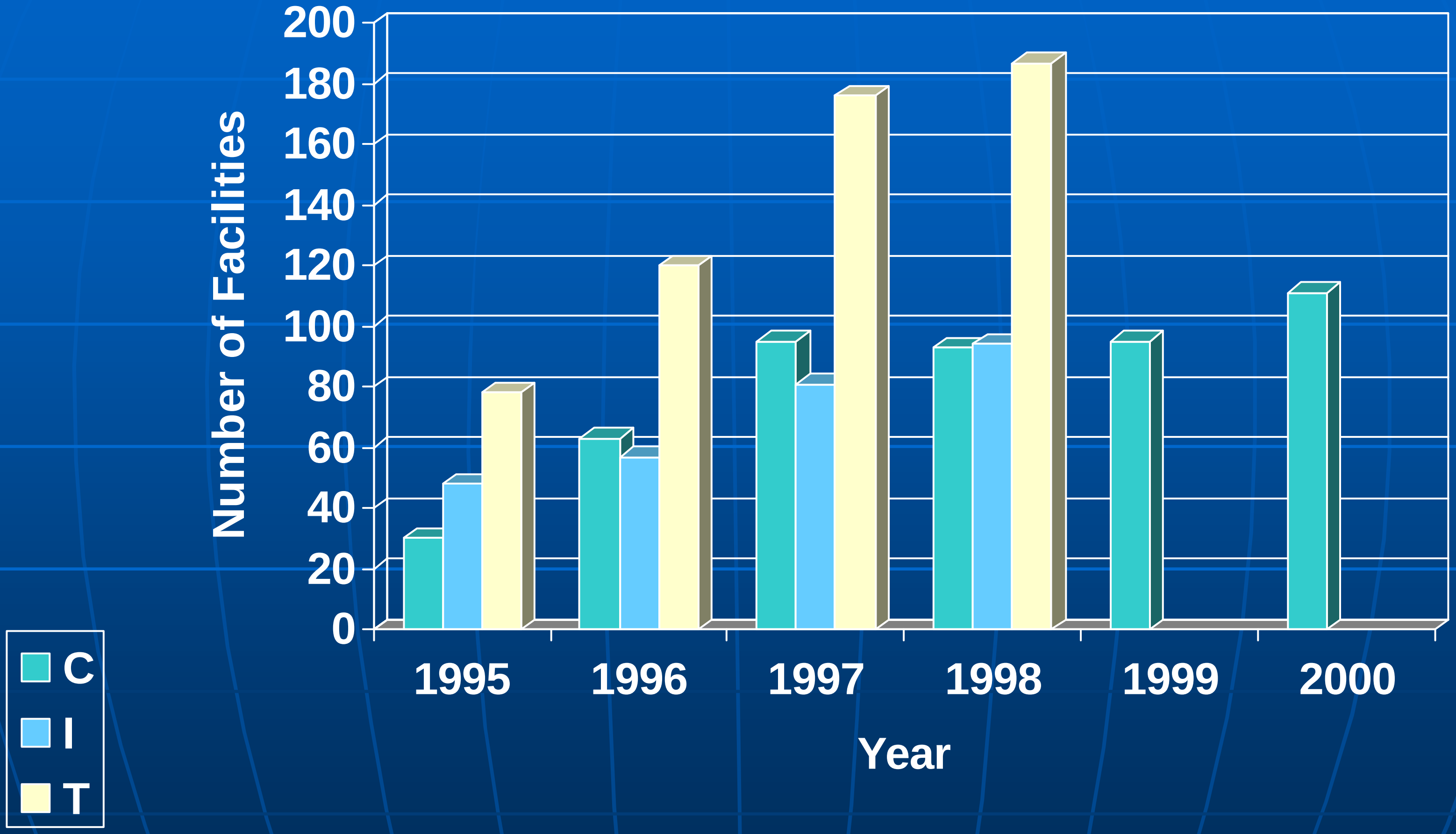
Yard Trimmings Composting in the U.S.



Growth of Yard Waste Composting

- Shift from leaves only to include brush and grass clippings
- Rapid increase due to bans on disposal in landfills (22 states)
- Greatest amount of any feedstock composted (~14 million tons)
- Greatest recovery rate of any feedstock composted (~ 50%)
- Growth expected to continue

Food Residuals Composting in the U.S.



C = Centralized facilities

I = On-site institutional

T = Total Operating Facilities

On-Site Institutional
- universities, correctional facilities, hospitals
- pre and post-plate waste

Centralized/Commercial
- Institutional, commercial & industrial (ICI) sources
- Food processing residuals

Food Residuals Composting

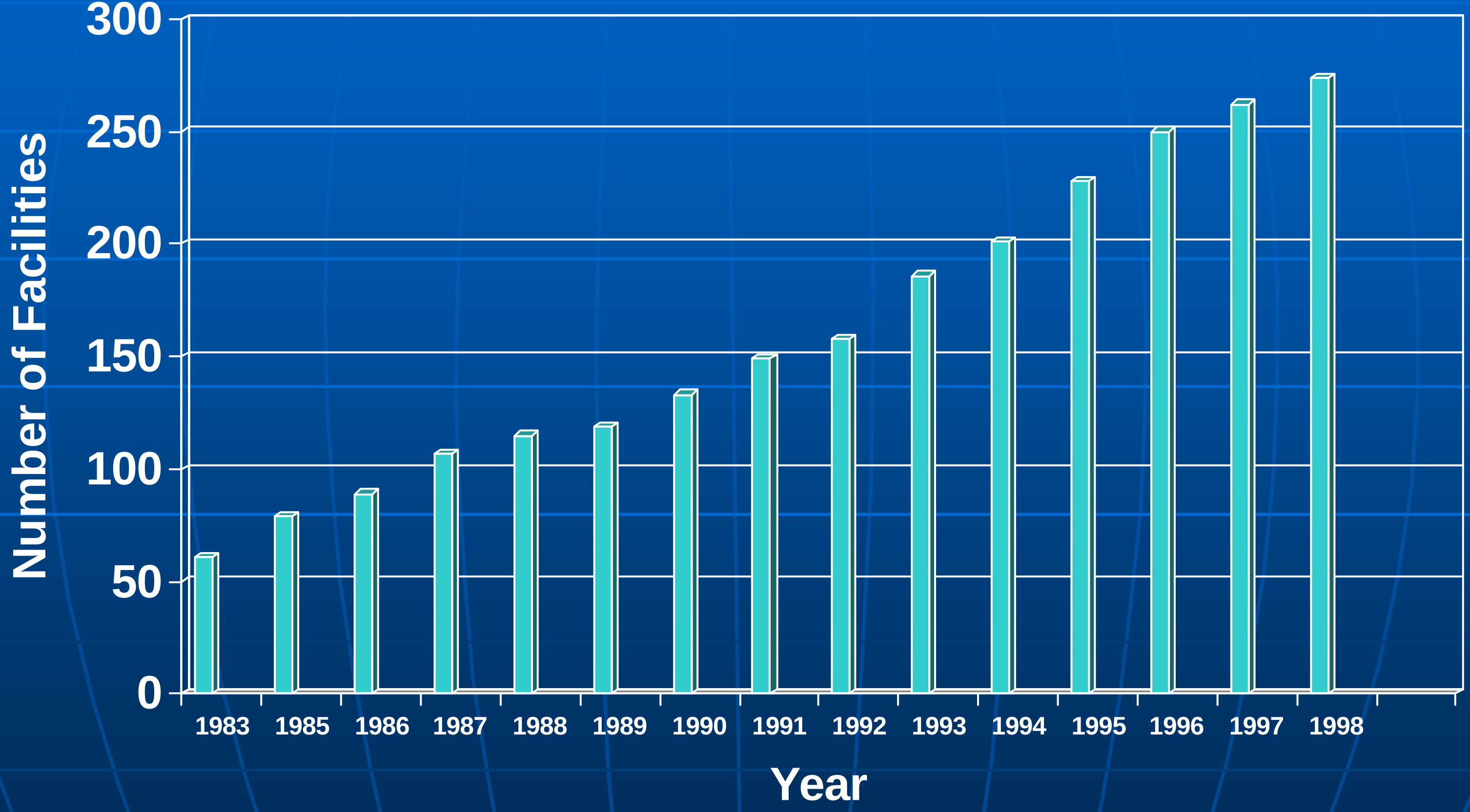
Impediments to Growth

- Regulations (area-specific)
- Lack of legislative mandates (e.g., source separation)

Drivers for Growth

- Market Demand
- The need to access additional feedstocks

Biosolids Composting in the U.S.



