The latest news in composting and scrap wood management

January 2003 Volume 11 Number 11 30% Post Consumer Recycled Content

Composting News

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Oregon study shows extensive clopyralid contamination

By Ken McEntee

Compost from each of 12 Oregon composting facilities tested in a recent two-phase study was contaminated by clopyralid, the Oregon Department of Environmental Quality (DEQ) said this month. Phase two of the study utilized more sensitive testing methods than the first phase, in which a third of the 12 facilities tested showed signs of contamination.

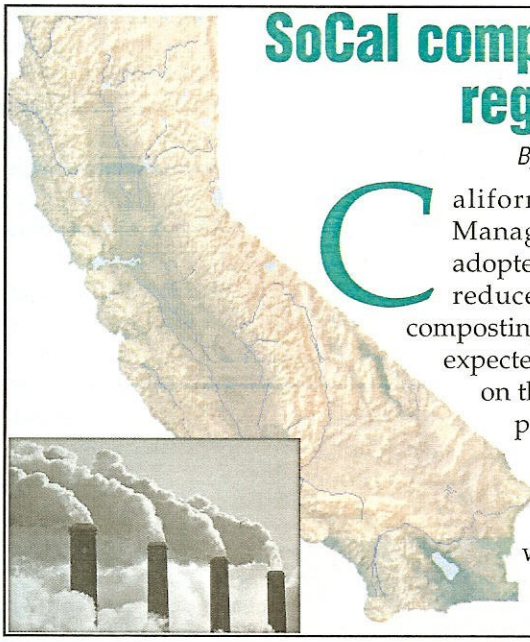
DEQ conducted the study to determine whether compost from DEQ-permitted composting facilities contains clopyralid residues. A task force comprised of specialists from DEQ, the Oregon Department of Agriculture (ODA), Metro and the Composting Council of Oregon helped oversee the study. In addition, a technical committee consisting of pesticide, compost and weed specialists from DEQ, ODA, Oregon State University and Metro reviewed the study's lab results.

In the two-phase study conducted in June and October 2002, "for sale" compost from 12 of the 36 DEQ-permitted compost facilities throughout Oregon was collected and tested. The samples were analyzed by analytical laboratories and by a bioassay seed germination laboratory. Clopyralid was

(See Clopyralid, page 11)

SoCal composters get smog regulations

By Ken McEntee



California's South Coast Air Quality Management District (SCAQMD) has adopted the nation's first regulations to reduce smog-forming emissions from composting facilities. The regulations are not expected to have nearly the severe impact on the industry as when they were first proposed about two years ago. Rules were adopted for grinding/chipping operations and biosolids co-composting. Although green waste composting rules were not

(See California, page 4)

Greener fields; the case for better comp

By Will Brinton, Woods End Research Laboratories

In a recent informal survey, I asked users of compost who purchase products if they would pay more for a labeled product. About 5 percent said it would make no difference, 15 percent would only pay the same price and almost 80 percent would pay more for labeled.

They assumed, based on my definition, that labeled meant as follows: A third-party had attested to the quality of the product.

What could be simpler?

In a recent article (December 2002) in *Composting News*, the U.S. Compost Council, a trade organization made up of primarily manufacturers of compost, raised a question about the legitimacy of any another organization other than itself, of launching a label or certification program for compost, suggest would "be a problem... not part of the solution."

I made some quick calculations, by counting the council's STA (Seal of Testing Assurance) customers, available at the council's web site (www.compostingcouncil.org) and I

(See Labeling, page 3)

Highlights

National erosion control specs for compost being published

By Ron Alexander

Last fall, the Recycled Materials Resource Center (RMRC) agreed to sponsor a project to develop specifications for the use of composted products in erosion control applications. The project was proposed, and is being completed, by R. Alexander Associates, of Apex, N.C.

RMRC, located at the University of New Hampshire, has been successful in sponsoring the development of specifications for recycled products, which in turn have allowed their usage on state and federal highway projects. The RMRC's efforts are funded by the Federal Highway Administration (FHA).

The three major objectives of the specifications development project are to:

- Develop both product and usage specifications for compost used in erosion control;
- Gain approval of the specifications, as well as their placement, in the American Association of State Highway and Transportation Officials' (AASHTO) Standard Specifications for Transportation Materials and Methods of Sampling and Testing manual; and
- Promote the specifications throughout associated industries.

The specifications have two specific components – numerical standards for the compost product (an actual product specification) and end-use standards that detail how the product should be used (such as application rates, etc.). These specifications were developed for compost used as an erosion control blanket (mulch) and a berm.

Development of the specifications required obtaining, evaluating and correlating research papers, existing specifications and practical information (field experience, demonstrations) related to the use of compost in erosion control. State departments of transportation (DOT) and other public entities, as well as private companies that developed specifications and completed research (such as Rexius Forest By-Products and New England Organics), were very helpful to the project team, providing it with related data.

