

**State Minimum Standards Training
2009 Composting Field Exercises Worksheet
Station D: How Clean Is This Stuff?**

These materials were developed under the auspices of the Board for specific field exercises and are posted as reference documents for the local government staff who attended this training. They are not intended to stand alone as informational or training materials. If you require assistance in obtaining access to the exercise, call the Public Affairs Office at (916) 341-6300 or Jeff Watson at (916) 341-6368.

Background

Per 14 CCR Sections 17868.1 through .3 directs operators and EAs to “ensure” the compost is below specified “metals” and “pathogen” concentration before it leaves the site. “A composite sample shall be representative and random, and may be obtained by taking twelve (12) mixed samples as described below,” is the regulatory language of Section 17868.1. Further, Sections 17868.1 through 3 allow “alternative methods of compliance” to meet the sampling requirements, including but not limited to sampling frequencies, methods, and even substituted indicative pathogenic organisms, if approved by the EA for specified material type composting operations and facilities, “if the EA determines that the alternative method will ensure” that the maximum concentrations of metal or pathogens are not exceeded. It follows then, for an EA approve an alternative method, there is really only one question to ask: will the operator be able to “ensure” that metals and pathogen threshold values are not exceeded in compost leaving the site?

Additionally, Section 17868.5 describes requirements for verification of the <1% physical contamination limit for green material. It allows for, “(b) Upon request of the EA, the operator shall take a representative sample of feedstock, physical contaminants shall be collected and weighed, and the percentage of physical contaminants determined.” Load-checking is to be employed to ensure that physical contaminants are “no greater than 1.0 percent of total weight.” Load checking includes visual observation of incoming materials, and sampling if the visual load check indicates human-made physical contamination exceeding 1 percent. The excessively contaminated loads must be rejected if physical contaminants are greater than 1 percent of total weight.

Exercise Instructions

This exercise is intended to familiarize participants with gathering a representative composite sample for lab analysis and to demonstrate the 1 percent by weight regulatory threshold for physical contaminants in green material. Please refer to the appropriate regulations for specific requirements (laminated sheet).

Exercise 1: Gather 4 “representative compost samples” from the designated windrow/pile and place the samples in a sample jar, present sample to your group leader. Identify on a diagram where you took the sub-samples.

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Exercise 2: Using gloves and tools provided, remove the physical contaminants from the pre-weighed 25 pound bucket of green material feedstock. With the small scale provided, weigh the contaminants.

List the contaminants and weight, then total:

- 1.
- 2.
- 3.

Exercise Questions:

1. What is the feedstock in the bucket (assuming that this bucket is representative of a load)?

Show calculations above.

2. When measuring the contaminants in a load, how will you assure that the heaviest contaminants are measured?
3. What might the EA require of the operator before approving “alternative methods of compliance” to meet the sampling requirements, including alternative sampling frequencies?
4. Must the operator obtain the lab analysis for a composite sample before the material represented by that sample be allowed to leave that site? (Are there other ways that the operator can assure that material leaving the site meets the requirements?)
5. Were the sampling requirements in Section 17868.1 (b) clear?

When followed, did you obtain a representative sample for the windrow? Explain: