# Folsom State Prison

**Food Scraps and Green Material**

## Introduction

Since the program's inception in 1994, Folsom State Prison and the City of Folsom have diverted organic materials to a composting facility owned and operated by the Prison Industry Authority (PIA). The compost program has helped the prison and City of Folsom divert a significant amount of organic material from disposal.

## Program Summary

Folsom State Prison is divided into two facilities, California State Prison, Sacramento and Folsom State Prison. Food scraps and green material are collected from both facilities, but the majority of feedstock comes from the City of Folsom's residential and commercial waste streams.

Inmates from the City of Folsom Community Correctional Facility provide the labor to run the composting facility. The food residual is mixed with ground green material and is placed in windrows on large concrete pads. The windrows are turned once per week using a front-end loader. The compost process takes four to six months to complete.

The final compost product is marketed by the City of Folsom where it is used for city landscape planting projects, or sold to local residents and landscape contractors. Occasionally Folsom State Prison takes back some compost for use on their landscaped areas.

In addition, wood chips are used as a mulch cover in flowerbeds, or sold as "hog fuel" to cogeneration plants.

## Diversion Amounts

Each year, the Folsom State Prison Recycling Center diverts 730 tons of food waste (about 60 tons/month) and 360 tons of green material (about 30 tons/month).

## Key Benefits

Folsom State Prison has realized significant benefits from their organics diversion program:

- Folsom's program has saved the prison $3,763 per month in tipping fees from July 2000 to March 2001.
- From July 1, 1996, to June 30, 2001, the city has received $25,746 from the sale of woodchips and $60,348 from the sale of compost.

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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,<br>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:<br>Glass<br>Plastic<br>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<br>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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