Improving Vegetation Establishment and Erosion Control with Compost-Based Specifications

Compost and hydroseeding application. Photo Courtesy of Caltrans.

REDDING
September 25, 2007

Solid Waste Learning Center
2255 Abernathy Lane
Redding, CA

- New Caltrans Compost and Mulch Specifications
- Reducing Runoff
- Improving Vegetation Establishment
- Ensuring Compost Quality
- Successful Roadside Applications

For further information, go to: **www.ciwmb.ca.gov/Organics/**

WORKSHOP SUMMARY

The California Integrated Waste Management Board, in partnership with the Caltrans Headquarters Landscape Architecture Program, has developed new special provisions that focus on using compost to improve roadside vegetation and reduce erosion.

A series of four workshops has been scheduled across the state to introduce these new specifications to district designers, including landscape architects, biologists, and stormwater quality coordinators.

Compost incorporation, Placer County, Route 267.
Photo courtesy of Caltrans

These workshops will provide designers with the opportunity to comment, suggest revisions, and ask compost/water quality-related questions of a diverse team of experts. The workshop team will be staffed by University professionals, researchers, soil scientists, and California compost industry professionals as well as landscape architects with extensive compost experience from other state transportation departments.

These workshops will provide practical tools and information on using compost to reduce erosion and improve the establishment of roadside vegetation.

BENEFITS OF
COMPOST AND MULCH

Compost and mulch benefits the environment in the following ways:

- Decreases runoff and erosion.
- Improves roadside revegetation establishment.
- Reduces irrigation requirements.
- Supplies significant quantities of organic matter.
- Improves drainage of clay-based soils and water-holding capacity of sand-based soils.
- Improves and stabilizes soil pH.
- Improves cation exchange capacity (CEC) of soils, improving their ability to hold nutrients for plant use.
- Supplies macro- and micronutrients.
- Supplies beneficial microorganisms.
- Suppresses certain soil-borne diseases.
- Binds and degrades specific pollutants.
- Reduces the need for fertilizers and pesticides.
- Encourages slow release of nitrogen.
- Improves drought tolerance.
- Improves plant health and vigor.

WORKSHOP AGENDA

8:45 -9:15 a.m.
Welcome and Introductions

9:15 – 9:45 a.m.
Mulches, Soil Amendments, and Organic Fertilizers
Dr. David Crohn will discuss the characteristics and uses of mulches, soil amendments, and organic fertilizers.

9:45-10:30 a.m.
TXDOT Experiences Using Compost on Roadside Applications
Mr. Scott McCoy will focus on the success of the Texas State Department of Transportation (TXDOT) in using compost on roadside applications.

10:30 – 10:45 a.m.
Break

10:45 – 11:15 a.m.
Caltrans Project Presentations
Ms. Monica Finn will discuss innovative Caltrans projects, pros, cons, and lessons learned.

11:15 - 11:30 a.m.
New Caltrans Tools to Implement Compost Based BMPs
Mr. Matt Cotton will discuss the U.S. Composting Council's Seal of Testing Assurance Program, the national compost quality and labeling program. The new special provisions specify that only compost supplied by producers participating in the Seal of Testing Assurance Program can be used.

11:30 a.m. – 12:00 noon
New Caltrans Compost Specifications
Mr. Greg Balzer will present new special provisions that focus on using compost to reduce erosion and improve the establishment of roadside vegetation. His presentation will include how compost quality and safety can be ensured and the benefits of bulk versus hydroseed applications.

12:00 noon – 12:15 p.m.
Compost Use for Landscape and Environmental Enhancement
Ms. Janet Hartin will discuss the recently published manual, Compost Use for Landscape and Environmental Enhancement. This manual is designed primarily for use by Caltrans and its contractors. Contributors to the manual include Caltrans, CIWMB, UC Cooperative Extension, UCR Extension, and Association of Compost Producers.

12:15 – 1:00 p.m.
Lunch

1:00 – 1:30 p.m.
Caltrans Erosion Control Research
Dr. Vic Claassen will present information on his latest research on compost treatments to increase water availability to plants.

1:30 – 2:10 p.m.
Improving Storm Water Quality through Compost BMPs
Dr. Britt Faucette will discuss the benefits of compost for roadside applications, including reduced runoff, improved infiltration, improved erosion control, and filtration.

2:10-3:00 p.m.
Panel Discussion
An expert panel will be available to discuss using compost and mulch on roadside applications. The panel will be comprised of experts representing Caltrans, TXDOT, the compost industry, erosion control specialists, and academia.

SPEAKER/PANELIST BIOS

Greg Balzer, Caltrans
Mr. Balzer is a Senior Landscape Architect with the California Department of Transportation (Caltrans) Office of Roadside Management, responsible for coordinating the development and updating of roadside policy, procedures, and standards. He has coordinated the implementation of a number of new erosion control specifications that will help reduce runoff and sedimentation and improve soil and plant health.