Compost Filter Berm Dimensions

Rainfall/Flow Rate	Total Precipitation & Rainfall Erosivity Index	Dimensions for the Compost Filter Berm (height x width)
Low	**1-25", 20-90**	1'x 2' – 1.5' x 3' (30.5cm x 61cm – 47.75cm x 91.5 cm)
Medium	**26-50" 91-200**	1'x 2' – 1.5' x 3' (30.5cm x 61cm – 47.75cm x 91.5 cm)
High	**51" and above, 201 and above**	1.5'x 3' – 2' x 4' (47.75cm x 91.5cm – 61cm x 122cm)

Filter Berm Media Parameters

Parameters[1]	Reported as (units of measure)	Filter Berm to be vegetated	Filter Berm to be left Un-vegetated
pH	pH units	5.0 - 8.5	N/A
Soluble Salt Concentration (electrical conductivity)	dS/m (mmhos/cm)	Maximum 5	N/A
Moisture Content	%, wet weight basis	30 – 60	30 – 60
Organic Matter Content	%, dry weight basis	25 - 65	25-100
Particle Size	% passing a selected mesh size, dry weight basis	Minimum 100% passing 3" (75 mm), 90% passing 1" (25mm), 70% passing 3/4" (19mm), and 30-75% passing 1/4" (6.4mm). Maximum particle size length of 6" (152mm) (no more than 60% passing 1/4" (6.4 mm) in high rainfall/flow rate situations)	Minimum 100% passing 3" (75 mm), 90% passing 1" (25mm), 70% passing 3/4" (19mm), and 30-75% passing 1/4" (6.4mm). Maximum particle size length of 6" (152mm) (no more than 60% passing 1/4" (6.4 mm) in high rainfall/flow rate situations)
Stability Carbon Dioxide Evolution Rate	mg CO_2-C per g OM per day	<8	N/A
Physical Contaminants (man-made inerts)	%, dry weight basis	<1	< 1

1 - Recommended test methodologies are provided in Test Methods for the Examination of Composting and Compost (TMECC, The US Composting Council)

Compost Blanket Application Rates

Rainfall/ Flow Rate	Total Precipitation & Rainfall Erosivity Index	Application Rate For Vegetated* Compost Surface Mulch	Application Rate For Unvegetated Compost Surface Mulch
Low	1-25", 20-90	½ - ¾ " (12.5 mm x 19 mm)	1" – 1 ½" (25 mm – 37.5mm)
Average	26-50", 91-200	¾ - 1" (19 mm x 25 mm)	1 ½" – 2" (37 mm – 50 mm)
High	51" and above, 201 and above	1-2" (25 mm x 50 mm)	2-4" (50mm – 100mm)

*these lower application rates should only be used in conjunction with seeding, and for compost blankets applied during the prescribed planting season for the particular region.

Compost Blanket Parameters			
Parameters[1,6]	**Reported as (units of measure)**	**Surface Mulch to be Vegetated**	**Surface Mulch to be left Un-vegetated**
pH[2]	pH units	5.0 – 8.5	N/A
Soluble Salt Concentration[2] (electrical conductivity)	dS/m (mmhos/cm)	Maxium 5	Maximum 5
Moisture Content	%, wet weight basis	30 – 60	30 – 60
Organic Matter Content	%, dry weight basis	25 – 65	25-100
Particle Size	% passing a selected mesh size, dry weight basis	Minimum 100% passing 3" (75 mm), 90% passing 1" (25mm), 65% passing 3/4" (19mm), and no more than 75% passing 1/4" (6.4 mm). Maximum particle size length of 6" (152mm)	Minimum 100% passing 3" (75 mm), 90% passing 1" (25mm), 65% passing 3/4" (19mm), and no more than 75% passing 1/4" (6.4 mm). Maximum particle size length of 6" (152mm)
Stability[3] Carbon Dioxide Evolution Rate	mg CO -C per g OM per day	< 8	N/A
Physical Contaminants (man-made inerts)	%, dry weight basis	< 1	<1

Further, several universities, like the University of Georgia and Iowa State University and other research organizations were extremely helpful, providing both preliminary and completed research findings.

The Specifications

Aside from the product parameters listed in the tables to the left, the specifications also require that the compost products used in erosion control applications meet all related state and federal (feedstock based) standards for chemical (e.g., heavy metals, toxic organics, etc.) and biological contaminants (e.g., pathogens). The specifications also suggest the use of test methods developed for, and found within, the U.S. Composting Council's *Test Methods for the Evaluation of Composting and Compost* (TMECC) to characterize compost products used in this application.

(See Highway, page 11)

Highway

From page 9

Current Status

The two draft erosion control specifications were recently *'approved'* by AASHTO's Subcommittee on Materials, through its national balloting process. The project management team will now address comments received during balloting, and make any necessary minor modifications to the specifications. The specifications will then be published in AASHTO's Standard Specifications for Transportation Materials and Methods of Sampling and Testing manual in June 2003.

The specifications will now be able to don the AASHTO seal and composters will be able to use AASHTO's official specifications manual as a tool to market compost into the erosion control sector.

Alexander, president of R. Alexander Associates Inc., Apex, N.C., has been involved in compost market development for more than 18 years and is manager of the RMRC specifications development project. He can be reached at alexassoc@earthlink.net or (919) 367-8350.

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Clopyralid

From page 1

found in 33 percent of the Phase I samples and in all of the samples in Phase II. Some samples had clopyralid at levels that have shown to affect sensitive plants.

DEQ said the study clearly indicates that clopyralid residue is present in compost processed by DEQ-permitted compost facilities. Parts-per-billion levels of clopyralid in Phase II samples were uniformly higher than in Phase I samples.

There are two plausible explanations for the difference in findings between Phase I and Phase II, DEQ said. First, Phase II samples, taken in October 2002, were made up of materials collected in the summer months and likely included larger amounts of grass clippings, which may have received more recent applications of clopyralid. Second, one of the analytical methods used in conducting Phase II (the "GC/MS" method) was found to be more sensitive in identifying residues of clopyralid. The GC/MS method was developed specifically to detect clopyralid residue at parts per billion.

DEQ said Phase II results should not be used to conclude that clopyralid detection in Oregon compost is higher than in California and Washington. The GC/MS method of analysis used in Phase II of the study is more sensitive and is only now beginning to be used to clearly identify clopyralid residue. A recent King County, Wash., study used three different analytical methods, including the GC/MS method. In that study, the GC/MS method also showed

(See Clopyralid, page 12)