Cal Poly San Luis Obispo

Food Scrap and Green Material

Introduction

California Polytechnic State University (Cal Poly), San Luis Obispo, has implemented several programs that divert both green material and food scraps from landfilling. As a result of these programs the campus has little material that is actually disposed of in a landfill. Almost everything is either recycled or composted.

Program Summary

Cal Poly operates the Compost Enterprise Project, which is run by students and staff, using animal manure and straw collected from corrals. The manure, hay, and straw are put into windrows next to the student experimental farm north of the Cal Poly dairy and composted. The final product is sold to the public for $25 per cubic yard (base price plus delivery.) The campus occasionally purchases compost from the students at the same price. What is not composted on campus is picked up and hauled to the San Luis Obispo composting facility. All green material from the campus is mulched in place and woody material is chipped and then used onsite as ground cover. In addition, all animal fat and grease is rendered.

Diversion Amounts

Cal Poly diverts 760 tons of manure and straw per year. In addition, 75 tons per year of wood waste is chipped and is used as mulch cover. Also, each year over 16 tons of tallow is sent to a rendering company. Finally, as a result of the grasscycling program, over 240 tons per year of grass clippings are diverted from disposal.

Key Benefits

San Luis Obispo has realized significant environmental and economic benefits by diverting virtually all of their waste from disposal. In regard to organic materials, the cost of landscape maintenance has been reduced, and a significant amount of green waste material is diverted from the landfill. In addition, students are educated on the uses and benefits of compost as well as being offered hands-on experience with its production. The students also earn money from selling the compost and are compensated for their hard work.

Economic Benefits

- $30,000 in annual compost revenue sales.

Environmental Benefits

- Decreased pollution from animal waste runoff.
- Reduced landfill greenhouse gas emissions.
- Conserved landfill capacity and reduced need for new or expanded landfills.

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Compost Specification Elements

Characteristic	Associated Value	Comments
1. Particle Size	< 1"; 2"; etc.	Porosity affects air and water infiltration. Smaller particles have more available nitrogen.
2. Salt Concentration	Mmhos/cm	High salt concentrations, > 4.0 mmhos/cm, can be harmful to seeds and plants.
3. Stability/Maturity	Stable or mature (i.e. when the organic material stops decomposing)	In mature compost, nitrogen is available to plants; and there is less potential for odor problems. The CIWMB is currently developing a maturity index through a contract with an industry association to help define what constitutes mature compost. This index should be available by summer 2000.
4. Feedstock Materials	Specify ingredients	The type of feedstock used can help you decide what product best suits your needs. Typical feedstock's include landscape/yard trimmings; grass clippings; food scraps; bio-solids; and agricultural crop residues.
5. Nutrient Content	N-P-K; Ca; Mg; S; Bo; & others	Compost provides slow-release nutrients, more efficient plant uptake; and much lower rates of fertilizer leaching
6. Trace Contaminants	Metals (Lead, Mercury, Etc.)	Product should meet US EPA, 40 CFR 503 regulations. Compost also binds up heavy metals.
7. pH	Acid/base	Helps balance the pH of your soil. Compost helps buffer soil toward neutral (pH=7).
8. Visible Contaminants	Specify inert: Glass Plastic Paper	Amount of glass, paper, plastic, etc., visible in the final product; ideally should be none visible. Cal Trans specification requires < 0.1 % by weight or volume.
9. Moisture Content	35-55% (40-50% preferred)	If you purchase by weight, wet compost means you're paying to haul excess water. Very wet compost can cause odor problems, while dry compost can be dusty and irritating to work with.
10. Organic Matter Content	30-70% by dry wt. (50-60% preferred)	Compost improves soil structure and water holding capacity.
11. Certifications	California Compost Quality Council (CCQC)	Requires that registered suppliers disclose feedstock and specified parameters. The supplier must also have a quality assurance/quality control program. Buyers *can* have greater confidence regarding the consistency and appropriateness of the compost product they buy for intended end uses.
12. User Guidelines	Application rates Vol/area	Ask suppliers to provide guidelines on how to apply their product. CIWMB is developing informational fact sheets for specific landscaping applications; these should be available by Spring 2000. Check the Board's web site at www.ciwmb.ca.gov/organics/.
13. Bulk Density	800 lbs./cubic yard	Depends on feedstock and moisture content, typically in range of 700 – 1200 lbs./cubic yard. Affects product handling, transportation and application.
14. Carbon/Nitrogen Ratio	C:N less than 20	C:N ratio is sometime used as a measure of stability. Ratio of less than 20:1 is likely to indicate that the compost is stable.
15. Other	Color, smell	Should have an "earthy" odor that is not unpleasant.

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