Growth of Biosolids Composting

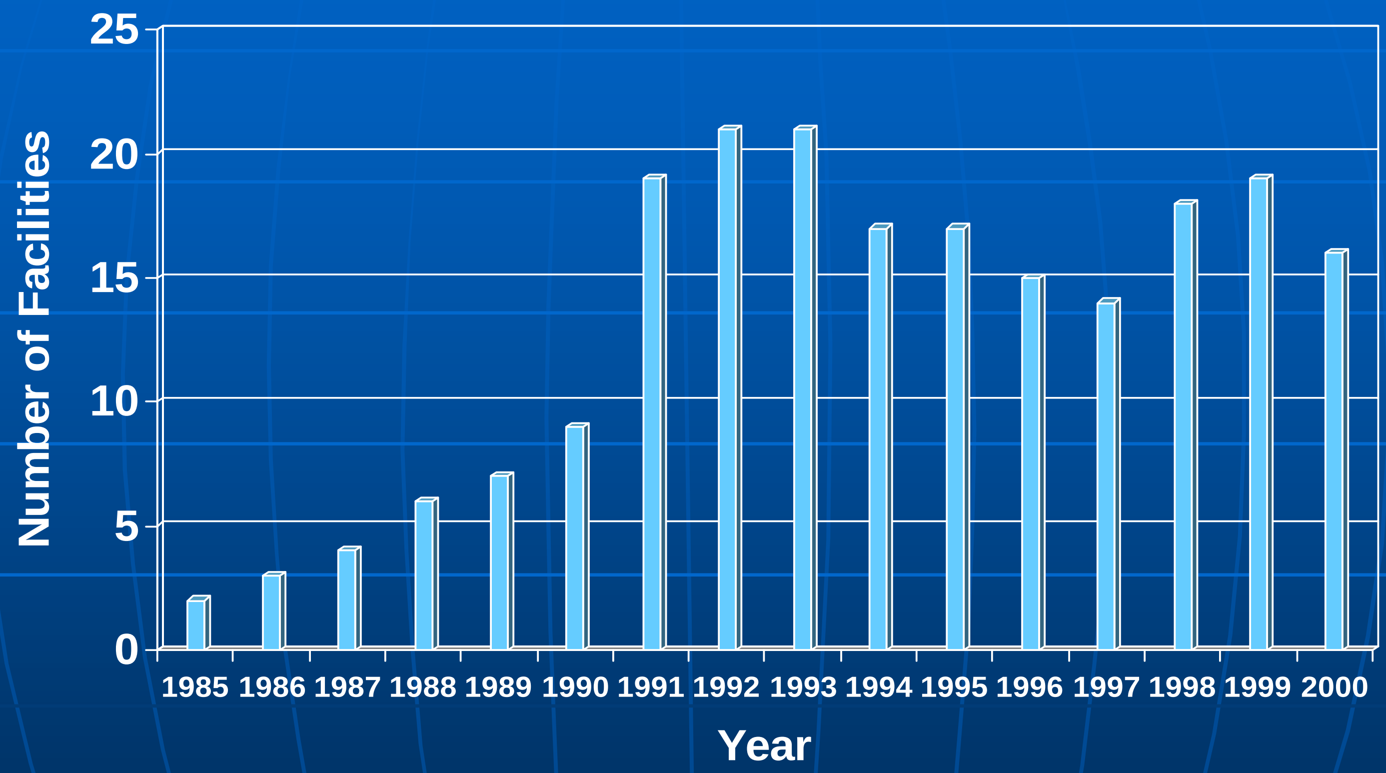
- Economics are competitive with other technologies
- Regulations favor beneficial use management practices
- Federal funding

Trends in Biosolids Composting

Growth is likely to continue as a result of:

- increased involvement by the private sector in financing and operating facilities
- recent bans on land application of Class B biosolids, i.e., additional treatment will be required

MSW Composting in the U.S.



Initial growth due to concerns over landfill disposal capacity and the desire to find alternatives to landfilling and incineration. Lack of growth due to abundant landfill disposal capacity, and landfill disposal costs are low

Composting Facilities and Technologies in the U.S.

Technology	MSW	Biosolids	Food Residuals	Yard Trimmings
In-Vessel	8	54	15	
Aerated Static Pile	2	122	8	
Static Pile		10		
Windrow	5	79	64	>3,800[1]
Aerated Windrow	1	9	9	
Other			9	

[1] Estimated that the vast majority of yard waste facilities use windrows; some may use static piles (Goldstein & Glenn, 1999)

Composting in Europe (2005)

- Focus on source-separated organics waste from households, yard trimmings and industries
- Approx. 1,800 composting facilities - 40% treat only yard waste
- Annual capacity is ~18 million tons (11 M biowaste, 7 M greenwaste)
- Primary markets include organic fertilizers and soil amendments