Dr. Vic Claassen
Dr. Vic Claassen completed graduate work at University of California, Davis in 1992 in Soil Fertility and Plant Nutrition. Since then he has held a research soil scientist position working on various problems relating to revegetation of drastically disturbed soils at the Soils and Revegetation Lab in the Department of Land, Air and Water Resources at UC Davis. Primary areas of emphasis of the group include soil water relations, ecotypic plant performance, mycorrhizal colonization and regeneration of soil organic matter pools. Projects generally have an applied orientation and address erosion control or water quality management needs of several agencies, including the California Department of Transportation (Caltrans), Office of Mine Reclamation, California Integrated Waste Management Board, State Water Resources Board, as well federal projects with USEPA, US National Parks Service and US Forest Service.

Matthew Cotton, United States Composting Council
Matthew Cotton has more than 18 years of experience in the composting industry. His company has provided technical composting-related consulting services to public and private clients in California for more than ten years. Mr. Cotton currently serves as the president of the Board of Directors of the U.S. Composting Council. The USCC is a national organization dedicated to the development, expansion, and promotion of the composting industry based upon science, principles of sustainability, and economic viability.

Dr. David Crohn, UC Riverside Extension
Dr. Crohn earned his Ph.D. in 1992 from Cornell University where he concentrated on soil and water engineering, water resource systems engineering, and biogeochemistry. Since then he has been working as a professor and Cooperative Extension specialist at the University of California, Riverside, where his research has emphasized beneficial uses for organic residues as composts, fertilizers, and mulches.

Dr. Britt Faucette, Filtrexx International
Dr. Faucette is a Research Ecologist and the National Director of Research and Environmental Assistance for Filtrexx International. His Ph.D. is from the University of Georgia where he researched compost systems and industry standard BMPs used in erosion control and stormwater management applications. He also worked as a state compost/pollution prevention specialist in the Department of Biological and Agricultural Engineering. Dr. Faucette has a master's degree in agricultural ecology/sustainable systems. He serves on the ASTM Technical Committee to evaluate new erosion and sediment control technology, and he has published more than 50 articles relating to erosion and stormwater control and compost systems.

Ms. Monica Finn
Ms. Finn is a landscape architect currently working in the District 3, North Region Office of Landscape Architecture in Sacramento. She holds a B.S. and M.S. in biology from California State University, Los Angeles. During the last eight years, she has been the contract or technical manager on several Caltrans erosion control/revegetation research projects. Since 1987, Ms. Finn has been involved in the planning, implementation and monitoring of erosion control, revegetation and mitigation projects.

Filter sock, photo courtesy of Dr. Britt Faucette, Filtrexx

Janet Hartin, UC Riverside Extension
Janet Hartin has served as a University of California Cooperative Extension Environmental Horticulture Advisor since 1984 after earning B.S. and M.S. degrees in horticulture from the University of Minnesota. Her program emphasis is on sustainable landscaping including water conservation and irrigation management, reduction of pesticide use by incorporation of integrated pest management practices, and the correct application and usage of compost in landscape and turfgrass plantings.

Mr. Scott McCoy
Mr. McCoy graduated from Southwest Texas State University in 1977 with a bachelor's degree in agriculture, specializing in plant and soil science. He began work with the Texas Natural Resource Conservation Commission in 1992 and has worked as a Compost Program Specialist since 1993. In 1997 he formed the Texas Compost Advisory Council to provide a statewide compost network. Scott served on the Board of Directors of the United States Composting Council for 4 years. In 1999 the now Texas Commission on Environmental Quality (TCEQ) partnered with the Texas Department of Transportation (TxDOT) to develop specifications for the use of composted materials for Texas highway construction and maintenance projects. This led to the largest Environmental Protection Agency (EPA) 319 Non-Point Source Pollution Grant ever awarded by USEPA. From this work, specifications were developed which opened regional compost markets. Since 2000, TxDOT has purchased over 3,000,000 cubic yards of compost for construction and maintenance projects across the state.
A number of State and National awards were presented to TCEQ and TxDOT for their work in the environmental and transportation work.

In 2006, Scott was asked by the Governor's Office to develop a reclamation outreach program for Quarry/Mining operations in Texas. In the last year, 10 demonstrations and 20 workshops were held with over 500 interested parties attending. Scott retired from the TCEQ in June 2007. He now divides his time between fishing in Colorado and is the Principal Owner of KSS Consulting in Austin, Texas with wife Karen and son Shawn.

Dan Noble, Association of Compost Producers
Mr. Noble is President/CEO of Noble Resources Group and is a nationally recognized recycling resource market development consultant based in Southern California. He is also Executive Director of the Association of Compost Producers (ACP) (www.healthysoil.org) and has more than 30 years of environmental education, market research, publishing, and strategic consulting experience in both the public and private sector. Mr. Noble has B.A. degrees in biology and chemistry from the University of California, San Diego, and M.S. degrees in molecular biology and environmental education from the University of Oregon.

A joint project of the California Integrated Waste Management Board, Caltrans, University of California, Association of Compost Producers, and United States Composting Council

Integrated Waste Management Board

Association of Compost Producers

US Composting Council

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